

**Seeds, Food Networks and Politics:
Different Ontologies in Relation to Food Sovereignty
in Ecuador**

Luz Alexandra Martinez Flores

Thesis committee

Promotor

Prof. Dr. GTP (Guido) Ruivenkamp
Associate Professor Rural Sociology, Wageningen University
Extra-ordinary Professor Humanization of Technology,
University of Humanistic Studies, Utrecht

Prof. Dr. Ir. JSC (Han) Wiskerke
Professor Rural Sociology, Wageningen University

Co-promotors

Dr. Ir. JP (Joost) Jongerden
Assistant Professor Rural Sociology, Wageningen University

Other members

Prof. Dr. M.A.J.S. van Boekel, Wageningen University
Dr.Ir. S. (Sjaak) van Heusden, Wageningen University
Dr. George Essegbey (George), Director at CSIR-STEPRI, Ghana
Prof. Dr. Shuji Hisano (Shuji), International Political Economy of Food
and Agriculture, Graduate School of Economics, Kyoto University, Japan.

This research was conducted under the auspices of the Wageningen School of Social Sciences (WASS)

**Seeds, Food Networks and Politics:
Different Ontologies in Relation to Food Sovereignty
in Ecuador**

Thesis

submitted in fulfilment of the requirements
for the degree of doctor
at Wageningen University
by the authority of the Rector Magnificus
Prof. Dr A.P.J. Mol,
in the presence of the
Thesis Committee appointed by the Academic Board
to be defended in public
on Tuesday 25 August 2015
at 13 p.m. in the Aula.

Luz Alexandra Martinez Flores

Luz Alexandra Martinez Flores

Seeds, Food Networks and Politics: Different Ontologies in Relation to Food Sovereignty in Ecuador, 210 pages

PhD thesis, Wageningen University, Wageningen, NL (2015)

With references, with summaries in Dutch and English

ISBN: 978-94-6257-490-8

Dear Committee,

I certify that my thesis is a monograph in which I am the only author. I must indicate that I am writing articles out of the existing chapters with Prof. Dr Guido Ruivenkamp and with Dr Joost Jongerden. The articles will be ready in the coming period.

Best regards

Alexandra Martinez

In Memory of my father:
Marco Martínez Burbano

To my mother:
Piedad Flores Recalde

TABLE OF CONTENTS

Chapter One

Theoretical and institutional background.	3
1.1 Origins: TELFUN Programme and <i>Lupinus mutabilis</i> Sweet.	4
1.2 Food sovereignty: a politico-economic proposal and an analytical category	6
1.2.1 Food sovereignty as a politico-economic proposal	7
1.2.2 Food sovereignty as an analytical category	9
1.3 Problem statement: The ontological promise of food sovereignty	11
1.3.1 Diverse ontologies	12
1.4 Research questions	16
1.5 Previous academic work: Food networks and food sovereignty as parallel routes	16
1.6 Theoretical approaches.	19
1.6.1 Rhizome	20
1.6.2 Actor Network Theory (ANT).	21
1.6.3 Reflexions on power, governmentality and government	23
1.7 Argumentation, methodology and research methods	24
1.7.1 Conceptual methodology.	25
1.7.2 Research methods	26
1.8 Dissertation Outline	28

Chapter Two

The Journey of an Ancestral Seed: The other ontology in the <i>lupino paisano</i> network.	31
2.1 Introduction	32
2.1.1 The ethnographic work	35
2.2 Non-hierarchical alliances	38
2.2.1 Peasants and lupin as fellow participants	39
2.2.2 Conocidos	51
2.3 Translations and the role of space.	55
2.3.1 From <i>tawri</i> to <i>chocho</i>	56
2.3.2 From housewives to food vendors	58
2.3.3 From commodity to <i>wanlla</i>	60
2.4 Conclusions	62

Chapter 3

The release of a lupin seed and its unintentional consequences

in Andean food networks	65
3.1 Introduction	66
3.2 From landraces to newly selected lines: Primary instrumentalisation	69
3.2.1 Separation of landraces from their ecological context and undervaluation of the lupin seeds	69
3.2.2 Recognizing the importance of Andean foods for nutrition	73
3.2.3 The Andean crops programme: 'Values are the facts of the future'	75
3.3 Integration of the seed in other contexts: secondary instrumentalisation	80
3.3.1 The new variety and its behaviour as an object-institution	80
3.3.3 To the market: Instruction in and mass dissemination of the new knowledge and values	88
3.4 Conclusions	94

Chapter 4

The translation of food sovereignty: Demise of a political and ontological proposal

	99
4.1 Introduction	100
4.2 The Free Trade Agreement (FTA) and the emergence of a food sovereignty network	104
4.3 Tactics of governmentality	108
4.3.1 Participation: members of the same nation?	108
4.3.2 Networks and actants in the ANC: Committee 6.	112
4.4 Translation of the proposal into the draft constitution	115
4.4.1 Food sovereignty or food security.	116
4.4.2 Agrarian reform, agrarian revolution, democratisation of land or national land fund.	121
4.4.3 Assessment: problematic beginnings and a final twist	127
4.5 Drafting the food sovereignty law	128
4.5.1 The relation between culture-environment and food	131
4.5.2 The relationship between ancestral knowledge and the production of scientific and technological knowledge	133
4.5.3 Democratic control, or the capacity of small farmers to define their own agricultural policies	137
4.5.2 Final rites: the passage of the law	139
4.6 Conclusions	140

Chapter 5

Conclusion: Food networks as essential elements of food sovereignty	143
5.1 Answers to research questions	145
5.1.1 The <i>lupino paisano</i> network	145
5.1.2 Lupin seed modernist agriculture development	146
5.1.3 Food sovereignty legislation	147
5.2 Contribution to the study of food sovereignty	149
5.3 Limitations of the study	151
5.4 Recommendations for future research	152
5.5 The relevance of considering other ontological proposals	154
References	157
Personal Conversations	177
Summary	179
Samenvatting	183
Annexes	187

FIGURES

Figure 1. Ecuador: political Map	XV
Figure 1.1 <i>Lupinus mutabilis</i> Sweet (Cotopaxi)	5
Figure 1. 2 Taproot	20
Figure 1. 3 Rhizome	20
Figure 1. 4 Cotopaxi volcano	30
Figure 2. 1 Location of Guayama, Cotopaxi Province.	36
Figure 2. 2 The páramo near Zumbagua town	38
Figure 2.3 <i>Sacha tawri</i> together with other páramo species	39
Figure 2. 4 <i>Lupino paisano</i> (<i>tawri</i> , <i>chocho</i>).	41
Figure 2. 5 Sowing: in the wild grassland (left) and in cultivated soil (right).	43
Figure 2. 6 Lupin after harvesting together with páramo grass.	45
Figure 2. 7 Harvesting <i>lupino paisano</i>	46
Figure 2. 8 Beating the lupin pods by the side of the road	50
Figure 2. 9 Winnowing the lupin	50
Figure 2. 10 Market trading in Chugchilán	52
Figure 2. 11 Woman into the market place.	53
Figure 2.12 Dona Margarita (El Salto market Latacunga).	59
Figure 3.1 Agronomic characteristics evaluated in the promising lines	79
Figure 3. 2 Lupin INIAP 450 (left) and <i>lupino paisano</i> (right)	82
Table 3.1 Locations and altitudes of eight promising lupin.	84
Figure 3. 3 Indigenous producers involved in the project	85
Figure 3.4 Chocho manual and cookery book	91
Figure 3. 5 Chocho LaVerde as a retail product	94
Figure 4. 1 Anti FTA poster	106
Figure 4.2 Visitors to Ciudad Alfaro.	110
Figure 4.3 Members of the National Assembly (ANC), Montecristi	115
Figure 4.4 Land and Food Sovereignty Seminar, 2008	130

Acknowledgements

When you drink water, think of its source.
Chinese Proverb

This PhD has been made possible due to a grant from the Interdisciplinary Research and Education Fund of the University of Wageningen, The Netherlands, through its programme ‘Tailoring Food Sciences to Endogenous Patterns of Local Food Supply for Future of Nutrition’ (TELFUN), and also due to institutional leave of absence and final financial support granted by the *Universidad Politécnica Salesiana de Ecuador* (Salesian Polytechnic University of Ecuador).

I was fortunate to be able to take advantage of the TELFUN programme through a financial subsidy offering academic interaction and contact with many cultures. My appreciation goes to Prof. dr. ir. M.A.J.S. van Boekel; Dr. Rob Nout; Dr. Anita Linnemann; Prof. dr. Guido Ruivenkamp and Dr. Ir. Joost Jongerden for their support and kindness. My thanks to all the PhD students from Ghana, India and Ecuador with whom I shared new experiences, especially Wilhemina Quaye, Shweta Singh and María Elisa Herrera. I wish to thank all those who critiqued this thesis, each of whom provided me with constructive comments that helped refine it.

I owe to my thesis director Prof. dr. Guido Ruivenkamp, who, from the outset, had confidence in me, the opportunity to study my PhD at Wageningen University. Writing this thesis and knowing that Guido was critically and creatively involved was a challenge and a stimulus. I am also indebted to Dr. Ir. Joost Jongerden, my co-promotor, who always appreciated my efforts, resolved my concerns courteously and shared his reflections, office and books. To Dr. Irma Marquardt, who, with her reading and criticism, helped me refine my ideas and improve the chapters. To Dr. Kathleen Fine-Dare, who read and commented with affection on multiple chapters of this thesis; her experience and knowledge as an expert in Ecuadorian anthropology were invaluable and, as always, to Dr. Franklin Toledo.

My deep gratitude goes to the community of San Pedro Guayama especially the Pilahuano family, who allowed me to live with them; special thanks to Doña Elisa, her son and daughter. I am also indebted to all the people of the community, especially the elderly people, who supported me and shared their knowledge.

To my friends, without whom this thesis would not have been possible. In the Netherlands, I would like to thank Tjalling Postma and Lucienne Berenschot, who, with the sensitivity that characterizes them, supported me throughout my time there. Furthermore, it was they who found me a home in the house of Madeleine Kloeke. To Madeleine, my hostess, I will always be indebted for her affection, coffee, dinners, discussions and suggestions about life and Dutch literature, which made life in Holland so pleasant. I am very grateful to my Bowlespark neighbours, Els and Kees, who are no longer there, for the care and kindness they gave me. Thanks to María Laura Viteri, my 'soul mate', with whom I lived in Bowlespark and with whom shared the experience of doing a PhD. During the time in Netherlands I was fortunate to be near a lifelong friend Diana Rivadeneira, Diana thanks for your love and support.

Most of the friends to whom I am indebted live in Quito. María Elena Ortiz for their help during the time when working at the University and writing a thesis, at the same time, seemed an impossible task. Thanks Karina Borja for your affection and for drawing these beautiful maps. Anita Puyol has given me her sincere friendship and financial support; I feel fortunate to have her around. With María Cuvi, I am thankful for her important suggestions and generous reading of parts of this thesis.

To Malena and Amarilis, 'my significant others', who stoically put up with my absences, the sound of the alarm early in the morning, and who always demanded good food and clean spaces. Thank you for being my companions.

Finally, I wish to thank my family: my gratitude to Mme. Rosario Carrera who, for years, has taken care of me as if I were part of her family. My brothers Marcos, Guido, my sister Ximena and especially my sister Janine. Thank you, Janine, for your affection, which has supported and encouraged me; thanks for being there. Thanks to my aunt Aida, for her love and constant concern in the development of this thesis. Thanks to Piedad and Marco, my parents, to whom I dedicate this thesis. I am very grateful to them because their lives forged mine in several ways: Piedad, thank you for passing on to me your wisdom and *joie de vivre*. And a thank you to my father who did not live to see this thesis concluded; my thanks are because his life is for me an example of modesty, passion for knowledge and unconditional love.

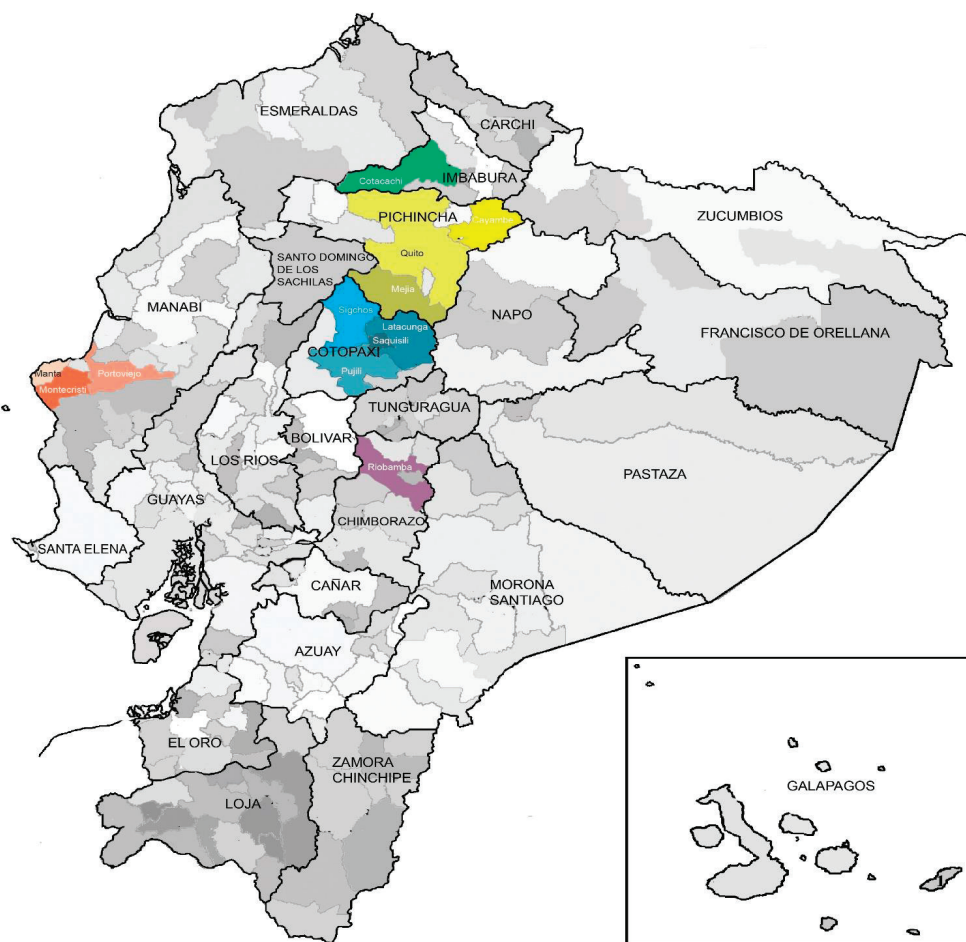


Figure 1. Ecuador: political Map

Introduction

This thesis looks at food networks and food sovereignty in Ecuador. Combining contemporary ethnography and political history in a sociological exploration of the ontology of food sovereignty, it is concerned with how the content and practice of food sovereignty are affected when states ignore and impede the work of local food networks. Philosophically, it engages in a critical review of the approach to social science that assumes a fundamental distinction between nature and culture and between human and non-human entities.

This thesis argues that in Ecuador, food networks that do not establish an ontological difference between ‘nature’ and ‘culture’ promote food sovereignty if and only if agrarian and science and technology (S&T) policies enable their autonomous development, respecting their different ways of perceiving and relating to the world. It shows that, in fact, the *lupino paisano* (lupin) food networks in the Andean highlands have traditionally functioned in a rhizomatic way, without establishing hierarchies between entities, like foods as goods or foods as gifts, do not prioritise society over nature, and have, moreover, expanded without discontinuities between urban and rural areas. Then, in the light of the empirical findings illustrating this ‘alternative’, non-modernistic reality, the rationality of state S&T policies is investigated, specifically those related to plant breeding, food processing and food sovereignty law.

Assuming a modernistic worldview, official S&T practice has created new social relations in and affecting the food networks of the Ecuadorian highlands in ways that undermine traditionally nonhierarchical relations. Here, the purpose is to show that the rationality on which agricultural policies are based inhibits the growth of these food networks and works against food sovereignty – for instance, the release of seeds without taking into account the knowledge and needs of indigenous farmers and the enhancement of food-processing technologies that favor larger producers and the supermarket chains. Finally, the issue of food sovereignty itself is focused on, with consideration of the process of change from the food sovereignty proposal promoted by La Vía Campesina

in Mexico in 1996 to its incorporation in the Ecuadorian Constitution of 2008 and the subsequent Law of Food Sovereignty. The thesis concludes with the proposition that food sovereignty will only really become an achievable goal if Ecuadorian state policies appreciate the distinct ontology of the food networks, recognise their autonomy, and enable them to create new links through which they can avoid the agribusiness model and reinforce their sovereign food systems.

The argument of the thesis is developed as follows. First, there is an explanation of the theoretical position, indicating the theoretical (sovereignty debate) and institutional background (TELFUN program) from which this research has evolved. Then, Chapter 2 presents an ethnographic explanation of the lupine food networks as a case study revealing the ‘other’ ontology, in which the difference between nature and culture, between human and non-human entities disappears. From that analysis, I proceed with a study of the role of S&T policies, specifically those related to plant breeding (Chapter 3). It is shown that the state approach – or this ‘war’ science and technology, as Deleuze and Guattari have called it – creates new social relations that affect the organisation and ontology of the lupine food networks.

In Chapter 4, the analysis proceeds with an examination of the ways in which the food sovereignty proposal – recently introduced into the Ecuadorian Constitution – also neglects the ontology of the lupine food networks. The translation of the original *Via Campesina* proposal and changes effected by actors linked to the food production conglomerates, it is shown, have made the sovereignty legislation coherent, but, and increasingly, at the expense of the ontology of the lupine food networks. All this enables me, finally, to discuss my contribution, which concentrates on presenting the opportunities that the distinct ontology and malleability of the lupine food networks still offer to realise a food sovereignty trajectory.

CHAPTER ONE

Theoretical and institutional background

Amsterdam a city entirely without roots, a rhizome-city...

Deleuze & Guattari (1987 [1980])

1.1 Origins: TELFUN Programme and *Lupinus mutabilis* Sweet

This dissertation contributes to the programme *Tailoring Food Sciences to Endogenous Patterns of Local Food Supply for Future Nutrition* (TELFUN), in which efforts to go beyond the current regime of food chains and focus on food sovereignty through food networks are investigated. According to TELFUN (2006), the social organisation of global food chains, constructed through the vertical structuring of agribusiness, has shown itself to be unable to properly nurture the world's population. Under-nutrition and obesity affect an estimated 2.3 billion people globally, about one third of the people in the world (International Food Policy Research 2014)

Despite years of international anti-hunger efforts, rising gross national incomes and per capita food availability, the number of hungry people has been reduced at a very slow pace since 2000, resulting in the present situation of around 850 million undernourished people in the world (FAO 2013). At the same time, figures for obesity are rapidly mounting, being expected to total some 1.12 billion people by 2013 (Vivero 2014). Meanwhile, food is increasingly diverted to biofuel production and livestock feeding, and a third of global food production, enough to feed 600 million hungry people, ends up in the garbage every year (Vivero 2014).

In view of these manifest dysfunctions, the TELFUN program investigates the potentialities for real development within alternative food systems, particularly in those systems that aim to reverse the paradox of the present globalised industrial food system. Thus the need to consider opportunities for realising food sovereignty for these people, understanding food sovereignty to mean 'the desire and power of people to choose their own way of producing and consuming foods that best fit in their local conditions' (TELFUN 2006, 2).

Within this interdisciplinary research programme, the social sciences perspective involves analysis of the capability of local food networks to overcome unequal power relations, creating social relations orientated to reconnecting production to consumption and maintaining the nutritional patterns of the actors involved. It was decided to analyse three legumes as catalysts (actants) for the development of these alternative sovereign food systems. These were mung bean in north India, cowpea in Benin and Ghana and lupin in the highlands of Ecuador.

The decision to focus the research on these crops as actants¹ was based on the following considerations: a) they were considered to have the potential to reconnect agriculture to its environment, food consumption and health care; b) the regions of north India and

1 Bruno Latour does not limit agency to human individual actors but extends the word of actor – or actant – to non-human, non-individual entities (Latour 1996,2). Accordingly an actant is regarded as something that acts or to which activity is granted by others. It implies no special motivation of individual human actors, nor of humans in general. An actant can literally be anything provided it is granted to be source of action (Latour 1996,8)

the Andes are known as the centres of origin of these crops, and West Africa is near to the Ethiopian centre, indicating a deep connectedness of the people who grow these crops with these location-specific environments; c) these crops are nutritionally very important as sources of vegetable protein, indicating also the perspective of going beyond the industrialised food system with its livestock feeding; Related to these considerations, interdisciplinary research has been carried out to investigate the social force of these crops to facilitate the emergence of a sovereign food system.



Figure 1.1 *Lupinus mutabilis* Sweet (Cotopaxi)

This dissertation focuses on the Lupin, *Lupinus mutabilis* Sweet, a legume grown in the Andes and rich in protein, iron and vitamins. Its name in Spanish is *chocho*; in Ecuadorian Kichwa it is *tawri*.² Domesticated well before the Inca civilisation, it is

2 In Peru, it is 'tarwi', and in the Bolivian highlands, 'chuchus muti' or 'tawri'.

distributed throughout the Andean region. *Chocho*, as it will be referred to here, grows in dry areas and poor soils at between 2,300 and 3,800 metres (7,500-12,500 ft) above sea level (Junovich 2003, Jorgensen & Ulloa 1994).

In Ecuador, there is evidence of the consumption of *chocho* during the early colonial period. In 1582, for example, in the *Relation and Description of the Peoples in the Otavalo District* (*Relación y descripción de los pueblos del partido de Otavalo*), Sancho de Paz Ponce de León, the local magistrate of Otavalo, sent to King Philip II of Spain the message that the indigenous people in the area produced *chocho* in the highlands, washing and rinsing it in the surrounding lakes (Ponce de León 1992). During the three centuries of Spanish domination of the Andean region, particularly in what would become Ecuador, and then in the Republic, until the late 1980s, *chocho* was the subject of racial and social prejudice. Because of its Andean origins and scarce use outside of creole cooking, it was regarded as an unrespectable food, as a food for the indigenous people and the poor.³

This denigration of *chocho* discouraged plant breeders, even though as early as the 1970s reports by external researchers had already drawn attention to its potential as vegetable protein (FAO 2013). Ecuadorian scientific publications in botany and medicine generally did not address the crop, with some exceptions, such as the work of Dr Plutarco Naranjo (1983a) and Dr Eduardo Estrella (1986), who investigated the nutritional potential of Andean food from the early 1980s. Gradually, however, *chocho* received more scientific attention, and in the mid-1980s, lupin and other native foods, such as quinoa (*Chenopodium quinoa Willd*) and amaranth (*Amaranthus caudatus L*), became subjects of scientific interest. This was further stimulated by funding received by the National Agricultural and Livestock Research Institute (INIAP) from the Inter Development Bank, aimed at evaluating and disseminating the nutritional power of Andean crops and carried out through projects during the 1990s. Thus, *chocho* was transformed from a despised indigenous food into a highly-valued nutritious food, and then gradually – through the work of INIAP – transmuted into a gourmet food such that *chocho* is currently part of ‘fusion cuisine’ and one of the most popular ‘exotic’ foods in Ecuador.

1.2 Food sovereignty: a politico-economic proposal and an analytical category

Food sovereignty is a politico-economic proposal of social movements that has also become an analytical category, carrying a particular ontological meaning for food

3 Luis A. Martínez (1903) in his treatise on Ecuadorian agriculture, *La Agricultura Ecuatoriana* dedicates a short chapter to *altramuz* (lupino). When he explains the uses and applications of this crop, he mentions that this is a working class food and a delicious snack for indigenous people. He concludes that the best use for lupin is in agriculture as a fertiliser.

systems. The concept of food sovereignty was re-created⁴ and promoted by world peasant movements, especially *Via Campesina*, and then studied by intellectuals associated with those movements before gaining a wider currency. The following sections overview these two aspects or dimensions of food sovereignty.

1.2.1 Food sovereignty as a politico-economic proposal

The food sovereignty proposal was publicised by the *Via Campesina* movement in Mexico in 1996, during its second international conference. The aim of the movement was to provide an ethically motivated political proposal that would provide an answer to the problems caused by the implementation of Structural Adjustment Policies in agriculture from 1970 to 1990 (Desmarais 2002, Windfuhr & Jonsen 2005, Rosset 2006) and the development of global food chains (GRAIN 2005). In 1996, food sovereignty was defined as:

Food is a basic human right. This right can only be realized in a system where food sovereignty is guaranteed. Food sovereignty is the right of each *nation* to maintain and develop its own capacity to produce its basic foods respecting cultural and productive diversity. Each nation has the right to produce its own food in its own territory. Food sovereignty is a precondition to genuine food security. (Desmarais 2002, 104; emphasis original)

This first statement here includes three core elements: 1) food is a human right of nation-states, which are called upon to protect their forms of nutrition; 2) each nation has a fundamental right to produce its own food in its own territory; 3) food sovereignty is a precondition for the achievement of food security.

In the *Forum for Food Sovereignty* of the Rome conference +5 in 2002, the concept was modified. On that occasion, food sovereignty was proposed as a *right of peoples* – not nations – to define their own nutrition, a way to protect and regulate agriculture and a way to achieve sustainable development. It was also declared that food sovereignty is not opposed to food trade and does not favour an autarchic policy, but that the priority is on ensuring the nutrition of people:

Food Sovereignty is the right of peoples to define their own food and agriculture; to protect and regulate domestic agricultural production and trade in order to achieve sustainable development objectives; to determine the extent to which they want to be self-reliant; to restrict the dumping of products in their markets; and to provide local fisheries-based communities the priority in managing the use of and the rights to aquatic resources. Food Sovereignty does not negate trade, but rather it promotes the formulation of trade policies and practices

⁴ Recounting the history of the concept of food sovereignty, Marc Edelman (2001) mentions that its origins are earlier than the *Via Campesina* proposal.

that serve the rights of peoples to food and to safe, healthy and ecologically sustainable production. (Windfuhr & Jonsen 2005, 11)

Continuing, Windfuhr and Jonsen (2005, 45-47), list seven principles or pillars that have been defined since 1996 and which clarify the food sovereignty proposal and the aspirations of peasants concerning the state and its policies: 1) food as a basic human right, 2) land reform as an essential element, 3) the protection of natural resources, 4) the reorganisation of food trade, 5) elimination of the globalisation of hunger, 6) social peace, and 7) democratic control. Peter Rosset (2012) specifies the content of some of these principles as follows: a) land reform implies the provision of land for peasants; b) the reorganisation of food trade assumes the protection of the state against international price fluctuations (dumping) and its protection of local food webs; c) food as a basic human right entails support for peasant production of local food with sufficient water resources; and d) the protection of natural resources implies ecological sovereignty, particularly plant breeding sovereignty founded on the protection and promotion of peasants' knowledge.

In Ecuador, food sovereignty was propelled in the late 1990s by indigenous movements linked to *Via Campesina*. The peasants' and indigenous people's organisations, with the support of NGOs, included food sovereignty in the agenda of the National Constituent Assembly of 2008. From the successful fight against the signing of the Free Trade Agreement (FTA), these actors formed a group called the *Colectivo Agrario* (Rosero 2008) promoting the introduction of food sovereignty into the 2008 Constitution. After tough negotiations in the National Constituent Assembly, food sovereignty was introduced into the Ecuadorian Constitution of 2008 as a strategic objective and an obligation of the state (Ecuador 2008). The *Colectivo Agrario* also managed to introduce the slogan that the Ecuadorian state guarantees 'self-sufficiency in healthy and culturally appropriate food' (Ecuador 2008).

Shortly after, however, these constitutional ideals dissolved with the introduction of various articles in the new Organic Law on Food Sovereignty, which were more related to the industrialised food system than to any ideas of food sovereignty. The articles in question included the promotion of agriculture biofuels, support for agriculture for export, the expansion of large supermarket chains and the possibility of introducing GM crops. This thesis will investigate *the extent to which* these regulations and practices of the Ecuadorian government led by Rafael Correa erased the ontological perspective of the food sovereignty proposal promoted by the international movement *Via Campesina*.

1.2.2 Food sovereignty as an analytical category

Food sovereignty as an analytical category has two characteristics. It refers both to *situated knowledge*, since many of the analyses come from academics involved with peasants' organisations in location-specific circumstances, and to the *politico-economic or related perspectives* on which most studies are based.

The relevance of *situated knowledge* has been inspired by the *feminist epistemology* developed since the 1980s that questions the concept of 'objectivity' and emphasises the importance of developing knowledge that is specific to a context (Haraway 1988). The modernistic concept of scientific objectivity has been understood as *the possibility to know, outside of individual interpretations, feelings and imagination*. From a positivist perspective, the knower is neutral since s/he is not involved with the object of knowledge. The feminist epistemology emphasises the contrary, that knowledge is produced by a knower who has a particular '*situated experience*' and that therefore knowledge reflects a *partial perspective* (Anderson 2012). This does not detract from either the veracity or the merit of the knowledge, but rather – in the field of intellectual and empirical enquiry – contextualises the researcher's experience and assumptions, which facilitates the development of an improved discussion. Much of the writing on food sovereignty has been carried out by academics, activists or sympathisers of the *Via Campesina* and peasant social movements, and in that sense reflects just such a situated knowledge.

The privileged perspective for analysing food sovereignty being that of *political economy* (see below) implies the need to study the food sovereignty movement as one of a group of *new social movements*, in terms of organisation, composition and capacities. The works of Edelman (2001), Borras, Edelman & Kay (2008) and Desmarais (2002), are representative of this approach, as well as McMichael's (2014) analysis of the evolution of the food sovereignty movement in the context of a *transition between two food regimes*.

Other authors such as Desmarais (2007), Holt-Gimenez (2009), Martinez-Torres (2010) and Rosset (2013) have analysed *Via Campesina* as an *agrarian movement*. From that perspective, Rosset (2004), Courville and Patel (2006) and Borras, Kay and Lohdi (2007) have paid special attention to the issue of *land reform*, while other studies have focussed on *peasant food production*, emphasising the advantages that *agro-ecology* and *traditional peasant knowledge* may offer. The studies by Altieri (2009), Altieri and Toledo (2011) and Altieri, Funes-Monzote y Petersedn (2011) stand out here. In the past four years, the analysis of *land grabbing* or *transnational land trade* has also come to the forefront and generated important debates in respect of its implications for food and land sovereignty, as discussed in the works of Borras et al. (2011), Rosset (2011) and Borras et al. (2012).

Another important contribution to the evolution of food sovereignty as an analytical category has been made by theorists applying a *rural development* perspective (a

sociological perspective for analysing peasant agriculture). This has revealed the inequalities in development regarding agro-technology use, access to information and accessibility to markets and how this creates several dependencies that hinder food sovereignty (van der Ploeg 2000). Linked to this is the topic of *seed sovereignty* and its potential for food sovereignty, as analysed by Kloppenburg (2014). Also, several *ethnographic studies* emphasise the importance of an in-depth knowledge of the culture of peasant agriculture (van der Ploeg 2010a), particularly their ways of resisting and re-creating modernity (van der Ploeg 2010b; Schneider & Niederle 2010).

In the politico-economic analyses generally, however, little consideration is given to the *relationship between peasant agriculture and nature*, with the exception of Hannah Wittman (2009). She does emphasise the linkages of nature with culture through agricultural practices and, following the ideas of Marx on socio-ecological exchange (metabolism), proposes that the development of contemporary capitalism, characterised by large-scale production and agriculture for export, has deepened the ‘metabolic rift’ between nature and society (Wittman 2009, 806). In promoting food sovereignty, according to Wittman, *Via Campesina* has created the possibility of bridging this metabolic rift between nature and society and of achieving what she calls ‘agrarian citizenship’, in other words, the achievement of a kind of citizenship in which nature plays an important political, economic and social role.

Although Wittman’s contribution draws out close links between nature, agriculture and culture, it still adheres to the modernist perspective, in which entities such as ‘nature’ and ‘society’ belong to different and dichotomous realms. Nature is perceived as an object for human intentionality (especially as ‘resources’), and when human practices influence nature or are visibly affected by nature, the reference of the resulting relationships is to what are dubbed ‘externalities’ (thus, nature is external to – separate from – society; it is outside the world of people). In contrast to that perspective, this thesis goes beyond the nature-society/culture dichotomy in investigating the interwovenness of natural and sociocultural phenomena.

Other critical reflexive concerns come from political economics, with doubts expressed and objections raised about the food sovereignty proposal itself.⁵ Three aspects are often mentioned. First, the term ‘sovereignty’ involves difficulties and contradictions. For example, according to Hospes (2013, 4-7) the food sovereignty proposal has come to a standstill for two reasons: a) there is imprecise use of the term ‘sovereignty’; sometimes it is not clear at what level it is intended to generate political transformations – local, national and/or global – a deficiency that reflects insufficient debate on building proposals, particularly referring to agricultural policy at different levels and jurisdictions; b) there is no discussion about how to reconcile two basic and fundamentally different

5 For this analysis I have used the documents produced in the international conference ‘Food Sovereignty: A Critical Dialogue’, held at Yale University, 13-14 September, 2013.

values concerning food in order to implement policy – within neoliberalism food is a commodity, but for many of the proposals of food sovereignty, food is a right.

A second area of criticism, developed by Bernstein (2014), is less concerned with the conceptual complexities of food sovereignty itself than its intrinsic practical problems. Bernstein is sceptical about the capacity of states to actually assume responsibility for food sovereignty and argues that, in fact, it goes against the current historical context to expect modern states to guarantee the rights of small producers and consumers, because states are involved in capitalist development and ‘against peasants’. The state, one might say, is captured by capital, and thus entirely unmotivated to perform its role as sovereign in respect of food. Moreover, Patel (2008, 668-69) is sceptical about the political power of human rights. He argues that to invoke human rights is insufficient to ensure food sovereignty. Within states, it is also necessary to encourage public and political processes capable of achieving food sovereignty. Therefore, he suggests looking at the basic principles of food sovereignty that were generated in wider geographies (beyond states), such as the policy proposals of *Via Campesina*.

Thirdly, and shorn of all theory, Bernstein (2014) doubts whether peasant food production has the practical capacity to feed the world, as is the aspiration of *Via Campesina*. Other authors also question the universality of the sovereignty approach. For example, Agarwal (2014) questions whether it is possible to achieve the goal of food sovereignty in many countries in South Asia, particularly in respect of food self-sufficiency. Under current conditions, due to the effects of climate change and development characteristics, according to Agarwal, many countries cannot avoid the need to import food, such as rice or wheat, either because of their reliance on food inputs or because of fluctuating food prices on the market.

Despite these concerns, the food sovereignty concept is still considered to be an important vehicle for bringing movements and intellectuals together with the aim of realising an alternative food system. At the practical level, it offers at least a complimentary approach focusing on smallholder systems of peasant production; ultimately, it promises an alternative approach to agriculture that radically reorganises the way we approach sustenance. An important stimulus in this context is the awareness that food sovereignty refers to another ontology, one that opens the way for another trajectory, one that goes beyond not only the modernist notion of development measured by the *speed* of progress, purely in terms of economic growth, but beyond also even the notion of sustainable development.

1.3 Problem statement: The ontological promise of food sovereignty

A review of the research and discussions on food sovereignty reveals that many studies have focussed on studying the political ideas and actions carried out by the peasants of

the world against the current food regime, the economic viability of their struggles and the policies of implementing food sovereignty. However, rather little research has been carried out on the academic and political potential of an *ontology* in which the social and natural belong to the same realm, wherein the breeding of animals and plants is a co-production of nature and society, and not the result of human rationality. The problem that I will address in this dissertation is the scarce attention paid to the academic and political potential of *the ontological promise underlying the food sovereignty proposal*.

Some political-economic authors like Wittman (2009), McMichael (2014) and Scott (2013) have drawn attention to the existence of that other ontology in the food sovereignty proposal. It is, nevertheless, striking that such studies remain very much the exception. Since it is well known that many of the members of *Via Campesina* are men and women who grow crops and raise animals in order to feed themselves, and that they directly exchange and sell their products to others, one would at least expect that their initial thoughts and aspirations for a solution to the problems of food distribution should be permeated by their ontological visions of the world in a way that is quite different to the standard of modern thought. In the following section, I will point out various aspects of the ontological proposal in order to then pose my research questions.

1.3.1 Diverse ontologies

In the discourses of the members of *Via Campesina*, two distinct ways of understanding the world often co-exist. One way of understanding coincides with the *modernist discourse*, in which food is considered a right of individuals and peoples, or nations and states, and where things like land, water and plants are understood as ‘natural resources’. These are available to humanity to be maximised for the addition of value, ultimately registered as ‘development’, and widely revised these days with the acknowledgement that they must be cared for in order to achieve a ‘sustainable development’. In this way of thinking about the world, the rationale for sustainability is human, our development. Nature, as other to human, is there for our benefit, and any need to sustain it is purely utilitarian, so that we can continue to extract its value.

The other way of understanding the world corresponds to a more *relational discourse* – common in many agricultural societies both today and as historically recorded and anthropologically investigated – where land, water, and seeds have a different nature to that which is granted to them in modern thought (Ingold 2000, 132-151). They are not perceived as resources to be exploited (acted on) by humans, but as entities that co-evolve (develop) with humans. According to Ingold (2000, 149), in a *relational model of thinking*, land is seen as a space of linkages, where all the beings grow and acquire their forms through establishing links with others: ‘To inhabit the land is to draw it to a

particular focus and in so doing to *constitute* a place' (emphasis original). Thus, all those living on the same land partake in the same historical process.

Referring to the official discourses of *Via Campesina*, this thesis will show that these two, very different forms of understanding the world co-exist in the food sovereignty movement. We can say that the modernist discourse is predominant in most resolutions and official statements and manifests in international conferences. The second, alternative discourse was always present and re-emerged recently in international conferences, but it is the first that became the more prominent. For example, in the seven principles of *Via Campesina* specified at the World Food Summit of 1996, we find this in reference to the third principle, the Protection of Natural Resources (sic):

Food Sovereignty entails the sustainable *care and use* of natural resources especially land, water, and seeds and livestock breeds. The people who work the land must have the right to practice sustainable management of natural resources and to preserve biological diversity. This can only be done from a sound economic basis with security of tenure, healthy soils and reduced use of agro-chemicals. (Windfuhr & Jonsen 2005, 46; emphasis original)

In the People's Food Sovereignty Statement (People's Food Sovereignty 2007, 2) the modernist approach is also clear when referring to land, water, seeds and credit as productive resources in the listing of measures required of governments:

- Ensure equitable access to land, water, credit and other *productive resources*;
- Grant the communities that depend on aquatic resources common property rights and reject systems that attempt to privatise these *public resources*

The other way of understanding the world, emphasising the relational aspect between different ontological entities, is expressed in statements that are rarely part of official declarations. The men and women involved in this struggle not only demand land as a resource, but also go beyond modernistic thinking and declare the right for another mode of life, one that involved the establishment of relationships between all inhabitants of the land, not just people. In many of these cases, this clamour comes from the voices of women and the youth of *Via Campesina*, as is evident in an excerpt from the Declaration of *Via Campesina's* Second Youth Assembly (Hernández 2009, 5):

The countryside is our life
The earth feeds us
The rivers run in our blood
We are the youth of *Via Campesina*.

This view on the co-existence of a modern and another ontological way of understanding the world may help explain the resonance that *Via Campesina's* global campaign has had

in achieving land reforms in many of the countries where the movement developed (Borras 2008). In the Women of *Via Campesina* Manifesto, they explained their relation with the land and the co-existence of modernist and relational thought very clearly:

To us, the peasant and indigenous women, the land is more than a means of production. It is a space of life, culture, identity, an emotional and spiritual environment. Because of that, it's not a commodity, but a fundamental component of life, which is accessed by rights that are inalienable and only allocated through property and access systems defined by each people or nation. (La Via Campesina 2013, 3)

Seeds and plants are also understood as the result of a coevolution among different entities, a passage of time and development in which non-humans are also viewed as active, as agents (are also actants). For example, in the Ybapurubu-Paraguay declaration, it is stated that:

Seeds are the work of and part of the *history of peoples*. They were bred through labour, creativity, experimentation and *collective care* of peoples. In turn, seeds helped peoples to develop, enabling their specific ways to feed themselves, to grow crops, to share and develop their worldviews. Seeds are, therefore, intimately linked to community norms, responsibilities, obligations and rights. Seeds impose responsibilities on us even before our right to use them. (La Vía Campesina 2013a; author's translation, emphasis original)

The opening sentence of the *People's Food Sovereignty Statement* (People's Food Sovereignty 2007, 1), signed by *Via Campesina* and the People's Food Sovereignty Network, stresses the importance of the linkage between food, agriculture and health, and not just the health of individual people but also of environments:

Food and agriculture are essential to all peoples, in terms of both production and availability of sufficient quantities of safe and healthy food, and as foundations of *healthy communities, cultures and environments*.

In many of the pronouncements of organisations linked to *Via Campesina* or otherwise part of the food sovereignty movement, knowledge, food and people(s) are considered as parts of a network of relationships and invoked assuming a relational model in which the relevance of situated knowledge is emphasised:

Our knowledge is alive, shows itself in many ways and is essential for food sovereignty. It is local, collective, and diverse and is ever changing and dynamic – not static – and gathers strength through exchange and solidarity. Fighting for food sovereignty means recognizing women's contributions and experiences and making indigenous knowledge and production systems a central element in strengthening local food systems under the control of local communities. (Nyeleni 2007, 2)

In this quotation – extracted from a summary of the thematic discussion on ‘Knowledge and Technology’ held at the 2007 Forum for Food Sovereignty held in Nyèlèni, Mali – knowledge is a marked route that changes along the journey of application; it is not just a replica of the past or part of an essentialist proposal. According to Ingold (2000, 147), ‘the growth of knowledge, conceived relationally, is an aspect of the growth of persons, in the contexts of their involvement with one another and with the environment’. Again, in considering knowledge, the alternative discourse is referenced, not only through the extra-individual and supra-human, but also through growth as a ‘thick’ thing, measured qualitatively, by relationships.

A listing of entities in relationship populating the alternative ontology and extending to food systems comprising a food network is given by the Working Group on Indigenous Food Sovereignty (WGIFS), an organisation of Canadian indigenous peoples created in March 2006. Here, we note the emphasis on locality (‘indigenous’, capitalised) and plurality (‘vast myriad’, ‘multitude’) in the integration of living and organic forms in food systems as part of an enduring food network:

The vast myriad of rivers, watersheds, landforms, vegetation and climatic zones have worked together for thousands of years to shape and form indigenous land and food systems. Consisting of a multitude of natural communities. Indigenous food systems include all of the land, air, water, soil and culturally important plant, animal and fungi species that have sustained Indigenous peoples over thousands of years. (Working Group on Indigenous Food Sovereignty n.d.)

Notwithstanding the development of this alternative discourse, however, the more conventional way of thinking has remained dominant. In the following three paragraphs of the Forum for Food Sovereignty in Sélingué (Mali) (Nyeleni 2007), this is clear: in the central human rights discourse, nature is seen as an entity separate from humans and nature, with conservation aimed at to ensure resilience and reverse climate change.

...Food sovereignty values and supports the contributions, and respects the rights, of women and men, peasants and small scale family farmers, pastoralists, artisanal fisherfolk, forest dwellers, indigenous peoples and agricultural and fisheries workers, including migrants, who cultivate, grow, harvest and process food.

...Food sovereignty places control over territory, land, grazing, water, seeds, livestock and fish populations on local food providers and respects their rights. They can use and share them in socially and environmentally sustainable ways which conserve diversity; it recognizes that local territories often cross ecopolitical borders and ensures the right of local communities to inhabit and use their territories.

...Food sovereignty uses the contributions of nature in diverse, low external input agroecological production and harvesting methods that maximise the contribution of ecosystems and improve resilience and adaptation, especially in the face of climate change (Nyeleni 2007, 1).

Overall, as these citations illustrate, there is a co-existence of modernist and relational thinking in the discourse on food sovereignty. However, the core problem in present debates on food sovereignty is an important shortcoming – the lack of empirical studies that reveal the scope, potential and development of the ontological proposal of food sovereignty. Thus, the main aim of this dissertation is to *develop more insight in the other ontological thinking present in the food sovereignty proposal, which goes beyond the conventional Western and modern thought*.

1.4 Research questions

In view of the co-existence of the two ways of understanding the world expressed in the food sovereignty movement, this dissertation aims to address the following core issue:

How are the content and practice of food sovereignty affected when agriculture, science and technology policies ignore and impede the work of food networks as *lupino paisano*?

In order to analyse this phenomenon and develop insights into the potentialities of the alternative ontology to go beyond the modern way of thinking, I use the *lupino paisano* as a food network case-study to investigate the following research questions:

- a. How can the *lupino paisano* network envisages and creates strategies to stimulate food sovereignty?
- b. How do certain agricultural and science and technology (S&T) policies, designed to promote the agriculture development of the poorest peasants, neglect the alternative ontology of the *lupino paisano* network and obstruct the operation of these alternative Andean food networks?
- c. How did the introduction of the food sovereignty discourse into the 2008 Constitution and the LORSA weaken the ontological and political proposal put forward by *Vía Campesina*?

1.5 Previous academic work: Food networks and food sovereignty as parallel routes

Few studies have addressed the potential of food networks to promote food sovereignty. Often, discussions and debates on food consumption and food networks run in parallel with discussions on food sovereignty without any significant let alone mutual

connection between them. It is precisely in this area of the academic discussion that TELFUN – under the aegis of which this dissertation is developed (above, 1.1) – has developed its objectives and research questions, focussing on reconnecting agriculture and environment and food production to food consumption. The general TELFUN programme proposal seeks to establish links between the ideas of food sovereignty and the functioning of food networks as way of developing alternative food options in different regions, as opposed to the market logic of global food chains:

In this research programme, food networks are considered as a *conceptual option* as well as a *practical proposal* for local development. As a conceptual option, these socioeconomic (and, of course, political) structures are employed in order to investigate and to reflect on those forms of the local production, processing and consumption of foods that do not fit into the food-chain organisational framework of global commodities. In addition, ‘food networks as a practical proposal for rural development’ seek to create ‘alternative networks of production, commercialisation and consumption of local foods with added value’ (TELFUN 2006, 59-60). Indeed, a wide variety of actors and organisations in many, diverse contexts across the world have been working on what are also dubbed Alternative Food Networks (AFNs).⁶ TELFUN (2006, 5)

AFNs have been studied in the social sciences and particularly in agro-food studies from several different theoretical angles. Among these, the Marxist political-economic approach, rural development approach and Actor Network Theory (ANT) have informed about AFN.⁷ In a *Marxist political-economic approach*, agro-food studies form a part of agrarian political economic analysis, in which the agricultural sector disappears as an autonomous sector and becomes integrated into the social organisation of globally organised food commodity chains arising as a result of capitalist development. This perspective emphasises a gradual deterioration of the forms of domestic (local, indigenous) agricultural production due to the penetration of global capitalistic developments related to the industrialisation of agriculture. The result of the changes in the social organisation of agriculture, food production and consumption has been a progressive deterioration of the living conditions of small farmers and their families (Murdoch 2000).

In view of these developments, Goodman (1999) and others have analysed the potential of food networks as an alternative approach to the organisation of agricultural production in a socially different way aimed at improving the capacity of peasants to produce and also consume their own food. Particularly, as Tregar (2011, 425) has stated, the *social re-organisation* propose by AFNs offers an important counterbalance to the arguments

6 In Africa, Abrahams (2007) and Freingberg and Goldstein (2011) give ample examples of the formation of these networks to boost rural development.

7 Angela Tregar (2011) makes a critical analysis of how AFNs are conceptualised and used in research.

about the ‘inevitable rise of capitalist agriculture as a global corporate regime’, as has also been shown by McMichael (2009).

Studies from the Rural Development perspective, meanwhile, have drawn attention to the importance of AFNs in achieving *endogenous rural developments*. These are based on studies, such as by Van der Ploeg (1993), Van der Ploeg & Van Dijk (1995) and Van der Ploeg et al. (2010b), which show the need to organise and promote those food networks in which producers and consumers are locally linked to each other, where information is guaranteed, so that greater socioeconomic benefits are obtained and with these a higher level of food autonomy (also Magnaghi 2005). Other studies have focused on the scope of the re-appropriation of local knowledge and technologies and on highlighting the importance of the creation of changes in institutional policies to achieve this (Ruivenkamp 2005, 2008). And the studies of Wiskerke (2009) and others have indicated that the practices and experiences of the AFNs also become interrelated through informed consumers and emerge as alternatives for real development, despite and in relation to global capitalist forces.

Agro-food studies based on ANT argue that in order to understand phenomena such as production and consumption, it is necessary to overcome the modernist ontology with its various dichotomies (Goodman 1999). Therefore, food studies should consider the hybrid nature of networks and should pay attention to their socio-political as well as material nature. Goodman (1999, 17) argues that agro-food networks

...have a dual set of metabolic relations – eco-social production and human food consumption – and the polyvalence of these relations, namely, the continuing availability or ‘openness’ of agro-food networks to alternative organisational patterns of production and consumption.’

Analyses based on this perspective have highlighted the importance of explaining production and consumption in urban areas in a similarly relational manner. Lookie and Kitto (2000) underline the difficulties inherent in the dualistic model of production/consumption itself. Other authors, such as Goodman & DePuis (2002), look at the forms in which producers and consumers strengthen their relationships in urban areas and propose more democratic ways to organise the relationship between the production and consumption of food. Other writers have opened linked paths to better understand the operation of fair trade chains (Whatmore & Thorne 2008, Reynolds 2002).

In analysing the problems present in the contemporary research on food networks, Tregear (2011) demonstrates the inconsistency with which certain concepts and terms are used. Also, as Goodman (1999, 17-22) has pointed out: ‘Nature is theorized in externalized and mechanistic terms, and thereby abstracted from the social domain’. There is thus only a rather poor treatment in AFN studies of the relationships with nature, while power relations and inequalities incorporated within the AFNs that

determine their capacity for negotiation are also sometimes insufficiently explained. As a consequence, as Murdoch (2000, 417) stated, 'it is necessary to link the network type of analysis with the historical, ethnographic studies of economic, social, cultural and natural conditions that exist in given rural areas'. This thesis attempts to do just that.

1.6 Theoretical approaches

A theory is exactly like a box of tools. It has nothing to do with the signifier. It must be useful. It must function. And not for itself. If no one uses it, beginning with the theoretician himself (who then ceases to be a theoretician), then the theory is worthless or the moment is inappropriate.

Foucault and Deleuze (1977)

The tools I use in my dissertation comprise concepts and postulates from three theoretical positions; all advocate a kind of relational thinking. These are impelled by the nature of the project. As presented (above, 1.3.1), food sovereignty comprises an ontologically little-researched proposal with internal contradictory discourses, including a *relational ontology*, which is typically held among the world's indigenous peoples (Ingold 2000, 77-88). This coexists in the presentation and interpretation of food sovereignty with the dualisms of modern Western thinking and what Deleuze and Guattari (2010b, 4-5) have called the 'arborescent/modern' vision (below). Therefore, studying the potential of indigenous food networks to strengthen food sovereignty but using theories of modernity implies the contradiction of explaining phenomena that challenge modernity by using social theories based on that very mode of conceptualisation. In other words, it is important to create theoretical conditions that provide an analytical engagement with nature and avoid the objectification of nature and its de-politicisation. Therefore, in order to explain the action of an Andean food network – its performance, the opportunities it offers and the obstacles in its way to realise food sovereignty, we need to develop an alternative paradigm with a different toolbox of theories on which to draw, theories that allow an understanding of the emergence of these other ways of relating to the world – theories, in other words, that enable us to understand other ontologies and epistemologies.

Considering this perspective in my dissertation, I have selected and used certain concepts and postulates from three theoretical positions that escape the ubiquity of the modernist nature-society dichotomy and its disabling consequences and advocate a kind of relational thinking. Particularly, I refer to the philosophical notion of rhizome as developed by Deleuze and Guattari, Actor Network Theory, and ideas about power proposed by Foucault.

1.6.1 Rhizome

The rhizome refers to a special kind of root (a subterranean stem of a plant usually found underground) that penetrates soil with a horizontal extended movement. In botany, this root is considered as opposite to the more usual taproot, which grows downward (Nicolosi 2014, 14). The rhizome became an important metaphor in philosophy as a result of the work of Gilles Deleuze and Felix Guattari (1987 [1980]). Referring to human knowledge and employing the image of a family tree, they contrasted the rhizomatic with the arborescent conception of knowledge. While the arborescent model works with vertical and linear connections developing hierarchies and dualist categories and binary choices; a rhizome works with planar and trans-species connections leading to equalities, alternatives and pluralities (Figs. 1 and 2) (Nicolosi 2014, 14).

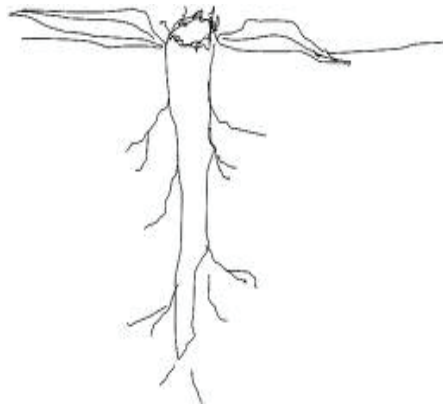


Figure 1. 2 Taproot

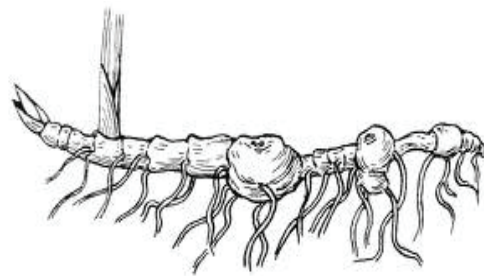


Figure 1. 3 Rhizome

Deleuze and Guattari used the rhizome to explain heterogeneous and multiple approaches of relating to and knowing the world. According to these philosophers, the arborescent approach is characteristic of modernity; the rhizome, on the other hand exhibits a representation of multiplicity that takes different forms in different dimensions and, on multiplying, itself changes its nature. Unlike the taproot, a rhizome is built up of segmented and stratified lines and does not have locatable branching points – ‘The rhizome operates by variation, expansion, conquest, capture, offshoots’ – while the rhizome, through its incessant change, produces a variety of connections and is always polycentric – ‘A rhizome has no beginning or end; it is always in the middle, between things, inter-being, *intermezzo*. The tree is filiation, but the rhizome is alliance, uniquely alliance’ (Deleuze and Guattari 1987, 21) .

The rhizomatic approach is particularly interesting as a model for understanding societies where a relational thinking is still present. Avoiding the dichotomies of modern thought this approach makes it possible to explain alliances as an incessant flow of relationships among different entities, and conceiving networks as a self-organising systems, it helps to make sense of those processes that do not need or have not needed ‘organizing agents such as gods, leaders, capital, or subjects – to the social, linguistic, political-economic, and psychological realms’ (Smith 2013).

1.6.2 Actor Network Theory (ANT)

This research also employs theoretical tools derived from ANT. ANT was born out of S&T studies in which technological and societal developments were seen from an interrelational perspective. ANT essentially regards society as a heterogeneous, interrelational network (Law 1992), where the component entities can be of very different natures – conceptual, textual, biological, social or technical – all interacting with one another and through which interaction they may gain a transformative power as actors, and thus, in this theory, become ‘actants’.

In the following paragraphs, I outline three central features of ANT that enable me to address the research questions (1.4), namely, (a) the ANT principle of *Generalised Symmetry*, which allows us to explain the connections that exist between the ontologically different entities that are part of the *lupino paisano* network without having to resort to ontological binaries, such as matter-spirit and nature-culture; (b) the concept of an *actor network* as a process whereby every one of the entities connects to the others, transforms and in turn is transformed by them; and (c) the concept of *translation* and the role of *space*, which helps to explain how a food network extends, how the entities work ‘acting at a distance’ (Law 1992) without differentiating between local and global spaces.

(a) The Principle of Generalised Symmetry holds that no *a priori* differences exist between human and non-human actants (Latour 2007a, 140-43). The social is not only human (Callon and Latour 1981, 283, Law 1992, 381), so we cannot gain a complete understanding if we do not consider other entities as agentive in interactions with humans as well as with one another. In this sense, human as well as non-human actants (animals, seeds, artefacts, organisational structures, ecosystems, foods, etc.) should be integrated into a description of an AFN.

(b) The term ‘actor-network’ is an apparent oxymoron that aims to overcome the distinction between agency and structure:

An actor-network is an entity that does the tracing and the inscribing. It is an ontological definition and not a piece of inert matter in the hands of others, especially of human planners or designers (Latour 1996, 7; emphasis original).

In this sense, actants are part of a group in continuous formation or destruction (Latour 2007a, 47). This concept has several implications. Networks are the result of the actions of entities of distinct ontologies, and this enables us to take into consideration the idea that ‘materiality and sociality are produced together’ (Law 1992, Law y Mol 1995). Thus, ANT opens up opportunities to recognise humans, including researchers, but also seeds, plants and animals and constitutions and laws, disparate entity types, in fact, as part of a heterogeneous network, one in which a multiplicity of components may be transformed in a process of mutual engagement (Law 1999, 381, Law and Callon 1997). Also, in ANT notion there is no *a priori* order relation in the society: ‘it is not tied to the axiological myth of a top and of a bottom of society’ (Latour 1996, 5); this conception open the doors to questions about the linkages forged among different entities without social, political or biological considerations.

Actants do not have fixed attributes; rather, they acquire their characteristics through their interaction with other components of a network (Law 1999, Callon and Law 1997). The actant’s work generates actions and changes in others, and this triggers the search for new allies. In other words, if a group or network stops working it disappears, as there is no reserve of forces to maintain it in inertia (Latour 2007a, 35). Indeed, ‘An actant can literally be anything provided it is granted to be the source of an action’ (Latour 1996, 7)

In the ANT proposal, certain actants, called *mediators*, trigger the actions of others: ‘Mediators transform, translate, distort and modify the meaning of the elements that they are supposed to carry and compel or convince other actants to do things’ (Latour 2007a, 39).

c) Other ANT concepts that this dissertation refers to are *translation* and *the role of the space*. These help us to explain how a food network extends, how a food network and its entities work or can act ‘at a distance’ without differentiating between local and global spaces (Law 1992, Whatmore and Thorne 2008).

According to Latour (1994, 32), quoting Michel Serres, the notion of translation refers to ‘displacement, drift, invention, mediation, the creation of a link that did not exist before and to some degree modifies two elements or agents’. In this sense, translation is a process that generates a certain kind of order, a certain type of association, and that transforms some entities into others (Latour 2007a, 108, Law 1992, 386); it is the practice by which the social and natural worlds progressively take form, resulting in a situation wherein certain entities modify others (Callon 1986, 200-225)

From an empirical point of view, Law (1992, 387-88) recognises that other characteristics emerge from the translation process. One that is important here is that of the ways of ‘acting at a distance’ or ‘network lengthening’. This refers especially to a network’s ability to transgress the local-global dichotomy, due to its capacity to associate with entities of

different geographies. According to Callon (1986, 223), ‘translation is a process before it is a result’; it implies the continuity of displacements and changes of goals, interest, humans in every stage of the network. This perspective assists discussion of the ways in which food networks may easily move in different spaces and link different geographies.

Using translation as a conceptual tool enables reflection on the establishment of new power relations within the food networks; the concept of translation is undoubtedly central to the dissertation. It enables an identification of the transformations that occur in the various entities involved in the lupin network and explanation of how biochemical changes (the debittering process) transform the identity of the seed and the women involved in this process; it also facilitates analysis of the process whereby *Via Campesina*’s proposal was transformed during its incorporation into the Ecuadorian constitution and the laws of the state; it structures an understanding of how the generation of a new lupin variety influences the composition of the food networks; and finally, it provides a way to reflect on the establishment of new power relations within the food network, for which the work of Foucault is also an inspiring theoretical source.

1.6.3 Reflexions on power, governmentality and government

Michael Foucault’s work on the mechanisms of power that transformed the liberal conception of power, state and law is particularly pertinent here (especially in Chapters 3 and 4) insofar as he regarded power as present in and representing a multiplicity of relations – power is organised in a network-like manner (Foucault 1980, 144). In fact, it circulates, as the structuring of processes:

It seems to me that power must be understood in the first instance as the multiplicity of force relations immanent in the sphere in which they operate and which constitute their own organization; as the process which, through ceaseless struggles and confrontations, transforms, strengthens, or reverses them. (Foucault 1978, 92)

Considering the above certain features of power, described by Foucault, are important: a) power is not a group of institutions to ensure surveillance or a structure; it is a name that one attributes to a complex tactical situation in a particular society; b) power is exercised in the interaction of unequal and movable relations; c) relations of power are effects of inequalities and disequilibria that occur in the latter, and conversely they are the internal conditions of these differentiations; d) power relations are intentional and non-subjective but that does not mean that power results from the choice or decision of an individual subject or organisation; and e) power relations are characterised by their tactics (Foucault 1978, 93-95).

Another tool of conceptual analysis developed by Foucault, the concept of *governmentality* is crucial here in unravelling the calculations and techniques of the Ecuadorian

government to exercise power over nature, bodies and populations. According to Lemke (2001, 190), in Foucault's notion of governmentality, there is a semantic relationship between governing (*gouverner*) and modes of thought (*mentalité*). This indicates that it is not possible to study the technologies of power without an analysis of the political rationalities that support them.

Foucault (2006, 142-143) understands three things by *governmentality*, of which the following two are important in this thesis: 1) the ensemble formed by the institutions, procedures, analyses and reflections, the calculations and tactics that allow the exercise of this form of power; and 2) the process, or rather the result of the process, through which the state of justice is transformed into the administrative state and later becomes the governmentalised state. According to Foucault, the governmentalisation of the state is the real political space for struggle and contestation, while, at the same time, this being is what has permitted the state to survive.

One of the criticisms of the idea of governmentality is that it pays no attention to the ways in which discourses and practices migrate between different fields. According to McKinlay (2010), there are two sources to explain the diffusion of practices and discourses: Actor Network Theory and Sociology of Knowledge.⁸

Government and *governmentality* are not interchangeable terms. Foucault uses the term 'government' to analyse the problematics of rule, 'the ways in which those who would exercise rule have posed themselves the question of the reasons, justifications, means and ends of rule, and the problems, goals or ambitions that should animate it' (Rose 2006, 147). Governmentality, on the other hand, addresses the domain of the political.

Both extends the concerns of rulers to the ordering of multitudinous affairs of a territory and its population in order to ensure its wellbeing, and simultaneously establishes divisions between the proper spheres of action of different types of authority. (Rose 2006, 147)

1.7 Argumentation, methodology and research methods

This thesis argues that, in Ecuador, food networks like that of Lupino *paisano*, which do not establish ontological differences between nature and culture, may promote food sovereignty only to the extent that agrarian and S&T policies enable their autonomous development, respecting their different ways of perceiving and relating the world. The core problem of the presence of and relation between different ontologies in the food sovereignty efforts in Ecuador is investigated here by applying the following research methodology.

8 In Chapter 4, I also introduce the notion of '*mode of ordering*', an adaptation by Callon of Foucault's *discursive practices*.

1.7.1 Conceptual methodology

In social sciences, the preoccupation with methodology is related with the efforts to deal with the influence or separation between observer and observed phenomena and ‘the consequences of this influence for the process of knowing and the knowledge yielded’ (Ellen 1992, 14). The theoretical perspectives introduced in this chapter involve a methodological approach in which society and nature can be studied symmetrically. In this section, I explain the general strategy of this thesis as four challenges.

The first challenge was to deal with the notion of rhizome. As Deleuze and Guattari (ibid., 6) explain, the meta-textual design of *A Thousand Plateaus* was conceived with the objective of putting into practice how a rhizomatic idea operates. In this work, the authors made heterogeneous connections without a specific structure; it is a book where ‘the plateaus [constitute] a multiplicity connected with other multiplicities by superficial underground steams in such a way as to form or extend rhizome’ (ibid., 23). For Deleuze and Guattari, thought and experience are elements or forces that allow contact with elements of a different nature. This contact is precisely what leads to the growth of new streams that generate more knowledge and can break out of the enclosure of language (Pryke, Rose and Whatmore 2003). Here, this methodological guide applied in that I, as a researcher, had to commit only to understanding the relations among entities or the events but also to being open to the transformative effects of experience of the network.

The second challenge, related to the first, was the recognition of the impossibility of adopting a privileged point of view to gain objective knowledge, as discussed in feminist epistemology. Sandra Harding (1989) claims that in research there is no privileged point of view of objective knowledge; she proposes rather the notion of various ‘epistemic standpoints’. This notion refers to the fact that all scientists and in general all agents as knowers are local and multiple. Consequently – as knowers – their condition in the world (gender, social class, culture) defines the contents of their reflections. In other words, the scientific point of view is only a partial point of view, formed but not determined by the historical, local context (Wyle, Potter and Bauchspies 2011). Nevertheless, there have been many proposals to achieve a kind of objectivity in scientific research. Here I follow Donna Haraway’s proposal that a start be made toward achieving some objectivity if, and only if, the place from where the researcher speaks is made explicit:

The moral is simple: only partial perspective promises objective vision. All Western cultural narratives about objectivity are allegories of the ideologies governing the relation of what we call mind and body, distance and responsibility. Feminist objectivity is about limited location and situated knowledge, not about transcendence and splitting of subject and object. It allows us to become answerable for what we learn how to see. (Haraway 1988, 583)

This reasoning shows that it is important that the researcher clarifies her/his position and explains the difficulties and privileges s/he has regarding access to information, which I describe when I present in the following chapters on the location-specific (situated) research results.

The third challenge, related with the other two above mentioned, has been the limit of our understanding and capacity to make sense as researchers. The Foucaultian notion of discursive practices refers to a cultural and historical set of rules that organise the creation of knowledge. It relates to norms, ways of doing things, ways of incorporating experiences made explicit in specific contexts, forms of subjectivity and power relations. Thus, the only way to make sense of something is within the limits of what has already been said; we have little space in which to operate outside of the legitimate perspectives. According to Foucault (1992), the possible questions that we can posit are systematically governed in style and understanding.

The fourth and fifth challenges were related with Actor Network Theory and how to deal with the study of society and nature symmetrically. According to the Principle of Generalised Symmetry, when carrying out research it is necessary to use a similar conceptual repertoire to study all the entities involved in a network, be they human or non-human (Callon 1986, 200). This one might describe as an ANT stipulation of evenness of treatment that extends the foregrounding of partiality with acknowledgement of our position as people making judgements about systems in which people are included but should not be overvalued, an objectivity in the sense of advocating for a non-prejudicial approach to analysis in respect of non-humans.

The last methodological challenge was to take into account the importance of narrative. In fact, narration is the only way to make evident the relationships of the actants and the results of those relationships as expressed in the formation of new links. Latour (2007a, 128) argues that ‘a good ANT account is a narrative or a description or a proposition where all the actors *do something* and don’t just sit there’ (emphasis original). According to this approach, if an agency is mentioned one should identify the agent and describe what it produces and the traces it leaves: ‘The presence of the social has to be demonstrated each time anew; it can never be simply postulated (Latour 2007a, 53).

1.7.2 Research methods

In order to address the three research questions – which are built around the presence, neglect and translation of a way of understanding the world that goes beyond the modernistic approach to food issues – we are impelled to select and apply specific anthropological and historical research methods. Addressing the first research question – How can the *lupino paisano* network envisage and create strategies to stimulate food sovereignty? – I conducted an ethnographic study during the years 2007 and

2008, following the network from the cultivation of the *chocho* to its marketing and consumption in the city.

The journey begins with the planting and cultivation of the *Lupinus mutabilis* Sweet seed, called '*chocho paisano*', in Guayama San Pedro, a small, indigenous community of about 150 families in the foothills of the Quilotoa volcano (3880 masl), and ends some 80 km (50 miles) away in the city of Latacunga (2784 masl) and the market town of Saquisilí (2943 masl) both located in the Ecuadorian Inter-Andean valley, where lupin is processed and consumed (Fig. 1). The aim of this case-study was to immerse myself in the life of the Guayama San Pedro community, experience the relationships between all the entities that are part of the network and observe the translation processes generated by the different actants, such as *páramo*, lupin, women and men from Guayama, women vendors, bus-drivers and markets in Latacunga, Chugchilan and Saquisilí. I sought to delve into the complexity and wealth of this Andean food network and its diverse ontology.

I mostly spent my time in Guayama, attempting to dissolve the dichotomy between observation and participation. This I partially achieved; I was able to become involved in the cultivation of the crop. Because of my 'mestizo', middle-class orientation, the people of Guayama were very wary about giving me information about certain cultural knowledge and practices, such as dances, stories about the hills and about shamanism; but the men would talk about issues related to planting, cultivation and the use of agricultural inputs. To understand the pathway taken by the *lupino paisano* after the harvesting, I decided to accompany, on foot and by bus, those selling the seed in Zumbagua, Chugchilán (local towns) and in Latacunga (capital of Cotopaxi province).

In the markets, I was a participant observer and established relations with the middlemen beginning with informal conversations. In Latacunga, I worked with store owners, commonly called '*graneros*', with whom I did participant observation and had informal conversations. With women processors I made contact in two ways: as a participant observer in El Salto (Latacunga market) and by establishing closer relations with an old woman processor.

For the second research question – How do certain agricultural and S&T policies, designed to promote the agriculture development of the poorest peasants, neglect the 'other' ontology of the *lupino paisano* network and obstruct the operation of Andean food networks? – I moved to a completely different (social) space: the National Agricultural and Livestock Research Institute (INIAP), near Quito City. I carried out research at INIAP after my time in Guayama and Latacunga, starting my work during the months of June and July 2009.

When I arrived at INIAP, I already had reasonable first-hand knowledge about the operation of traditional lupin food-networks, as well as about the new networks that

had arisen from the improved seed released by INIAP. At INIAP, I first had informal conversations with three of the people responsible for research in plant breeding and food processing. Then, I reviewed the archived INIAP annual reports, particularly those dedicated to legumes and to Andean crops. I studied most of the publications of the Legume Programme, and I also reviewed journals and texts related to agricultural development policies from 1970 to 2000. To track the history of the lupin and related food networks, I worked at the National History Archive and the Aurelio Espinosa Polit Archive-Library in Quito during 2008 and 2009.

For the third question – How was the food sovereignty proposal, put forward by La Via Campesina, weakened when this was incorporated into the constitution general laws of the Ecuadorian state – I took three approaches. I studied the constitution of the network that gave rise to the food sovereignty proposal, taking advantage of documents such as newspapers, pamphlets and contemporary articles; I examined the area of the everyday practices of the state (Das & Poole 2004, Guerrero 1991, Gupta & Aradhana 2006); and I had informal conversations with some of the advisors of the members of the National Constituent Assembly, and also attended talks and conferences programmed by the members of the food sovereignty movement and by the state.

The phase after data collection I would characterise as of reconstruction and interpretation:

Analysis is not just holding up a mirror to give a true picture, but a practical action of describing and relating things to answer specific needs and questions... Having broken down our field data into topic -based ‘chunks’ or fragments, they get recontextualized and rebuilt into an interpretation (Pryke, Rose and Whatmore 2003, 2090).

During the phase of analysis and writing, I first devoted myself to organising the data in a way that would give an idea of the actants and of the network. After that, I put together the main materials and notes and prepared the first drafts. The first steps in this work enabled me to recognise that interpretation, reading literature and writing are not a separate process.

1.8 Dissertation Outline

This first chapter has been dedicated to the introduction, communicating the topic of research and the discussions proposed around the food sovereignty and food networks. It has included the problem statement, research questions and an account of the conceptual methodology and practical research methods.

In the second chapter, I focus on the description of the ontology and functioning of the *Lupino mutabilis* Sweet network. I argue that the lupin network is a nature-culture food network in which the diversity of ontologies and entities invoked and involved supports a

recognition of the presence of horizontal relations that also enable an ongoing recreation of the food network in a way that is oriented to food sovereignty. Lupin, during its journey from the highlands to the city, makes associations in different rhizomatic ways with the several entities that it encounters before reaching the consumers. These alliances generate horizontality, changes of meanings in various actants and changes in the extent of spaces that enable the constant recreation of the network.

This chapter is written in the form of a description of journey in which the links and transformations that entities undergo emerge as they become involved in the network. I describe how indigenous men and women establish relationships with the lupin plants, how the lupin helps in establishing the identity of farmers in Guayama. I describe the multiple links that producers establish in order to sell their seeds and how these actions allow them to avoid dependencies on middlemen. I explain how the women lupin processors move from being housewives to become expert traders, as the bitter lupin bean turns into a highly valued Andean food in local markets. Finally I describe how the lupin, a commodity in the valleys, returns once again to the highlands transformed into a gift. This unravelling of the functioning of the lupin food network in relation to the 'other' ontology characterised by a relational thinking may offer new perspectives for realising food.

In the third chapter, in INIAP, I analyse the emergence of a new lupin seed that was produced in a development project with the purpose of improving the lives of Andean communities and embodying many of the values of the Green Revolution – which means that it reflects the prescription of a modern way of thinking. Here, I investigate the development of the new lupin seed as a (modern) artefact. I adhere to Law's assertion that artefacts can only be understood as part of a network, as well as to the proposals of the philosopher Andrew Feenberg, for whom any artefact is developed under a certain type of social rationality.

Clarifying how, in the case of the new lupin seed, the artefact has been developed from within a positivist scientific rationality, this chapter explains the unfortunate situation by which a seed released to help the poorest peasants in the highlands has, in fact, created a new food network that brings together entities and spaces which compete with the ontology and functioning of the so-called traditional food networks and thereby creates new problems as much as solving old ones. I conclude the chapter with a reflection on how and why these practices of the state, in allying itself with forms of thought rooted in the Green Revolution, have reduced the capacity of food networks' to produce and consume their own food in each region and certainly have not contributed to food sovereignty.

The aim of the fourth chapter is to examine the translation process experienced by the Food Sovereignty proposal from that promoted by *Via Campesina* in Mexico in 1996, up until to the 2008 establishment of the Ecuadorian constitution and the passing of the Law of Food Sovereignty. Taking advantage of the concepts of the 'translation' of

‘modes of ordering’, as developed in ANT, in the first part of this chapter I describe the formation, composition and recomposition of the food sovereignty network, showing that it was a hybrid movement whose forms of action and ways of understanding about the struggle for land and its particular composition enabled the movement to negotiate the introduction of food sovereignty into the Ecuadorian constitution. In the second part of this chapter, I describe the process of translation and incorporation of the food sovereignty proposal, the result of the involvement of multiple entities belonging to old and new power groups linked to the production and marketing of food and agricultural inputs, social movements and the government, all of whom shaped the strategic objective of ‘food sovereignty’. I conclude this chapter with a reflection on the difficulty that modern states face in appreciating alternative routes for the production and consumption of food.

In the final chapter, I analyse how food networks – like that of *Lupinus mutabilis* Sweet –inherently bear the alternative ontological promise present in the food sovereignty proposal. I also discuss the difficulties that this ontological proposal has in being recognised as such in government legislation. Due to the fact that Ecuador’s agricultural and S&T policies are conceived within the ontological parameters of modernity, the state cannot recognise that its actions – although aimed at development – actually limit the lives of many peasant farmers. Finally, I analyse how proposals in the social sciences, particularly in anthropology, facilitate the study of relationships that develop between humans and other entities during the process of growing, processing and consuming foods, and how this perspective enriches food studies and questions various elements of the food sovereignty proposal that assume the discourse of modernity.



Figure 1. 4 Cotopaxi volcano

CHAPTER TWO

The Journey of an Ancestral Seed: The other ontology in the *lupino paisano* network

The páramo zone is the most interesting of the life zones of the Andes, since it shows to the highest degree, the struggle of plant and animal life against conditions of extreme cold temperature...

Carlos Chardón (1933)

2.1 Introduction

This chapter aims to show how the *lupino paisano* in Ecuador is constituted from within a food network in which an ontology characterised by a relational logic operates. More specifically, it argues that, during its descent from (and return to) the highlands, *lupino paisano* makes associations in a rhizomatic manner with several entities along the way from production to consumption. Such alliances generate horizontality, changes of meanings in some actors and extension of spaces that allow a re-creation of the network.

To explain what I understand by food networks I will refer to the distinction that Murdoch (2000) established between commodity chains and food networks. Originating from political economy, the idea of a commodity chain refers to the ways in which the actors involved in production and consumption are determined by the relationships established by the large multinational (transglobal) companies. According to this perspective, food chains are the result of the capitalist drive to change the social and natural world through the extraction of value. The main purpose of these studies has been to show the economic and social harm that this food system has done to peasants and their families (Murdoch 2000, 409-10). In Murdoch's perspective, the natural and social components are indeed considered, but they are governed from a centre linked with the processes of industrialisation. As was mentioned in Chapter 1, criticisms of this approach are related to three aspects: a) dichotomies such as nature-culture are assumed *a priori*; b) they set out from the existence of the dichotomies global-local, urban-rural, nature-society; and c) nature has a passive role and the people with power have the capacity to organise and control the chain without others being able to act in their own interest.

Murdoch (2000, 410), picking up on Whatmore and Thorne (2008), conceived a food network as a network of relationships where heterogeneous agents (social and natural) are involved and where it is possible to establish links between the environment, society and agriculture. Following Latour (1986), he asserts: 'Like commodity chain analysis, this approach also tends to see networks as sets of power relations but here power lies not within the macro actors themselves but in the links that bind the actors and entities together' (2000, 410).

Agro-food studies based on an ANT approach argue for the necessity of overcoming the modern ontology of dichotomous thinking; they look to explain the presence of relationships among entities with different ontologies and search for possibilities for food sovereignty within these inter-relationships in the food networks. According to Goodman (1999), Whatmore and Larraine (2008) and Tregar (2011), food studies should consider the *hybrid nature of networks* and should pay attention to their material *and* social nature.

In addition, Melanie DuPuis and David Goodman (2005) highlight the importance of thinking about local networks not as the place where the hegemonic niche of capitalism is encountered (contrasted contested); instead, they assert

An inclusive and reflexive politics in place would understand local food systems not as local 'resistance' against a global capitalist 'logic' but as a mutually constitutive, imperfect, political process in which the local and the global make each other on an everyday basis. (DuPuis and Goodman 2005, 269)

The local food system focused on here one of three lupin networks identified in my research' is the *lupin paisano* network.⁹ This stretches from the Andean highlands to settlements in the valleys, where indigenous farmers and women processors play a key role in lupin production and processing. By contrast, the *lupin chawcha* network is primarily located in the valleys and composed of farmers who are predominantly non-indigenous (*mestizo*), connecting the productive work in the valleys with consumption in the large cities.

Apart from the different geographical locations, labour composition and spatial relations, the *paisano* and *chawcha* networks also differ in their level of commodification. While farmers' landraces are grown in the *paisano* network, high-yielding varieties are planted in the *chawcha* network. Also, the debittering of the lupin is performed in the *paisano* network within a home context, while in the *chawcha* network this has become a commercial activity organised by specialised enterprises. Another important difference is that the *paisano* lupin is sold at markets located in towns and at the weekly markets in small cities, while the *chawcha* lupin is mainly sold in wholesale markets and supermarkets in the large cities, like Quito, and the provincial capitals.¹⁰

There have been several important ethnographic and historical studies of the production, processing and consumption of food in the Andean region. According to these studies, mostly found within ethnographic work (Harris 1995, Larson and Harris 1995, Gose 2004), a 'relational approach' (Ingold 2000, 133) still prevails in many Andean communities, even today. It is evident that ontological and hierarchical distinctions are not always made at the levels of nature-culture, matter-spirit and local-regional, and that behavioural ideals, such as reciprocity, applied to human relations are also applied in relation to distinct entities, such as gods, mountains, lakes, animals and plants (Harris 1982, Orlove 2002, Gose 2004, Stensrud 2010).¹¹

9 'Paisano' is the name used by the indigenous people to refer to the lupin landrace. According to the *Real Academia de la Lengua Española* dictionary, one of the meanings given for *paisano* is 'peasant, [one] who lives and works in the countryside', so '*lupino paisano*' is reasonably translated as *lupino del campo* or *lupino campesino* (country lupin or peasant lupin)

10 The third, *Peruvian lupin network* identified is based on the contraband seed that comes into Ecuador from the Peruvian Andes; the production and marketing of this network appears to resemble that of the *lupino paisano* network, but it has not been further studied here due to time constraints.

11 See the work of Eduardo Vivieros de Castro and the symmetrical anthropologists.

In agriculture, the early studies made by Alberti and Mayer (1974) and Orlove (1977, 1986), and the more recent work of Mayer (2002) provide examples of how, in the Andes, agricultural production and foraging are regarded as practices resulting from a mutual involvement of plants, animals and people, and not exclusively as human actions upon nature. In respect of local and regional peasant production, studies like those edited by Broke Larson and Olivia Harris (1995), and Mary Weismantel (2001) for the Andean region generally, and those of Hugo Burgos (1970) in Ecuador in particular, reveal that the indigenous people –especially the women – have been actively linked with the processing and trade of foods throughout the centuries of Spanish domination and then the Republic. These studies also show that relationships between producers, middlemen and consumers include monetary gain together with a genuine disposition on the part of these actors to widen their links and knowledge.

One problem with these ethnographies is that they frequently focus on unravelling the functioning of relationships between human and non-human entities in agricultural production, processing and marketing both hierarchically – characterised, for example, in terms of the vertical archipelago perspective (Murra 1980) – and according to norms like reciprocity and complementarity among people in a specific place (Larson and Harris 1995). In other case-studies, in addition to the lack of perspective on horizontal structuring, the analysis is also fragmented through its focus on production or marketing or case studies focused on one specific locality, from which it is difficult to ‘follow’ the network. Despite the presence of such shortcomings, however, all these case-studies observe how food production, processing and consumption are linked and incorporate other (non-human entities) as part of the network.

Although there is a major and growing research focus on food networks, most of the literature has a geographical bias towards the global North.¹² In Latin America, particularly in the Andes, very little research has been done on the dynamics of production, processing and consumption of food products, especially from perspectives such as food studies supported by Actor Network Theory. And despite perspectives such as that of Nyéléni (2007, 5) which highlight the existence of networks linking production and consumption and their importance for food sovereignty, there are, to my knowledge, no studies that explain the operation of food networks and their contribution to food sovereignty in the Andean regions.

Aiming to address the first research question of this thesis– How can the *lupino paisano* network envisage and create strategies to stimulate food sovereignty? – it is important to examine further the relational perspective introduced (above, 1.3.1). Ingold (2000) proposes a relational approach to interpret the way in which people referred to as ‘indigenous and aboriginal’ by the United Nations live and inhabit their lands. According to Ingold, in a relational model of inhabiting the world

12 Among the exceptions, see Whatmore and Thorne (2003) and Van de Kop et al. (2006).

...both cultural knowledge and bodily substance are seen to undergo continuous generation in the context of an ongoing engagement with the land and with the beings – human and not human – that dwell therein. (Ingold 2000, 133)

Thus, in a relational perspective people, through their actions, are linked with each other and with other entities; the relationships are fields of collective realisations where histories are generated and transformed. Inspired in the rhizome concept of Deleuze and Guattari, Ingold argues that in a relational perspective, each entity may grow and connect itself with others in a transversal manner, rather than a vertical one, guaranteeing multiplicity.

This chapter argues that the *lupino paisano* network stimulates food sovereignty because its relational ontology and rhizomatic organisation boosts a form of production and consumption where humans and non-humans, besides generating income, re-create a particular way of linking themselves with a world that is different from the modernist one. It is within this fundamental difference that sovereignty lies; or rather, it is through the perception of the distinction that we may perceive the food sovereignty of the network.

2.1.1 The ethnographic work

In order to investigate the constitution of the *lupino paisano* network, I started my fieldwork in the Guayama San Pedro community (Figure 2.1).¹³ I was able to do this due to contacts with the community leader and my promise that the fieldwork would only focus on agricultural topics, particularly lupin (*tauri*).¹⁴

13 In the parish of Chugchilán there are two communities close to each other which have very similar names. Guayama San Pedro, the place where I carried out the ethnographic work, and Guayama Grande. Here I will refer to the communities in the way that the peasants do: 'Guayama' (to refer to Guayama San Pedro) and 'Guayama Grande'.

14 Through one of their leaders, the members of the community explicitly gave me to understand that they did not want me to research matters related to the policies of the community or its cultural traditions (the collection of myths and studies of its rituals). They accepted my study because they considered that the topic of agriculture and of the lupin was remote from these matters.



In Guayama, I stayed with a family who were mainly engaged in agriculture and had a lodging house. There, I was able to become involved in the family's agricultural labour, which is mainly the women's responsibility. I had conversations with the family while participating in the sowing and harvesting of the lupin, and also potatoes. As my relationship with the family became closer, the family helped me make contact with the people considered the largest lupin producers and also with two old community leaders. I had informal conversations with these people and collaborated with some agricultural

tasks. In addition, with a young assistant as guide, I made trips to where they grew the lupin, into the *páramo*.¹⁵

My participation in the daily life of the community enabled me to appreciate that there was not the linear path I had imagined from harvest and shelling to commercialisation. In fact, the next step in the *lupino paisano* pathway after harvesting and shelling depended on the judgment and economic possibilities of the individual family and the quality of the seed. Possible routes thus branched out according to several different factors. In order to understand the journey made by the *lupino paisano*, I therefore accompanied, on foot and by bus, those selling the seed in Zumbahua and Chugchilán (local towns) and in Latacunga (the nearest city).

In the markets in Zumbahua and Chugchilán, I established relations with the middlemen, beginning with informal conversations while they traded the seeds and during the truck trips back to Guayama. In Latacunga, I worked with store owners, or '*graneros*', where several varieties of corn, lentil and *chocho* were sold. Here, in addition to participant observation in the wholesale market, contact was limited to one conversation, as the people were reticent about giving details concerning the origin of their products, and they were particularly offhand with a woman from outside (many came from Peru, without import permits).¹⁶

With the women who processed the seeds I made contact in two ways. Firstly, I got to know them by following the lupin from Guayama to the El Salto market in Latacunga, where a few people sold the seeds; then, on various occasions, I visited the traditional place for processing the lupin, the La Laguna neighbourhood in Latacunga. Secondly, due to the contact I had with a family in Latacunga, I was able to establish a more personal link with a housewife who had spent years processing the lupin and selling food in the various markets. It was this woman who enabled me to participate in the cooking, washing and rinsing, and the sale of the lupin. The woman also recounted to me her life story. Finally, I took the role of participant observer in the El Salto market and in the weekly market in Saquisilí. On the bus trips back to Guayama – a journey of not less than four hours – I was able to observe the ways in which the processed lupin returned to the highlands.

15 The *páramo* is an ecosystem in Latin America found in Venezuela, Colombia and Ecuador. The word '*páramo*' is of Spanish origin; the Kichwa name for this ecosystem is *ugsha* (Cordero 1892 [200])) The *páramos* of Colombia and the north of Ecuador are humid during most of the year with 'continuous moisture in the form of rain, clouds, and fog, mostly due to orographic uplift caused by the Andes'; temperature changes are considerable and can sometimes vary between 0°C or less at night and 30°C at noon, creating 'summer every day and winter every night' (Missouri Botanical Garden 1995-2015). The land is mainly covered with grasses of the *Festuca*, *Calamagrostis*, *Stipa ichu* and *Lupinus* genera, to which I will refer by the generic name of '*páramo* grass'.

16 Here we see the insection of the *lupino paisano* and Pervian lupin networks (see Footnote 10).

The empirical findings of my fieldwork revealed that there still exists another, alternative ontology in the *lupino paisano* network, a form of thought that Ingold calls ‘relational thought’ – or, that the network expresses and is appropriately conceptualised thus. The findings also show that among the people of Guayama, it is common to find a form of thought where different entities are interrelated in a rhizomatic manner, without establishing binary distinctions such as natural entities (*páramos*) vs. social entities (family or community), human (lupin growers) vs. non-human (lupin) and rural spaces vs. urban spaces. Moreover, the findings show that among the different entities with their different ontologies, non-hierarchical alliances were created that form a key element of the network.

2.2 Non-hierarchical alliances

Zumbahua is páramo, it is grassland, it is sinchi huayra or strong winds, it is cuichic, rainbow. But above all it is a space for utopias.

Farfán (2007)

In the spatial formation of the *lupino paisano* network, different types of alliances are established, such as peasant-lupin and peasant-trader relations, which generate possibilities for the maintenance and development of horizontal networks.



Figure 2. 2 The *páramo* near Zumbagua town

2.2.1 Peasants and lupin as fellow participants

While climbing up the Quilotoa volcano in Cotopaxi Province, one can see that crops like potatoes (*Solanum tuberosum*), broad beans (*Vicia faba*), oca (*Oxalis tuberosa*), ulloco (*Ullucus tuberosus*) and barley are grown in the lower vegetation zones at 2500-2800 masl (8-9000 feet above sea level), in good soils and using cultivation techniques. At elevations above this, in the *páramo*, by contrast, lupin is widely planted, both intercropped and embedded in its ecological niche in continual competition with other plants of the *páramo*, among which there is the *sacha-tawri* (*lupinus pubescens* Benth) or wild lupin, which is not edible.

Producers in the indigenous community of Guayama and the *lupino paisano* plant share the ecological and historical space of the *páramo*; this is a shared space, the result of *living in the world, not acting upon it*.¹⁷ The *páramo* is the basis of a horizontal link still maintained between the peasants and the lupin: it is in the *páramo* that they start out as fellow participants and actants in the establishment of the *lupino paisano* network. The relationship that is established between these two actants with their different ontologies is the result of the Guayaman peasants' response to the actions of the *lupino paisano* plant and the history of the landowners' conceptions of agriculture.



Figure 2.3 *Sacha tawri* together with other páramo species

17 Ingold (2000, 185) calls it a 'dwelling perspective', in contrast to the 'building perspective' typical of modernism.

According to Ingold (2000), the concept of plant domestication has often been associated with breeding. This association is based on an idea of modern production that involves an alteration of nature: 'The idea that production consists in carrying out action *upon* nature, issuing from an (assumed) superior source in society is an essentially modern way of thinking' (Ingold 2000, 81). Crucially, this involves the supposition of a single ontological framing: 'both humans and the animals and plants on which they depend... must be regarded as *fellow participants* in the *same* world, a world that is at once both social and natural' (Ingold 2000, 87). Thus, as I will show when describing the sowing, growing and harvesting of the lupin, the people's work consists of creating the conditions for the seed to transform itself into a plant, to live and bear fruit in an environment which humans consider difficult. As Ingold (2000, 86) well indicates, in some places, the work of people is not characterised by 'making plants or animals' and by acting upon nature so as to impose their rational designs, 'but rather establishes the environmental conditions for their [plants and animals'] growth and development'.

The lupin is sown in the rainy season, from January to February, never March. According to the farmers, the carnival season is best: 'There's an adage that says that you should sow up to carnival, or shortly after carnival'; others claim that you should sow 'between the two [full] moons of carnival' (Auz 2008). This may be recognised as an 'other' decisional context about when to sow, based on a social and an astronomical calendar and thus putting the matter in the framework of relations between different orders of consideration.

The main criterion for selecting the seeds is not its quality, but the fact that it is 'accustomed' to live in the *páramo*. The men and women farmers recognise two categories of lupin seed: higher quality, which is sold, and lower quality, which is sown. In contrast to other food plants, the people do not keep the lupin for home consumption. In a place where the entire lupin suffers from disease and pests, it is impossible to obtain an excellent quality; however, the seed is sorted and the best goes to market (Fig 2.3). The most knowledgeable farmers think that this option is not the most appropriate, because the loss of good quality seed can adversely affect the future plant stock.

This lack of attention to the quality of the seed contrasts with the importance the peasants give to the knowledge of the origin, lineage and behaviour of the plants. The seed that is ordinarily used is that which is recognised as seed of the 'ancestors', of the 'grandparents', or of their 'parents', and is called '*chocho paisano*' or simply '*tawri*'.



Figure 2. 4 *Lupino paisano* (tawri, chocho)

One can establish a parallel between the care given to selecting and sowing the seed and the strict rules of marriage in the zone of Chugchilán and Zumbahua; in both cases, persons or seeds from the community are preferred, where their family origin and behaviour is known. Just as with the lupin, the preferred marriage is between people of the same community, and this rule is strictly followed, one of the reasons being because the behaviour of the couple and their families are known.¹⁸ Similarly, most of the farmers prefer to use their own lupin seed or that of near relatives because they know its origin and are sure of its behaviour in the extreme climate of Guayama. Don Daniel (Iracunga 2008), showing me the seed he was going to sow in February, told me that he had bought it two years previously from a neighbour who lived opposite his house, as he saw that this variety would resist the winds and be more productive.

The lupin is known for its resistance to the cold and to the winds, '[This] *chocho* doesn't topple over with the summer [winds]; it's tough, the strong winds knock off the flowers, but not all of them' (Osorio 2008). One peasant said contemptuously:

[S]ome down there [pointing to Guayama] use this new one [*chocho chawcha*], but I don't like it. With the wind, the flowers fall off; they can't take the wind, they look nice, but then they're lost. (Pucha 2008)

According to the farmers, the seed needs to be '*acostumbrada*' or '*enseñada*'. This means that it has to be habituated to growing and bearing fruit in the conditions of Guayama. For example, two of the younger farmers commented that they did not sow the local

18 The preferred marriage is endogamic (within the community); that is to say, those from Guayama marry people from Guayama, and those from Zumbahua marry people from Zumbahua (Farfán 2014).

seed, but they got seed in Angamarca;¹⁹ they claimed that the seed was '*acostumbrada*', to emphasise the importance of this feature. One of them said that he had travelled to Angamarca to make sure that the plants were 'strong' – implying, that is, that the seed to be selected and sown should feature certain qualities located in the plant's morphology. Being 'strong' means that the branches cannot be broken by the wind and the flowers do not easily fall in the wind; the seed should also be 'acclimatised to diseases, pests, and adverse environmental factors such as frost, as well as the strong winds'. Certainly, the lupin must be 'local' (from the community), '*acostumbrada*', to survive in the tough environmental conditions of the *páramo*: a true *paisano*, in fact.

The lupin is always sown in the *páramo* grassland or with plants for daily food. In contrast to the simplification (rationalisation) that modernist agriculture fomented, lupin is not farmed as a monoculture, but is always sown in the company of other plants, edible or otherwise. In the first case, the lupin is expected to grow successfully with the *páramo* grass. It generally reaches a height of up to 150cm (5ft) and its branches are indeed robust. Obviously the intercropped lupin will not need to compete in this way, but it will still need to survive the climate. Seeds are thus perceived as fellows insofar as they produce plants that – just like the people – are strong, able to resist and grow and thrive in the local, harsh environment. One day, for example, during a *minga*,²⁰ a community leader seeing me freezing in the cold, wind and rain joked, 'We're like the *tawri*; here we live with the wind and rain'.

The alternative ontology is also present in how the planting of the lupin is perceived and the different relationship between growers and the lupin in the tasks related to this. Planting is not perceived as work – or rather, the conception of work is different.²¹ Planting lupin is not seen as a required task that involves physical exertion, or even as the cause of a festivity, as is the case with maize in the north of Ecuador; rather, it is a task that can be improvised because the sowing circle is limited to the nuclear family. This is an intimate practice, not a collective activity, a quiet communing, one might say, where families connect with the cycles of the lupin plants.

As mentioned above, the lupin is sown in two ways in Guayama: in the *páramo* itself, in the poor-soil, wild environment where hardy grass is found, or in better soils, in a cultivated site, where it is intercropped with plants that form part of the daily diet. In the former case, after burning the *páramo*, square holes are made and the seeds placed in

19 A rural parish near Zumbahua, with similar ecological characteristics to Guayama.

20 Pre Columbian tradition of community service for social utility.

21 Olivia Harris (2010) also shows that in the Andes among the Aymaras, the way of conceiving work is different to Western conceptions; it is more closely related to joy than to suffering, and it strengthens social relations more than capital.

them. The plants are left to grow together with the grass, which grows again after being burned. This work is done by the young men of the family.²²

In the case of cultivated sowing, the lupin is sown together with or in rotation with other crops, cultivated together with corn, oca (*Oxalis tuberosa*), ulloco (*Ullucus tuberosus*) or potatoes. As the other crops are attacked by certain pests and diseases or are sensitive to the abrupt temperature changes (frost), once planted they are weeded regularly and punctually, (organic) fertilisers are used to improve the soil and pesticide ('*remedio*') is applied. Then, when the peasants consider that it can now survive, the lupin is sown and from that moment, no more weeding takes place and no more attention is paid to the crops. The plants are thus cared for in different ways depending on whether they are considered fragile or not, and how important they are as daily foods.



Figure 2. 5 Sowing: in the wild grassland (left) and in cultivated soil (right).

The sowing process, just as harvesting, is a technical skill (Ingold 2000, 352-54). In other words, it is an activity where experience and knowledge are found in the subject; it depends on the synergy established between the entities involved and the context in which it is developed, 'techniques rely a lot on intuition, not so much on discursive

22 Of course, there are exceptions and the people of Guayama themselves drew my attention to this: I was surprised when I was passing by a place where a woman was *digging holes* in the soil of the *paramo* and her children were planting the lupin. Eduardo, explained to me that the women whose husband and young sons have migrated to the city would also do this work, but 'it is not for them', he added, pointing to the woman and thus showing me that socially this was not very acceptable.

thought' (Ingold 2000, 316). Early in the morning, after performing the various household tasks, those involved in sowing set out carrying a bundle with the seeds and a mattock. In cultivated soils, the women and children are responsible for sowing the lupin, which they do in pairs.²³ Those who sow must cast the seed and then tamp it down without exercising too much force.

In the case of inter-cropping, due to the slope of the land, and since the other crops will have grown and taken up space, the breaking of the ground is done without considering the existing furrows; the lupin seeds are placed wherever it is possible to dig small holes and tamp them down. This is almost impossible for a beginner adult; besides following the rhythm of the person clearing the land he or she must immediately select three or four of the best seeds (never more than four), keep a good grip on the bundle of seeds, be careful not to destroy the plants already there and tamp down the seed with one foot, while the other maintains balance on sloping and often slippery ground. Done by experts, this work is harmonious and rhythmic; it does not take much time, and it does not require much effort with a mattock because the soil is already prepared.

Sowing lupin can be appreciated as a skill that generates an active cooperation between humans and non-humans; it is not about imposing mechanical force; rather, it implies handling knowledge of the quality of the seeds, the appropriate moment for sowing, the number of seeds that should be placed in each hole, and the quality and dampness of the earth to determine the pressure which should be applied at the moment of tamping down. This knowledge cannot be summarised in a treatise or reduced to a formula; it is the result of a relationship established by living and working in a certain environment. When the sowing is done, the participants feel relaxed when looking at the fields and the mountains, and they chat about the future of their crops, and the state of their neighbour's crops. It is an aesthetic joy with a feeling of being part of a life where plants, animals and mountains are all involved. Overall, the sense is not one of duty and relief for its execution.

The lupin plants are then left to grow by themselves. There is no further weeding, no adding of fertiliser or use of pesticides for the lupin. This lack of further attention reveals that the aim of those who cultivate the lupin is only to establish the conditions to guarantee growth. The cultivation of the lupin is seen as a simple task:

Eating [lupin] is a little difficult because you have to cook it, then wash and rinse it; but sowing it, you know it starts and it then grows and grows all by itself, afterwards the flowers [appear] and [then] they produce beans, and when they're dry, we pick them. (Iracunga 2008)

23 From about the age of 15 or 16 the men leave the community to work in Latacunga or Quito, most of them working as day labourers in construction; they return at weekends; when the men and boys are at home, it is they who continue to clear the land and the women plant the seed.

Don José Miguel, who grows lupin in the wild *páramo* grassland, concurs, summarised very well the position that many Guayaman farmers take: 'God, nature and work is all the *tawri* needs' (Pucha 2008).²⁴

After the lupin has grown and matured, it is harvested, a process that again, like the sowing, brings the people and the plants together. As the lupin pods ripen gradually, harvesting them requires just a few family members. When the plants begin to turn brown and some of their pods do the same, it is considered time to begin harvesting; besides that, dry preferably sunny days are chosen. Then, the woman responsible for the crop and in some cases the children go to the lupin with only a bag. Just as with the sowing, the harvesting of lupin does not bring together relatives, friends and others, as is the case with potatoes, and neither does it require rituals, such as those surrounding maize cultivation found in Andean valleys generally (Gose 2004, 146-64).



Figure 2. 6 Lupin after harvesting together with páramo grass.

Just as with sowing also, harvesting incorporates within it a knowledge acquired with practice; it is not verbalised and so requires attention and judgment on the part of 'apprentices' seeking to master its skills. Once in the field, the work, apparently simple, consists of distinguishing which pods are ready to be picked, which involves identifying exactly the right tone of brown (a symbol of the ripeness of the pod) and feel to know

24 'Dios, naturaleza y trabajo es todo lo que el *tawri* necesita.'

when a pod is found that it will break off easily. Each person chooses a space and looks for the ripe pods, puts them in their bag and then empties them into a larger sack left on the ground in one corner of the field.

After the harvesting, and if the work is done with care, each plant remains intact and it is expected to continue bearing pods. Again, during the harvesting just like the sowing, conversation flows and no great physical effort is needed. When the lupin plants no longer produce pods, they are left for the pigs or sheep to graze on. The men of the family clear the plants; some of the branches are left for fertiliser and others collected for firewood. Indeed, one might say that the lupin farming is dedicated to maintaining and strengthening the knowledge of all plants, so that they develop according to their nature, like cultivating a friendship.



Figure 2. 7 **Harvesting *lupino paisano***

We see that the sowing and harvesting of the lupin comprise environmentally situated processes, where agriculture is experienced in terms of cooperative activities among entities in a shared space and where there is no separation between knowledge and practice. This is the alternative ontology in practice.

Lupin is eaten two or three times a year, in contrast to foods like *máchica*²⁵ or potatoes. ‘We eat it once or twice a year, *chocho* is not like *máchica*, which we eat every day’, said Doña Elsa, the housewife of the house where I stayed. She was also able to confirm that in Guayama, crops like potatoes or barley, central to the diet, receive far more investment in time and resources, an observation that coincides with that reported by Mayer (2002, 206) for other places in the Andean region. Weismantel (1988, 92-95) also explains that potatoes in Zumbahua are the most important food, ‘the king of Zumbahua foods’, in fact; other tubers are part of their diet but do not have the status of potatoes, while barley, too, is important, especially for poor families (Weismantel 1988, 95). Thus, the lupin is not really regarded as a food source: in fact, it is identified with *cash*.

In conversations on crops with the people, the most knowledgeable farmers would refer to the potato, its varieties and classification, past production, the amounts of fertiliser and pesticide that should be used; when they talked about barley, they referred to *máchica* and soups. When they talked about lupin, however, the most important part of the conversation concerned market prices, the little investment required in the crop, and low production caused by diseases. Regarded as a source of income and not as a food, neither, therefore, the lupin plant or its seeds (which, debittered, become the beans from which foods are prepared) is treated as a gift for interchange among people within the community.

Crops as generators of money and their different status within communities have been analysed by Olivia Harris (1995, 326). She mentions the distinct social level of potatoes in the Laymi economy, due to the income that comes from its commercialisation. I asked a farmer if lupin was eaten in Guayama, and he replied, ‘We prefer to sell the *chocho*. Yes, we eat it but not much; when we want it, we buy it’ (Chaluisa 2007). It is this association of the lupine seed with income that enables many farmers, especially the younger ones, to change their own variety to an earlier harvesting and more resistant one. They argue that the poor quality of their lupin makes it difficult to position this *lupino paisano* on the market. In fact, the two largest producers of lupin are young farmers who have incorporated modern technology (a new seed variety, fertiliser, pesticides and a tractor) in the sowing and cultivation of the lupine. They claim that this enables them to sell the lupin in other markets. According to one of them, ‘The lupin does make a profit, but it has to be treated before it is sown; otherwise, it gets attacked by late blight.’

The change in cultivation practices of the three young farmers who have started to use pesticides and to sow lupin in lands intended for the market does not necessarily imply a total transformation of their perspective on the relationship between themselves and the crops. For example, the justification for using pesticides, called ‘remedies’, is the importance of taking care of the plants: ‘We haven’t been used to treating the *chocho*,

25 *Máchica*: barley flour with which a sweet porridge is prepared; just as in Zumbahua (Weismantel 1994, 208-09), in Guayama it is served in the morning or at night.

but I can tell you that if a human gets used to being treated, then the plants even more' (Chaluisa 2007).²⁶ One can discern in this elements of the original (alternative) ontology, not yet fully colonised by the modernist. In fact, this position can be seen as a rhizomatic form of dealing with problems, rather than an ambiguity. This view of treating the lupin because *it is more fragile than humans* – common also when potatoes are talked about – contrasts with the idea of the older adults who associate it with their own resistance to the harsh conditions of the *páramo*.

Overall, my research during the cultivation of lupin showed that producers in the indigenous community of Guayama and the *lupino paisano* plant are actants that share an ecological and historical space in the *páramo*. These two actants, the peasants and the lupin, have in common their deeply rooted capacity for and embodied knowledge of life there. Thus, even though the lupin is very literally a cash crop, many Guayamans still do not impose new technology on the plant: there is no manipulation or breeding of seeds or controlling of growth (through pesticides). They focus on gaining *mutual trust* and support from God, their work and the lupin, all as fellow participants. Therefore, the relationship that is built up between the two actants is one of fellowship: 'We are dealing, in a word, with processes of growth' (Ingold 2000, 77).

A significant (historical) element that can help to explain the particular relationship of the peasants with the lupin is the fact that lupin cultivation has been developed *outside* of the haciendas.²⁷ Normally, the development of agricultural technologies, including seed development, originated within the haciendas. A century ago, in his book *La Agricultura Ecuatoriana* (*Ecuadorian Agriculture*), Luis A. Martínez (1903) described the cultivation of the lupin in similar terms to those laid out here and suggested that hacienda owners use this crop to fix nitrogen in sandy soils. On referring to its applications, he explained that this crop could be useful as a natural fertiliser and as a 'food for the working class... it constitutes a very appetising cold food for the Indians, mixed with salt and chili' (Martínez 1903, 243).

Two things are apparent in Martínez' work concerning the lupin, although he does not mention them explicitly: 1) the cultivation techniques described in his book were used by the indigenous people, since the hacienda owners did not grow lupin; 2) for the author, just as for any hacienda owner displaying racial and social assumptions and prejudices, the lupin had no value as food – it is useful as a fertiliser and for reconstituting the soil, and it is only for these reasons that Martínez recommends its cultivation.

26 In the case of humans the treatment is similar. For a headache it begins with infusions or compresses made of various plants, and then if the pain persists, Western medicines bought in the markets of Zumbahua or Chugchilán are used; then, in the case of humans, if the disease gets worse, the shaman is the only one who can solve it.

27 In Latin America the haciendas were large family properties (many occupied various ecological zones), intended for agriculture and grazing. The land was exploited through a captive labour force (indigenous and African-American) based on systems of indebtedness or slavery.

Elderly people from Guayama confirm this practice. They recounted that during the hacienda era – roughly, from the 18th century until the agrarian reform of 1964 – their families on the haciendas could not grow lupin, whereas their relatives living elsewhere, in nearby free communities, could and did.²⁸ The result was that growing lupin became external to the logic of the haciendas and the modern technical and economic development of farming, a practice, therefore, not included in institutionalised breeding practices. Lupin was grown in the *páramo* in a completely different context, a context that was not predicated on modernist nature-culture relations and its techniques of cultivation and forms of exchange. This is attested to by a local farmer from the hacienda period:

In that hacienda [pointing], we never planted chochos. I remember my dad then. He would plant chocho. There was no work to sowing; you just dug a hole and planted it. Wow! The quality of the chocho! The chochos were planted and they grew alone... in the scrubland (Antepara 2008).

If, as the farmers in Guayama claim, the *lupino paisano* seed is ‘the seed of our ancestors’²⁹ and does not differ greatly from its wild counterparts,³⁰ then this is not a coincidence: it is the result of a specific relationship between two actants as fellow participants in the world (Ingold 2000, 87). Thus, the particular action of the *lupino paisano* network is a direct result of the current *paisano* seed morphology, which resides in its ability to survive in the *páramo*, to resist various diseases and to its particular history as a crop grown outside the agricultural practices of the haciendas.

In contrast to cultivation and harvesting, shelling the lupin is an activity carried out away from home, although it does not call on people outside the family circle, and the activity possibly needs knowledge and good judgment. After harvesting, large spaces like patios, squares, or roads to clean the lupin beans are necessary. As few houses have large outdoor spaces, this activity is carried out in the community’s central square (also used as a football pitch), or on nearby roads. The women and old men mainly carry out this work; I did not see any young men or children doing it.

The work, apparently simple, consists of beating the pods with long sticks until the beans are released (Fig. 2.7). Then, they are thrown into the wind to clean them completely. Both beating the pods and winnowing are tasks that suppose first, knowing if the lupin is sufficiently dry; second, the ability to determine how hard to beat the pods (if the

28 Emilia Ferraro (2004, 62) establishes the difference between ‘commune’ and ‘community’ in Ecuador. Guayama San Pedro is a commune, she writes, meaning it is an entity recognised by the Ecuadorian State under the 1934 law *Ley de Comunas*; by contrast, nearby Guayama Grande and Pilapuchin are both a commune and a community, understood as a historically free settlement outside a hacienda, an institution involving indigenous ownership and management of individual or collective assets, especially land.

29 ‘La semilla de nuestros antepasados.’

30 Martínez (1903) states that in the Ecuadorian Andes there are many ‘wild variety of lupinus’.

blows are too heavy the beans will be crushed); third, knowing where and how air moves (so that the winnowing is successful) (Fig. 2.8). These skills and associated knowledge are not easily acquired and that may be the reason why the ‘apprentices’ are not allowed to do these tasks.



Figure 2. 8 Beating the lupin pods by the side of the road



Figure 2. 9 Winnowing the lupin

2.2.2 Conocidos

The second alliance I want to draw attention to is that of indigenous farmers with traders. In Andean areas, these traders are referred to by the Spanish word '*conocido*', specifying a person with whom one has contact or communication but not friendship (so similar to 'acquaintance', but see below). The traders, the men and women who trade on a small and large scale in different varieties of corn, barley, wheat, lupin (beans), peas and lentils, constitute a heterogeneous *mestizo* population.³¹ These traders thus intercede not only between producers and consumers, but also between the poor indigenous peasants and the *mestizos* of the small towns and, moreover, between the rural and the urban: the *conocidos* are middlemen and 'mediators' in many senses. In fact, by marketing the products of the highlands in the nearest cities, they gain prestige as well as wealth, and tend to change their ethnic category, aspiring to and identifying themselves and becoming recognised as 'white' (Ferraro 2004, 27, Harris 1995, 375).

The traders, farmers and the lupin are intertwined not only within the context of contemporary market mechanisms focussed on commercial transactions, but also through their historical relationships linked to the history of the hacienda (Guerrero 1991, 273, Ferraro 2004, 90). State policies and NGOs have often seen the middlemen as the source of economic exploitation of peasants. This coincides with fair-trade initiatives, which have proposed avoiding intermediaries and thus undermining their exploitative role. Here, I specifically would argue that the intermediaries cannot control the lupin bean trade due to two aspects of the dynamics of the network: (1) the possibility for peasants to change the course of the network by creating various linkages with different actors in multiple places (alternative entry points), which is essential for making new alliances and which prevents complete control of the commodification and marketing by the intermediaries (the Guayaman peasants are always trying to make new contacts to sell their beans); (2) mutual transformations of producers and intermediaries into *conocidos*, binding each other in relationships of reciprocity.

After the lupin has been harvested and the beans (seeds) separated from the pods, the people typically try to sell it right away, where it is easiest and the best price obtained. As indicated above, there is no single way of linking the *lupino paisano* bean to any one marketplace, and the producers work to establish various connections and, therefore, obtain better options for commercialising their crops. The beans are usually sold outside the Guayama community, in the city of Latacunga and in the small, nearby towns of Zumbahua or Chugchilán (Fig 2.1).³²

31 According to Weismantel (2001, xxx-xxxi) nowadays the word '*mestizo*' in Spanish (Kichwa, '*mishu*') has acquired a cultural significance beyond its original meaning of 'mixing', that 'national populations are composed of a tiny *white* minority, a *mestizo* middle group, and *blacks* and *Indians* at the bottom,' which carries the implication of a 'race naturalized economic inequality and establishes a social hierarchy'.

32 Latacunga: pop. c.51,000; Zumbagua: pop. c.12,000; Chugchilán: pop. c.6,000 (2001 census).

The decision about where to sell is a matter for the older members of the family and is based not only on the price and the amount of beans, but also on how quickly the money can be obtained; it is here where a rhizomatic way of understanding the world is revealed. Carried out by the male members of the family and in some cases also by the older women, trade outside the community is the easiest way to sell the beans, but the presence of traders is rare and the return is poor; in Guayama, traders appear in their pickups at the height of the harvest and buy the beans at a lower price than that offered in Latacunga or in the small towns.



Figure 2. 10 Market trading in Chugchilán

The beans are marketed in Latacunga when the prices there are relatively high and/or when the peasants face economic adversity and need the money immediately. Marketing in Latacunga is generally conducted by the men with sufficient Spanish for the purpose; few women do this work, not just because it is not part of their responsibilities, but also because they do not have a good command of Spanish, and the city is regarded as threatening for them. Most people prefer not to sell their beans in Latacunga, however. One reason is that generally men go to Latacunga for work and do not have time to carry their produce there, so this option tends to require a special journey to a place which is relatively distant for the peasants and takes time and money for travelling. Also,

there is usually only a small difference between the price of the beans in the city and that fetched by selling to traders in the nearby towns.



Figure 2. 11 Woman into the market place

When financial considerations do not demand a quick sale in Latacunga (which they often do, however), the peasants prefer to wait for the weekly markets in the nearby towns of Chugchilán and Zumbahua (see map, Figure 2.1). Marketing the lupin beans in these towns, they say, has both economic and social benefits. In Chugchilán one Sunday, I was taken to the south corner of the marketplace, where the grain traders were meeting with a woman of about forty-five wearing trousers, a shirt and a hat. She was comfortably seated in a chair in front of which sat a set of scales for weighing lupin beans and lentils. At her side were

two indigenous assistants, one an elderly woman, who selected the beans, and the other a man who weighed the portions of mixed grains and then filled them into sacks of a quintal (100 lb; 46 kg) each. Some distance away, talking with *mestizo* people was the woman's husband. While I chatted to the woman, many people approached her. They received the lupin beans, weighed them, and offered a payment. In some cases she paid 40 dollars for a quintal, in other cases 32 dollars.

Importantly, the traders who come to these markets do not refuse bad quality *lupino paisano* and buy any amount of the beans, however small. The procedure for negotiation is 'to play with the price', with a lower quality or a smaller quantity resulting in a lower price, using the *lupino chawcha* price – sold in Latacunga or the nearby, small market town of Saquisilí – as the indicator. Apparently this practice benefits both traders and producers. According to Guayama's producers, these transactions generate benefits insofar as they secure the sale of *lupino paisano*, whose quality has deteriorated in recent years. In addition, as *conocidos* accept any amount, poor and elderly people can sell smaller quantities of lupin beans (less than five kilograms). These small transactions are not possible in markets like Latacunga or Saquisilí, where the bean sales begin at thirteen kilograms.

At the small town Zumbahua and Chugchillán markets, the intermediaries and producers alike look for ways during negotiations to deepen their relationships and transform themselves from simple traders to *conocidos*. The *conocidos* position takes into a 'mode of ordering,' to 'reciprocity', and in this way they avoid simple, economically defined dependency. Rural people use this word to refer to those from other places with whom they have a significant social and economic bond. If this relationship is further deepened, indigenous people can aspire to establish a relationship of ritual kinship through *compadrazgo* (lit. co-parenting).³³ Both types of relationship that of *conocido* and of *compadrazgo*, imply reciprocity:

Reciprocity demands that duties and rights be performed according to the gender, age and kinship status of each party. Blood and ritual kinship, but also neighbourhood are relations on [the basis of] which one is entitled to ask ... for services, goods, help and favours, knowing that they will obtain them, since a refusal to these requests is morally unacceptable. (Ferraro 2006, 31)

In other words, reciprocity in the Andes is a 'mode of ordering', or a way of 'telling about the world...what used to be, or what ought to happen', in that it secures the actants' mutual benefits (Law 1994, 20, in Whatmore and Thorne 2003, 240).

In the case of Zumbahua and Chugchillán, farmers feel compelled to sell their lupin to *conocidos*, who in turn offer new contacts with people linked to various NGOs, medical

33 An institution in the Andean zone, *compadrazgo* is a 'mechanism through which individuals and groups create social relationships sealed by a ritual ceremony' (Ferraro 2004, 65).

institutions or (other) state institutions. Often, due to the poor public transportation system in the Guayama area, traders carry people living in the surrounding area in their trucks, which offer neither security nor comfort and is a service for which people have to pay. In spite of this, however, traders feel that they are serving with reciprocity and expect that the producers will reciprocate by selling their lupin beans to them. There is a sense of moral obligation at work, of relationships that are 'acted out and embodied in a concrete, non-verbal manner in a network' (Law 1994, 20) .

The argument presented can thus be summarised as follows: traders cannot control the *lupino paisano* network, first, because the lupin producers can create other networks – or, in Deleuzian terms, these networks are rhizomes because producers have multiple entryways for the sale of lupin, they have the capacity to redefine directions according to their own economic and social interests (Deleuze and Guatrari, 2009, 21). Second, when traders and producers establish alliances as *conocidos*, or even *compadrazgos*, they have a duty to reciprocate; this is a non-verbal way of guaranteeing that the actants gain mutual benefits. These research results contrast sharply with the widespread perception that the poor producers depend completely on the intermediaries and, as a consequence, need interventions like fair-trade or state support to protect them. Moreover, it is clear that the *lupino paisano* network alliances are unstable, multiple and dependent on the mutual interests of the producers and middlemen (and thence grain retailers), and that there is a constant drive to gain alliances and impel others to action.

2.3 Translations and the role of space

Lupin, transformed as a commodity (the traded beans), travels from the *páramo* to the markets located in the valleys. Once it arrives there, it is bought by the *mestizo* women who process the beans after assessing their quality and size. The beans are then taken to the *mestizo* women's homes and kitchens, where they – in other words, the lupin – undergo a new process of translation.

In this section, I suggest that the change of place from *páramo* to the valleys and the technical process of debittering developed by the *mestizo* women cause biophysical, semiotic and geographic changes in certain actants. In other words, the arrival of the lupin in the valleys and its entry into the women's kitchens cause a process of translation. Lupin seed as beans is translated into a high-value food product (*chocho*), housewives are translated into food vendors and *chocho* as a commodity is translated into a *wanlla* (a Kichwa word meaning snack, treat, junk food or dessert). According to Weismantel, this (*wanlla*) is a food that does not form a part of any meal, but it is very nutritious (1994, 170).

2.3.1 From *tawri* to *chocho*

I propose that the technical process of debittering *tawri*, as developed by *mestizo* women in the valley zones, represents not only a process of translating the beans into a highly-valued *mestizo* food, *chocho*, the lupin beans being converted to merchandise, but also changes the *mestizo* housewives themselves, as they acquire a higher status through the preparation of what is considered *mestizo* food.

Nobody tasting lupin beans with roasted corn for the first time can imagine how they tasted before being processed. It is not only the taste that is improved, moreover, and the financial value that has increased, but the cultural value that is also transformed. After processing, the hard and bitter native *tawri* becomes the commodity *chocho*, a kind of soft, ivory white bean food with a mild smell and a taste that some people find sweet. In studying the processing of *tawri* into *chocho* here, we focus on the use of simple tools, and pay attention to the interrelation of these tools with women's work and the translation of the *tawri* seed into *chocho* food when it reaches the vendors.

MacKenzie and Wajcman (2006, 3) present a broader notion of technology when they say 'all of our lives are intertwined with technologies, from simple tools to large technical systems'. Although 'technology' is generally associated with machines, the mechanised technology of modernity, this idea helps us here to understand the relevance of women's work in the process of creating edible lupin (Wajcman 1991, 2000). In this case we need to distinguish the two ways in which the lupin is transformed: by the skills and capabilities of particular subjects (technique) in the *lupino paisano* network versus a corpus of generalised knowledge (technology) in the *lupino chawcha* context.³⁴ The *tawri*-to-*chocho* transformation takes place through the interaction of techniques (Ingold 2000, 315-19) which, as discussed above (Section 2.2), consists of an incorporated knowledge, where experience and involvement do not depend on the person; skilled practices are part of the system of relationships 'constituted by the presence of the artisan in his or her environment' (Ingold 2000, 291). In other words, a relational perspective is invoked, in contrast to the conventional idea of technology rendered in terms of objective principles of mechanical functioning.

Here, I concentrate on technique when focusing on the women processors. Research has shown how, in the context of everyday life, food processing techniques and the market are interrelated and, at the same time, effect changes in the constitution of different entities (Seligman 1989, 2001, Sikkiink 2001). In this case, the work of women processors begins with soaking the seeds (beans) for two days in a large pot with water in the corridor near the kitchen. Doña Margarita, a woman processor in the El Salto neighbourhood, explained to me that when debittering is done with running water, the product is usually ready in three or four days, but when running water is not used and

34 The technology used in the processing of *lupino chawcha* is described in a manual prepared for INIAP (INIAP 2001).

the water is changed once a day, the process takes a week, after which the product is often still bitter and hence inedible.

Then, the second step starts when the lupin enters the kitchen and the pot is placed on the fire where it cooks for approximately one to two hours. To find out when the beans are ready, some women cook potatoes or other beans to serve as indicators; when these foods are ready, the process of cooking the lupin beans also has to stop. In some places, women are said to accelerate the process of cooking by placing a branch of *chilca*³⁵ in the pot. In the kitchen, the processing of *chocho* is part of the preparation of other foods destined for the market. Hominy, a type of processed white corn, called *mote* in Ecuador, also has to be cooked (with decorticated lime), and peas and pork, which supplement the dishes to be sold at the market, need preparing. *Chocho* can be prepared during the week, while hominy is cooked the day before sale.

Throughout the conversations with the women processors like Doña Margarita it was possible to observe that knowledge about the processing of the lupin does not only refer to the cooking. The women easily recognise various local varieties of lupin, cooking times needed for each of these varieties, and, from the colour, the length of time that the lupin has been stored. For example, Doña Margarita explained to me that in the past it was possible to discern the differences among the *chocho* from the provinces of Cotopaxi, Tungurahua and Chimborazo. She said that the last is still distinguishable by its black blotches and nowadays is rejected, as lupin is expected to have a cream colour (Toapanta 2007). In addition, just like the other women in the Saquisilí market, she thinks that the lupin from Peru is not good; it is smaller and does not resist cooking. Concerning the soaking of the lupin they also know that it can only be done in running water. In a conversation in the El Salto market a woman told me:

Whether the *chocho* is soft or hard does not depend on the time it is cooked, but on the soaking. I soak the seed for two days; then I cook it with a more or less large potato. When the potato is ready I take out the chocho. Then I throw away the water and I put the beans in some tanks I have and soak and rinse them for three days in running water. (Toapanta 2007)

Finally, the women know about the lupin's nutritional properties. Most of the women say that eating *chocho* helps to strengthen the bones, and so it is good for children and old people. The topic of the nutritional importance of the lupin was a continual theme with the women vendors in the El Salto market in Latacunga.

At the moment when the lupin – prepared at household level by the women – leaves their kitchens for the market, it changes into a highly-valued *mestizo* food. In order to further explain, we refer to the discussion by Marisol de la Cadena (1995, 338-42)

35 *Asteraceae baccharis Tricuneatta* or *Asteraceae baccharis Teindalensis*, a bush often used for medicinal purposes (www.unal.edu.co).

on how ethnic hierarchies in the Andean region are expressed both in ideology and in everyday life. The valuation of women's work is expressed in terms of gender and ethnic hierarchies. Indigenous women are seen as people with a poor knowledge about cooking, while, by contrast, *mestizo* women are valued as 'very good cooks' who are appreciated at community parties. Following this, I argue that lupin acquires prestige as a tasty *mestizo* food because it enters the kitchens of the valleys, where it can be prepared by *mestizo* women and where it is served together with other prestigious foods, such as hominy, maize and sometimes pork, a combination which, in the diet of the Andean region, is perceived as a high-value meal.

2.3.2 From housewives to food vendors

The entrance of women into the marketplace generates new alliances between the lupin and people, and also modifies women's identities from housewives into vendors and providers (Seligman 1989, Seligman 2001, Sikkiink 2001). This constitutes a second way in which network actants are transformed. In the central and northern provinces of Ecuador during the first half of the twentieth century, the processing of certain foods, particularly the milling of grain into flour, was the work of indigenous families, and it was the women who were the specialists (Murra 1980, 117). In the province of Cotopaxi, these activities were concentrated in places with mills or water sources, such as the La Laguna neighbourhood in Latacunga, and the towns of Guaytacama and Cuicuno (Fig. 2.2), where they sought to live in places near major roads or train stations.

Doña Mariana, who identifies herself as *mestizo*, is 65 years old. She has worked for more than fifty years preparing food for sale in the markets, working with her grandmother and mother, who also lived in the La Laguna neighbourhood:

My grandma and my mum cooked mote [hominy], prepared meals and soaked and rinsed chocho. First we milled grains on stones, and later we ground the grains in watermills. In our neighbourhood, we had them all and sent the prepared flour to Quito by train. (Tiban 2007)

Doña Mariana herself married very young (when she had finished primary school), and had to move to her husband's indigenous community. She realised that it was important for her family that she continued their work, so, despite the fact that there was no tradition of soaking and rinsing *chocho* and preparing food in the new community, she carried on with her business. Her husband's agriculture and carpentry were not sufficient to support all the family needs, but through Doña Mariana's work they were able to provide for a good education for their children. Doña Mariana told me that she still goes to the market three times a week with *chocho*, *mote* and toasted maize. The other days, she prepares the food and takes care of the housework. She sells directly to

consumers at the Saquisilí and Latacunga markets, or on the street and in nearby small towns.



Figure 2.12 Dona Margarita (El Salto market Latacunga)

Like Doña Mariana, many women food processors and vendors appreciate their work because it provides incomes that are especially important for the education of their children. Moreover, other women vendors in Latacunga value their work marketing their products, first, because they are firmly convinced that they supply food, particularly lupin, which contributes to the health of their customers; and second, because through marketing these products they gain the possibility of establishing new and important relations with other people. As vendors, they are concerned about feeding their customers well and are proud of the fact that they earn good money, while as mothers, they try to secure increased incomes to pay their expenses and the education of their children.³⁶

³⁶ Women who sell cooked food in the markets are particularly known for their ability to do good business (Weismantel 2001, 24).

That is to say, as feminism has extensively argued, there is no separation between the public (food vendors in the market) and the private (housework and looking after the family), nor a separation between the economic and the affective (Moore 1988). As we will see in the next section, the women vendors as actants widen, in a rhizomatic manner, the spectrum of relationships, activating different identity strategies and ‘inteweave household economic dynamics with those of a market economy’ (Seligman 2001, 6).

2.3.3 From commodity to *wanlla*

At the moment when the lupin reaches the market, it is opened to new relations with other actants, to be changed and to create changes. An example of this is that when lupin as a food commodity (*chocho*) is purchased by indigenous people from the highlands, it returns to its birthplace in the form of a *wanlla*, a gift. According to Weismantel (1994, 170) *wanlla* is a gift that has two meanings: it is a snack, as explained, and it is also a food that, in addition to its nutritional importance, has emotional, social and political relevance. Emotionally, *wanlla* is a food given to express the ongoing affective relationship between two people:

[T]o say ‘*wanlla*’ is to describe a social interaction that takes place between two people: mother and child, husband and wife, two sisters or two *comadres* (co-parents). (Weismantel 1988, 141).

Moreover, offering *wanlla* can denote the validity of an unequal relationship between two people in the same family and between rich and poor; to give *wanlla* also means to offer pleasure and gain prestige (Weismantel 1994, 142–43). What takes place here, I argue, is a second process of translation of the lupin. Having been commoditised, it is now transformed from commodity (*chocho*) to gift (*wanlla*), due to the action of peasants who take it back to the highlands; in turn, the *chocho*, transformed into *wanlla*, has also the capacity of recreating links between peasants in the highlands.

Apparently, in Guayama and other places in the province of Cotopaxi – as Weismantel (1994) reports – *chocho* has always had the status of *wanlla*. In Guayama, in one of our conversations, Don José, one of the leaders of Guayama, remembering the epoch of the hacienda when his parents were young, said, ‘I remember in the fifties my mum and dad would go to the town of Chugchilán, and there were *guayabas*,³⁷ *mote* and *chochos* there; these they would bring back for us’ (Antepara 2008)

I was able to observe, as Weismantel (1994) reported for Zumbahua, the casual efficacy of the practice of gifting *wanlla*, manifestly still very much alive. On one occasion, I was working with an indigenous leader in the precincts of the Saquisilí market when there occurred an opportunity to talk with a grain merchant. As the conversation was

37 *Psidium guajava*: the fruit of an evergreen shrub of the Myrtaceae family, native to the Andean valleys.

difficult, the leader's colleague in the market pulled out a portion of *chochos*, *ullocos*, beans, *mote* and pork, which they had bought previously, and offered it to him. Then the conversation flowed and continued as the food was served while they were standing in the middle of the market. This was an example of *chochos* operating as *wanlla*, or, rather, being spontaneously translated thus.

The change of the lupin from *chocho* as commodity to *wanlla* within a relationship is a gradual process that starts at daybreak, when the *mestizo* women in the market sell high value food to truck drivers, truck loaders and wholesale traders, who are part of the market fair. These women vendors display their food on tables in a way that resembles a small dining area, where they serve coffee and sometimes *empanadas*³⁸ (prepared on a small stove); in other places they offer a combination of *chochos*, *ullocos*, beans, *mote*, and pieces of pork to accompany meals with broad beans.³⁹

The women vendors treat their customers differently, depending on their social identity: with white people or those from groups more wealthy than theirs they are exceptionally kind, but they can behave quite arrogantly towards indigenous people. During the day, indigenous people are, indeed, among those who come in search of *chocho*. Sometimes they buy small portions of *chochos* (for 25 or 50 cents), perhaps as part of one of the food combinations. These consumers are generally returning to the highlands; they buy these products not only for themselves, but also to take back home.

On my trips from Latacunga to Guayama, the bus drivers were rewarded by the passengers for stopping at two small bakers located just outside Pujilí (a town between Zumbahua and Latacunga). There, many of the passengers, especially older men and young women got off to buy bread rolls. The bags of rolls were jealously put away, and in contrast to what I initially supposed, very little was eaten during the trip. Later, in the community I confirmed that the bags with the rolls were offered as gifts to spouses or mothers. Bread is also an important gift on return trips as *wanlla*.⁴⁰

When the parents or elder brothers and sisters come back from the valleys to the communities, children come to meet them and ask for *wanlla*. It is there that the *chocho*, accompanied by other special foods is transformed into a gift. In one of the conversations, a man commented to me that when he returns from Latacunga or Chugchilán, he buys *chocho* and *mote* to give to his little children. I was also able to observe that the housewife's son travelled to Latacunga, and when he returned, his little brothers and sisters appeared at the door of my room eating *chocho*, *mote* and pork.

38 A stuffed fried pastry; in Saquisilí the *empanadas* are made by folding dough around the stuffing, which usually consists of cheese.

39 Weismantel (2001) gives a colourful description of the Latacunga market and its women vendors.

40 Weismantel (1994, 170) reported that bread was '*wanlla*' *par excellence* from the beginning of the 1980s.

On other occasions, the offering of *wanlla* is more solemn; after the journey a visit is made to a parent or friend, and the *wanlla* is given with love. In this case, *wanlla* is given by a lower status person to a higher status one. As Weismantel (1994, 212) also recognises, this is a display of respect and recognition of an established relationship. And so, *lupino paisano*, after a transformational roundtrip, returns to flatter those who had once sown it.

2.4 Conclusions

Following the production, processing and commercialisation of the lupin plant, I have shown that *lupino paisano* is a non-hierarchical nature-culture food network. In this network each entity is defined by the relationships which are established with other entities without distinguishing their diverse ontology. In contrast to the modern form of production, processing and consumption, in which foods are considered as objects that allow the actors (humans) to realise their objectives, in the case of the production of *lupino paisano*, *chocho* is the result of the coproduction of humans and non-humans situated in different places.

The *lupino paisano* network, then, also comprises a group of entities and the relationships among them in constant formation and dissipation (Latour 2007a, 35), and these links among them generate translations, new identities and new spaces: *tawri*, a seed from the *páramo*, is transformed in the valleys into *chocho*, due to women's work; housewives are transformed into food vendors, when they arrive at the marketplace; *mestizo chocho* returns to the highlands as a gift, transformed into *wanlla*, a special food with the capacity to intensify affective links.

A nature/culture network like the *lupino paisano* is not a social construction as such, the result of some mental process of planning to establish links with other entities populating the outside world (environment). What enables the formation and knowledge of the network is that human and non-human entities form part of the same world and share specific ways of apprehending it and inhabiting it, 'not of building but of dwelling, not of making a view of the world but taking up a view on it' (Ingold 2000, 42). What characterises these networks is their rhizomatic nature, the absence of a centralised or previously implanted organisation characteristic of an 'organizing memory' (Deleuze and Guattari 1987). The relationships established are not the product of a state organisation or communal administration; the geographies, the actants and their relationships are defined during the work processes and dependent on the translation processes generated.

The network's rhizomatic growth avoids the centralised control of some actants over others. Thus, we have seen how, in an informal network composed of the indigenous people of the *páramo* in relationship with little-valued seeds, power has not been monopolised by middlemen. We can also observe that the women, due to their capacity

to transform the lupin into a food and the opportunity they have to sell it, exercise a degree of control over their lives and on behalf of their children. And from being a seed, an object of racial prejudice, the lupin is transformed into a materially and culturally valued food in the local markets due to a series of technical (biochemical) and social processes.

The development of the network space and the creation of its own spatial dynamics are due to the actants' capacity of association during the work done and the translation processes that the actants undergo. In other words, a multiplicity of actants guarantees flexibility, the operation and the recreation or adaptation of the *lupino paisano* network.

And as it has been possible to observe, in a nature-culture *lupino paisano* network, the labours of sowing, harvesting and processing and the development of knowledge and technology are part of everyday practices and there is not an ontological difference among entities. As such, it is not based on the separation of subject and object, as in modern science; for the people of Guayama, *lupino paisano* is not an object, it is an entity that can grow in difficult places if and only if its origins and capacity to adapt are known. This knowledge is the result of a life shared with plants, animals, mountains and people. As Whatmore (2002) argues, a nature-culture food network involves performative and cognitive knowledge, since men and women, during their work, do not establish a division between body and mind.

Finally, in showing the operation of a food network, it can be seen that food production is situated knowledge; it is not a purely human social fact. This practice, especially in cultures where relational thinking still exists, entails particular links between culture, society and environment. As Dean (2013, 109) states 'situated knowledge is not only partial but fluid, responsive to and responsible for changing contexts and contestations'. I believe this ought to inform us as we move forward.

I would argue that development proposals such as AFNs should be underpinned by the knowledge of the previous experiences of how people produce, process, commercialise and consume foods. This implies that, in addition to knowing the links that farmers have with middlemen and consumers, further understanding should be developed concerning the particular relationships that exist among all the entities linked with the process of growing and consuming food and their particular mode of apprehending and inhabiting the world. It is nothing more or less than *common sense* to not only utilise, but also emphasise and prioritise systems that have stood the test of time and continue to sustain life in challenging environments through apparently (technologically) simple, but culturally complex and ecologically advanced forms of physical, emotional and even spiritual nourishment.

CHAPTER 3

The release of a lupin seed and its unintentional consequences in Andean food networks

Our forgetfulness also blinds us to the history of technical objects. These objects differ from ordinary things and people in the way they relate to time. This person, that book, the tree behind our house all have a past and that past can be read on his wrinkled and smiling face, the dog-eared pages of the book, the stump of the branch that broke from the tree in the last storm. In such cases, the presence of the past in the present seems to us unremarkable.

Andrew Feenberg (2010b)

3.1 Introduction

In this chapter, I move from the operation and ontology of the *lupino paisano* food network to the Ecuadorian National Institute for Livestock and Agricultural Research (INIAP). The aim of this research was to investigate the historical process that enabled the release of a lupin seed, INIAP 450 ANDINO, and to examine the unintentional consequences generated by this technological artefact in the operation of the *lupino paisano* network and its repercussions for food sovereignty.

The creation of national livestock research and agricultural institutes in Latin America had as its main goal the application and propagation of a model of modern agriculture. Previously, until the end of the 1950s, state policies had been characterised by an interest in controlling research agendas in agriculture and a dependence on economic and technical support from the United States. At the beginning of the 1960s, however, policies changed and Latin American states created national research institutes, which took on the activities previously carried out by the various ministries of agriculture (Piñeiro 1985, 14). During this period, national livestock and agricultural research institutes were founded in Argentina (1957), Ecuador (1959), Mexico (1960), Colombia (1963) and Chile (1964) (Piñeiro 1985, 16-18)

In Ecuador, the national institute, INIAP,⁴¹ was created in 1959, by decree of President Camilo Ponce Enríquez (INIAP 2008).⁴² It began operating two years later, when the Santa Catalina Experimental Station was built to the south of Quito (INIAP 2008, 2). According to the 1964 Annual Report (INIAP 1965, 5), the objective of the creation of INIAP was intended to achieve ‘an increase in agricultural production from an increase in crop performance’. According to the director of the time, this entailed

...the use of improved seeds and reproductive material; the creation of more resistant and precocious plant species; the incorporation into the soil of suitable fertilisers in the right amounts; the timely use of chemical and plant protection products in the prevention and control of diseases and pests; and the popularisation of simpler, more modern and efficient work methods. (INIAP 1965, 5)

The agricultural research model that accompanied the creation of the national livestock and agricultural institutes of Latin America was characterised by 1) independence from the agricultural ministries, 2) a state interest in controlling research, 3) the desire to expand to national level through experimental stations, and 4) financial support from bilateral cooperation or international organizations, like the IDB and Rockefeller Foundation (Piñeiro & Obschatko 1985, 20-21). That is to say, one of the objectives for

41 *Instituto Nacional de Investigaciones Agropecuarias* (National Agricultural and Livestock Research Institute). At <http://www.iniap.gob.ec/web/>

42 President of Ecuador, 1956-60.

which the research institutes were created was to introduce and promote an agricultural model whose efficiency depended on state control of technological development over what should be produced and where (Scott 2013, 271). Following this new direction, INIAP started its work with departments of plant pathology, soils and entomology, and research programs into potatoes, maize, legumes, cereal crops, pastures, fodder and pigs. Also during this period, research into African palm financed by the Rockefeller Foundation took on particular importance (INIAP 1965, 12-13).

It is evident from the 1963-78 general work report (INIAP 1979) that, from the beginning, one of the most important activities was the propagation of new seeds. In a chart summarising the quantity of seed produced and distributed by INIAP for commercial multiplication, the highest production was shown to be that of African palm and cacao seeds, followed (well below) by wheat, potatoes and rice, and then, in smaller quantities, barley, maize and soya. It is also clear from this chart that the research was aimed at improving agriculture for commercial ends. Until the end of the 1970s, the only American crops that were subjects of research were cacao, potatoes and maize. The high-production volumes of African palm seeds (for oil) and cloned cacao (for chocolate) were obviously not aimed at improving nutrition.

As in other Latin American agricultural research centres, INIAP's development of seed research and the seed industry for commercial ends was a widespread activity during the 1960s and into the mid- 1970s. According to Piñeiro and Obschatko (1985, 28), this was due to the interest that these states had in linking the private sector with the generation and use of new agricultural technology. Essentially, the aim was to modernise agriculture for the benefit of overall (national) economic growth. It was not until the 1990s that nutrition was emphasised.

The first researchers who worked with Andean grains had as their aim the collection and evaluation of genetic material and its nutritional value (INIAP 1979, 144). At this point, one may say, nutritional needs were recognised but not translated into research down the line. Then, during the 1990s and with international support, the programme focused on research into lupin and other native foods like quinoa (*Chenopodium quinoa* Wild) and amaranth (*Amaranthus caudatus* L.). In fact, the interest in researching lupin arose as a result of research reports in other Andean countries pointing out its nutritional importance (FAO, Hambre 2013). INIAP began working on collecting genetic material in Ecuador's northern and central highland provinces. According to INIAP's report prepared for the FAO, this then led to an increase in 'awareness of the need to rescue and conserve the different categories of phylogenetic resources' (INIAP 1995, 24). Special emphasis was placed on the collection of wild varieties related to cultivated species like potatoes, beans, tomatoes, tropical fruits, subtropical fruits and trees like avocado (*Persea spp.*) and papaya (*Carica spp.*) (INIAP 1995, 18)

One of the results of this research was the release of a variety of lupin called INIAP 450 ANDINO, known informally as '*chocho chawcha*'. Meanwhile, new forms of processing and consumption were being studied, and through major socialisation campaigns the technologies associated with the new variety were disseminated. This was how, little by little, the lupin stopped being an undervalued indigenous food and came to be perceived as a high-value one.

The emergence of the new lupin directly affected the Andean food networks, since *chocho chawcha* became a benchmark for quality and price. As a result, those landraces that did not fulfil expectations were displaced and others lost value in the market. Also, the new form of production, processing and commercialisation brought together other (new, outside) actors and spaces, which then made possible the *creation of a new lupin food network, in which women and indigenous people were displaced*.

This chapter addresses the second research question: How do certain agricultural and science and technology (S&T) policies, designed to promote the agricultural development of the poorest peasants, neglect the alternative ontology of the *lupino paisano* network and obstruct the operation of these alternative Andean food networks?

In order to investigate this process and its consequences here, I approach the improved varieties of lupin as technical artefacts (Wajcman 1991, 15) that cannot be understood individually as they are an integral part of a network in which distinct human and non-human entities are involved. Therefore, in studying the improved varieties, it is necessary to follow and record their trajectories, histories and changes (Law 1986).

In addition, I use the proposals of the philosopher, Andrew Feenberg, himself partly following Max Weber, employing the idea of *social rationality* as 'forms of thought and action that bear some resemblance to scientific principles and practices and the role of modern organizations in generalizing those forms in society at large' (Feenberg 2010a, 158-59). I also take from Feenberg his *Instrumentalisation Theory*, in which he stresses that technology should be analysed at two levels, primary and secondary instrumentalisation.

In this chapter, I argue that the social rationality immersed in modern agriculture and particularly in agricultural policies, S&T and plant breeding, shaped the INIAP 450 ANDINO seed and created a new food network where ontologies, spaces and actors like those found in the *lupino paisano* network were excluded. I first examine the process by which the lupin was separated from its original context (primary instrumentalisation), and then go on to explain the formation of a new network and the emergence of an improved variety (secondary instrumentalisation); this enables me, in the third part, to describe the dissemination of the new variety of lupin and its technology and the formation of a new food network.

3.2 From landraces to newly selected lines: Primary instrumentalisation

Primary instrumentalisation, for Feenberg, refers to activities by which the objects are disconnected from their original context – by ‘de-worlding’ – in such a way that their properties (which generate actions) or affordances emerge (Feenberg 2010a, 72-73). This section looks at how scientific practices in agriculture, the values of scientists, policies of the state and discourses of international organisations contributed to the de-worlding of the lupin and subsequently shaped the phenotypical, agricultural and production characteristics of a promising new line of lupin.

3.2.1 Separation of landraces from their ecological context and undervaluation of the lupin seeds

The wealth of landraces is in their genetic variability, as a result of the different ecological niches in which they have been grown by peasants. As Scott (1998, 265-66) notes, landraces and their wild progenitors are the base on which modern agriculture is supported. As mentioned (above), INIAP began to study the lupin, *L. mutabilis*, around the middle of the 1970s, when it carried out its first collection and evaluation of landraces.

The first step was the *collection* of seeds, which aimed ‘to save and conserve agrobiodiversity and avoid the genetic erosion of native crops and their wild relatives’ (INIAP 1979, 144). Collection was carried out in the northern highland provinces (Carchi and Imbabura) and the central highland provinces (Cotopaxi, Tungurahua and Chimborazo) (Figure 1). After collection and selection, the seeds were protected by keeping them in ‘germplasm banks’ located at the Santa Catalina Experimental Station. Varieties of *Lupinus albus* and *lupinus mutabilis* from Chile, Peru, Bolivia and Russia were also incorporated into the gene bank (INIAP 1979, 144).

The second step was the *evaluation* of the seeds and their breeding. This is a normal activity in the case of the most commercial and prestigious plants (wheat, barley, potatoes, rice, etc.), but it was novel in the case of Andean crops. During the final years of the 1970s, once the landraces were gathered, the work of the researchers was to begin the evaluation of the genetic material collected and the material introduced (INIAP 1979).

During the 1980s, a Phylogenetic Resources Section was created, and, together with the Legume Programme, which had appointed two new researchers in 1983, the gene bank of Andean crops was expanded. The Phylogenetic Resources Programme was formed with the support of the International Plant Genetic Resources Institute (IPGRI);⁴³

43 IPGRI: an international research institute with a mandate to advance the conservation and use of genetic diversity, part of the Centre of the Consultative Group on International Agricultural Research (CGIAR); in 2006, it changed its name to Biodiversity International (FAO 2007).

it then received financing from the *Corporación Andina de Fomento* (CAF) and the International Development Research Centre (IDRC) in Canada (INIAP 1995, 25).

The work undertaken in the 1980s was similar to that carried out in the previous decade: species and landraces were gathered with the aim of reinforcing the germplasm bank with Ecuadorian and Andean species; genetic refreshment and agricultural evaluation of the landraces was carried out, and tests were performed to combat diseases and pests using chemical technology (INIAP 1984).

In 1983, on the incorporation of the two new researchers, a team was formed to work with Andean crops:

We set up the germplasm bank of these forgotten Andean crops, among which was the *chocho*. To assemble this germplasm bank the entire highland region of the country was scoured and perhaps 70% or 80% of the areas of production of these crops and their markets were visited; information concerning the crops and the related customs, and plant samples were brought here to INIAP. (Peralta 2009)

During the refreshment of the seed, an agricultural evaluation of the existing genetic material was carried out: there were tests of precocity, of uniformity in maturation and of performance of the landraces and analysis of their behaviour with specific pesticides (INIAP 1983, 1985, 1987).

At the *experimental sites*, chemical technologies were used to combat diseases and pests and to improve soil quality. Rust (*Uromyces sp*), *Colletotrichum* spp and *Rhizoctonia spp* proved to be the diseases which reduced the performance or killed the lupin. The most frequent pests affecting the plants were shown to be the cutworm (*Agrotis sp*), the white grub (*Barotheus castaneus*) and the lesser cornstalk borer (*Elasnopalpus lignosellus*). Research on lupin was also begun to analyse its resistance to post-emergence herbicides⁴⁴ (INIAP 1987a).

All these studies had characteristics that guaranteed the de-worlding of landraces or native varieties. First, the refreshment and evaluation of the landraces and experimentation with the new lines were located in places whose altitude and climate were significantly different from the places where they originated. This was due to the fact that most of the studies in the 1980s were carried out in the Santa Catalina Experimental Station with an average altitude of 3050 masl (10,000 feet above sea level), and in some cases in the Boliche plot at 2720 masl (8900 feet above sea level), with the average temperature being 11.5 °C (52.7°F). Other experiments, evaluations and refreshments were carried out at the San Juan Mulalillo hacienda,⁴⁵ whose average altitude is 3100 masl (10,200 feet above sea level) and in the Belisario Quevedo parish at 2780 masl (9,100 feet above sea

⁴⁴ Post-emergence herbicides: products used when the plants have already sprouted.

⁴⁵ Located in Cotopaxi Canton.

level), both sites with average temperatures of around 12.5°C (54.3° F). These altitudes are significantly lower than in areas like Guayama San Pedro, where the lupin is sown in places above 3300 masl (10,800 feet above sea level), Chugchilán, with an average altitude of 3650 masl (12,000 feet above sea level), and Zumbagua, where the average altitude is 3400 masl (11,200 feet above sea level), average temperature 8.5°C (47.3°F), and there is high humidity. The landraces being responses to the distinct conditions of soil, altitude, temperature, light and the botanical labours of peasants (Scott 1998, 265), their translation to another ecosystem with the aim of taking advantage of only certain properties implies a simplification and therefore a genetic loss.

Another de-worlding characteristic, linked to the varieties' simplification, was that no attempt was made to understand the culture and knowledge of the people who had created those seeds. Through collection, classification and generalisation, or *primary instrumentalisation*, the knowledge of the peasants was ignored, even though it is they who, starting from a few species, had developed the diversity of landraces with the capacity to deal with difficult environmental factors (Scott 1998, 265). Although the interviews reported mentioned the knowledge and customs of the indigenous people concerning the lupin, this knowledge was not formally taken into account during the plant breeding stage, while the annual reports do not mention anything about this knowledge and INIAP did not publish anything, either.

In essence, experimentation was aimed at obtaining promising lines that fulfilled the criteria of modern agriculture, such as precocity, seed size, shape, colour, yield, resistance to diseases and pests, and effectiveness of technological package. The landraces constituted only the base upon which these changes would be made. These practices thus resulted in a loss of botanical, agronomic and cultural knowledge accumulated by the indigenous people. The significance of this can be measured if one takes into account that *Lupino mutabilis* Sweet is the only edible species of lupin in Latin America, the result of plant breeding historically carried out by the indigenous people on wild, bitterer species (Tapia 2000).

In this first stage, *two mediators* can be picked out as having importantly *transformed the research activities*: 1) the existing *prejudices* against Andean crops in general, and, here, *chocho* in particular, and 2) the *limited budget* that INIAP had to carry out its work. With regard to the former, the racial prejudice associated with some Andean crops (linked with Andean culture) was an influential mediator in this first part of the research. In spite of the existence of scientific literature on the nutritional value of Andean foods, this kind of research, although it followed the scientific canons rigorously, was not appreciated during the 1980s in INIAP itself or in the Ministry of Agriculture, due to the prejudice:

So that you have a clear idea of the paradigm of that time, when we came to set up this team in [19]83 here in INIAP, we encountered a lot of resistance. Those that were researching wheat, barley, potato, and maize said that we were

just going to waste money and resources researching weeds. That's how they considered them ... we were going waste time and resources. (Peralta 2009)

In this researcher's account, in addition to racial prejudice, the link that state policies of science and technology had with research on plant breeding and large landowners is clear. Piñeiro and Obschatko (1985) show for Latin America, and Zonia Palán (1982) for Ecuador, that the development of the seed industry constitutes a link between state investment and those parts of the private agricultural sector with the most capital. From this perspective, within INIAP the research and generation of new seeds of crops like African palm, wheat, maize and potato – aimed at supplying large farmers – was a prestige task related to profitability supported by state policies and the CGIAR (Consultative Group on International Agricultural Research) system (Kloppenborg 1988, 161).⁴⁶ For researchers, dedicating oneself to the breeding and release of undervalued and unprofitable seeds like lupin (*chocho*) and quinoa was regarded as a futile occupation, just squandering time and money, indeed – in a metaphorical sense, it really was like caring for weeds.

The limited budget that INIAP had during the 1980s was another mediator that transformed research activities. In their annual reports, the programme directors suggest that one of the problems affecting INIAP was the reduced, and in some years, almost non-existent budget to do research and hire new qualified staff. Thus, for example, the difficult economic situation of the institution is mentioned in respect of the Legume Programme and the Potato Programme in different years (INIAP 1983, INIAP 1987, INIAP 1988). In addition, in the presentation given by Jorge Uquillas during the 6th Congress on Andean Crops (Uquillas 1988), it was pointed out that in Ecuador research into agriculture had diminished, and with it INIAP's budget:

The reduction in investment in the agricultural sector has affected research, noting that from 1980 to 1986 the agricultural research budget fell from 0.75% of the agricultural GDP to 0.31%. Also, the human resources included few personnel with advanced degrees mainly because the salaries were too low to attract and keep postgraduate professionals (Uquillas 1988, 408).

This economic and political situation adversely affected many practices because it forced the researchers to seek links with international organisations or foreign universities in order to obtain financing to continue with the work. Research was not even necessarily in the interest of very many Ecuadorians at all, let alone its peasants:

46 Cimoli (Cimoli, Ferraz and Primi 2007, 17), characterise this form of generating science and technology as 'hierarchical, inflexible and pyramidal, which hinders and sometimes makes it impossible to challenge and respond to the dynamic of the S&T needs of the private sector'; this perspective is certainly arguable in the light of the close relations between private companies and Latin American governments.

In 1984 a delegation of some professors from the University of Denver arrived here in the country. These professors came here to INIAP. It was more or less two or three years after [that] the work started on quinoa and other Andean crops. They came to look at what we were doing and find a way of buying the quinoa seed to take to the United States. (Peralta 2009)

Even though this American desire to develop new networks enabled research to continue, therefore, it also implied a negotiation of the agenda regarding the objectives and priorities of the plant breeding to suit the outside interests.

3.2.2 Recognizing the importance of Andean foods for nutrition

Parallel to the interest in developing a modern agricultural research programme in Ecuador during the 1980s, there emerged an alternative discourse highlighting the historical, nutritional and symbolic importance of Andean foods. This discourse interacted with that of modernist agriculture.

In Ecuador, the physicians Plutarco Naranjo and Eduardo Estrella defined malnutrition as a problem that especially affected the peasants and indigenous people of the Andes. These scientists and their publications were important actants in the network generated by the Andean Crop Programme (see below), because they showed the nutritional importance of Andean foods in scientific language, which neutralised the racial prejudice to which these foods were subjected to. In 1983, Naranjo wrote *Desnutrición, Malnutrición e Ignorancia Dietética* (Malnutrition and Dietetic Ignorance), and then *Quínoa, Lágrima del Sol* (Quinoa, Tear of the Sun) (Naranjo 1983a, 1983b), in which he maintained that quinoa, a pre-Hispanic food of high nutritional value still consumed by the indigenous people of the high Andes, could solve the malnutrition problem. Three years later, with the same aim of highlighting the importance of Andean crops in the fight against malnutrition, Naranjo (1986) published another article, entitled *Chocho, leche Vegetal* (Chocho, Vegetable Milk); emphasising the need to introduce proteins into the diet of the poorest people, this explained the *importance of lupin as a good source of vegetable protein*.

In the same year, Michele O. Fried, an American nutritionist based in Ecuador and related to Naranjo's group, published a book on traditional cooking (Fried 1986). The aim of this book was to rescue not only recipes but also 'the nutritional values of Ecuadorian food'. She created *new recipes with quinoa and chocho* (foods hardly considered in previous recipes) and incorporated an appendix on the nutritional value of Ecuadorian food.

It is good to know that eating as our ancestors did we are strengthening our bodies, feeding them to protect us from illnesses. A good diet rich in products

from our country, like grains, quinoa, turnips, brown sugar, etc., serves to keep ourselves fit and healthy. (Fried 1986)

The efforts of these researchers and their discourses are *recognised by the plant breeders*, such as Peralta of the Legume Programme:

As Dr. Plutarco, Naranjo continued to write, of course. Dr. Eduardo Estrella also wrote a book, called *El pan de América* (Bread of America) [1986] and these, as I understand it, were related. (Peralta 2009)

Some *international cooperation organisations*, like the FAO, the Interamerican Institute for Cooperation on Agriculture (IICA) and the Organization of American States (OAS) took a great interest in the research on Andean crops and became part of the network linked to INIAP. IICA and the OAS financed the First Congress on Andean Crops in Huamanga, Peru, in 1977. For its part, the FAO, supported by the food security discourse (FAO, Hambre 2013), promoted the idea that traditional crops with great nutritional potential could contribute to alleviating malnutrition in Andean countries. Thus,

In 1985 FAO's Committee on Agriculture urged governments to determine the economic and nutritional importance of traditional crops in national agriculture, and in the production of subsistence crops to prepare suitable agricultural policies to increase production, storage and commercialisation, and to promote improved plant breeding and develop technologies to facilitate their use and consumption. (Tapia 2000)

These organisations also *supported the INIAP researchers financially* in international congresses. The Canadian government, for example, awarded 'ten scholarships to Ecuadorian researchers who worked with Andean crops' for the third Congress on Andean Crops (Bolivia 1982, Peralta 2009), while the FAO sponsored various researchers who attended international congresses, like those held in the Andean Area and the first congresses organised by the International Lupin Association.⁴⁷

The work of some universities on lupin was partially linked to INIAP, as recognised by one of the researchers:

Of course here in INIAP a program was organised but, before that, universities like the Central University [of Ecuador] and the Polytechnic School of Chimborazo were also already working. (Peralta 2009)

In fact, on analysing *La Guía Bibliográfica del Chocho o Tahuri* (The Bibliographic Guide of the Chocho or Tahuri), published by INIAP (Caicedo, Peralta and Murillo,

47 The International Lupin Association (ILA) was established at the 2nd International Lupin Conference, held in Torremolinos, Spain in May 1982, the first Lupin International Workshop having been held in Lima and Cuzco, Peru in April 1980. See <http://www.rala.is/lupin/ila.htm>

et al. 1998), it is possible to observe that a lot of research was carried out as agricultural engineering and food processing dissertations. The *dissertations* in agronomy referred to topics like agronomic evaluation and plant breeding; others were aimed at researching the effect of the chemical control of pests and diseases. Some were related to production diagnoses and tests on new ways to process and consume lupin. On analysing the topics covered, it can be seen that there is no particular guiding thread or a single objective in the research. One of the interviewees claimed that although these pieces of research contributed a lot to knowledge of the lupin, for example, the studies were not systematic. As Peralta highlighted, many of the initiatives in the research were just isolated cases, initiatives of university professors related to research in the universities where they taught, but unrelated to INIAP:

Very few INIAP researchers were at the same time professors at the Central University, very few... At that time, the universities did research with some students, isolated dissertations on Andean crops. Some professors directed dissertations on quinoa, others on *chocho*, and others on *ocas* and *mellicos*. (Peralta 2009)

Thus, in parallel with the process of gathering lupin plant genetic material and storing it in locations whose attitude and climate were significantly different from those of the highland villages and the páramo, a network of professionals, discourses and practices was formed that valued Andean foods. There arose, then, an apparent contradiction: on the one hand, the scientific research on the lupin implied its de-worlding from its original context and the simplification of its 'genetic material' and, on the other hand, due to the emergence of a modern scientific discourse centring on its nutritional importance, a social recognition was generated together with the reduction in racial prejudice that had weighed against the lupin.

3.2.3 The Andean crops programme: 'Values are the facts of the future'

In his essay 'Ten paradoxes of Technology' (2010b, 1), Andrew Feenberg reflects on the relationship between society and technology and shows that as far as technology is concerned, the generalised ways of thinking or of 'common sense' precipitate erroneous perceptions. In his eighth paradox (of value and fact), Feenberg argues that technologies condense the values that support their design and implementation:

Values are not the opposite of facts, subjective desires with no basis in reality. Values express aspects of reality that have not yet been incorporated into the taken for granted technical environment. That environment was shaped by the values that presided over its creation. Technologies are the crystallized expression of those values. New values open up established designs for revision. (Feenberg 2010b, 12)

An important moment for the revision of the S&T development was the creation of the Andean Crop Program (*Programa de Leguminosas y Cultivos Andinos Cultivos Andinos*, PCA) by INIAP in 1990, with the species selected for study being quinoa (*Chenopodium quinoa* Wild), amaranth (*Amaranthus caudatus* L), ulluco (*Ullucus tuberosus*) and chocho or lupin (INIAP & CIID 1991). A year later, in 1991, the PCA received financing from the International Development Research Centre (IDRC) to carry out a research project on quinoa.⁴⁸

Despite the fact that the project was aimed at improving the production and processing of quinoa, in practice, the financing was used to expand research on the other Andean crops, opening new networks of resources, discourses and people. Other areas of study and action for development were included besides research on plant breeding (Nieto & Vimos 1994). The objectives proposed together comprised values which constructed a form of research which was rather different from that referred to in the previous two decades. Four novel characteristics can be mentioned: 1) the international organisations that financed the project largely defined the agenda, and not the Ecuadorian government; 2) the research and technological development was linked to economic and social development; 3) new *processes for the production, storage, processing* and marketing of quinoa and other Andean products were researched and developed, emphasizing quality, efficiency and profitability; 4) knowledge attained was disseminated among producers, food processors and consumers (Nieto and Vimos 1994, vi-vii).

The formulation and execution of the Andean Crop Program comprised a change in the S&T model generated in 1990 in Latin America and the Caribbean. The reorganisation of institutions generally involved the following issues: 1) an increase in the resources and importance of those S&T organisations aiming to capture the technology and knowledge demand of the private sector; 2) an incipient interest in a greater articulation and coordination between the public and private sectors, which resulted in a greater interest in the relation between business and the universities; and 3) changes in the competencies and objectives of the organizations. (Cimoli, Ferraz and Primi 2007, 18)

In addition to the revision of the S&T model, the values of neoliberalism with the economic liberalisation of markets led also to a new definition of S&T policies, which implied that plant breeding ceased to be a fundamentally research activity (Cimoli, Ferraz and Primi 2007, 17). Rather, the aim was to support production, improve the quality of products, achieve efficiency in the generation of goods and favour technology transfer, obtaining financing from international organisations to achieve this, just as was programmed and developed in the quinoa project.

48 *Proyecto de cooperación técnica 3P-90-0160. Producción y procesamiento de quinua en el Ecuador* (Technical cooperation project 3P-90-0160. Production and processing of quinoa in Ecuador).

During the four-year period of the Andean Crop Program, the research work, even if not exhaustive, was systematic in a way that defined the scientific bases (values and problems) for later research (INIAP & CIID 1991). First, taking into account the previous work, the lupin, *L. mutabilis*, was defined as of great importance for the people of Ecuador, and it was argued that in Ecuador there was an extensive potential area for its cultivation. Second, six problems were outlined as typical of the lupin landraces. These problems were related to the new canon of values for scientific and technological research, according to which the research was planned within the CIID-INIAP project financed by the IDB: 1) an absence of appropriate technology, 2) an absence of a certified seed, 3) a prolonged growing period and staggered production,⁴⁹ 4) a lack of promotion of the agricultural and nutritional virtues of the lupin, 5) the presence of alkaloids,⁵⁰ and 6) a limited market. (INIAP & CIID 1991, 27). During the four years of the project, specifically as refers to the lupin research, efficiency was the main criterion in the research. In fact, as many writers have stated, progress towards efficiency is not an element exogenous to the development of S&T. According to Feenberg writings on social constructivism

...efficiency appears as an analog to positivist truth. Just as positivism exempts scientific truth from social explanation, so traditional sociology dismissed social explanation of technology. Progress in efficiency was viewed as an exogenous source of social change. For social constructivist technology studies, on the contrary, technical choices, like scientific choices, are underdetermined by purely internal criteria such as efficiency. (Feenberg 2010c, 14)

Regarding agronomic issues, INIAP attempted to resolve three specific problems with the landraces from the 1980s: the long vegetative cycle, staggered pod bearing and the excessive fall of flowers in the summer. The annual reports mentioned that the long vegetative cycle of the *chocho* (11 to 14 months) left the plants exposed for longer to the attacks of certain lethal diseases caused by viruses. The intention assumed throughout the plant-breeding process was to obtain more precocious varieties that would remain in the ground for a shorter time, bear pods more quickly, and, in this way, avoid the attacks of certain diseases.

The staggered bearing of the pods – with some landraces producing their pods in consecutive stages, due to their form – was also seen as a problem (Mason 2009).⁵¹ This characteristic does not allow for a single crop harvest, so it works against mechanisation and thus increased production costs (INIAP & CIID 1993, 49). As Scott (1998, 267)

49 Meaning that the plant produces its pods in consecutive stages, so there is not just one harvest.

50 Lupin is not edible without previously cooking and rinsing it; it has a high alkaloid content, like lupanine, hidroxilupanine and sparteine (Jacobsen and Mujica 2006, 462).

51 It is the staggered pod bearing of the lupin enabling families to harvest it gradually using a minimum of labour that is particularly appreciated in the community (Chapter 2).

mentions regarding modern agriculture ‘crops must be designed to be harvested by machine’. In this way, an agro-industrial problem-solution discourse was established:

The fall of flowers before they bear pods and the consequent reduction in the production of each plant was attributed to ‘the low temperatures, low light intensity, deficient nutrient content in the soil, frost, etc.’ The solution experimented with was mineral nutrition with nitrogen, phosphorus and potassium. (Nieto and Vimos 1994, 118)

In other words, high performance fertilisers were used to reduce loss of flowers enabling mechanisation, thus up-scaling and ultimately productivity increase.

Regarding the processing of the lupin, research was performed on suitable ways of eliminating the alkaloids. Here, the problem, hardly mentioned, was that the ready-to-eat lupin is of bad quality. As the debittering is done in a ‘traditional’ way in contaminated water (in irrigation ditches), this lupin is not suitable for human consumption. The objective of these studies was to optimise the time of the debittering process, reduce costs and improve product quality, introducing norms of hygiene, and all this with the aim of overcoming racial prejudice and reaching the urban markets of the middle class.

In 1993, a promising line of lupin – ECU 2659 – was formally introduced into the gene bank; it then began its evaluation in the field with the object of converting it into an improved variety and then into a certified seed.⁵² Examining the parameters with which the new variety was evaluated enables one to observe the way in which the new lupin variety was expected to respond to the canons of modern agriculture, especially regarding the criterion of efficiency.

The parameters used to evaluate the promising lines were the same as those of the previous decade: a) number of days to sprouting; b) number of days to flowering; c) yield (Kg/ha); d) height (cm); e) resistance; f) number of days to harvesting; g) number of pods per plant; h) the colour of the bean (Nieto & Vimos 1994, 56; Figure 3.1). Clearly, characteristics like the time that the lupin takes to sprout, flower, and bear fruit, its height and number of pods all show the efforts of the scientists to obtain a higher-yield lupin variety; at the same time, there is a concern over the colour and shape of the bean in order for it to be attractive to urban markets. Essentially, a commoditisation was written into the genetic code of the new variety.

52 During the last three years of the INIAP-CIID project, an evaluation of 15 lupin lines selected from the 1980s was carried out.

Condado 3. Características agronómicas principales de las 11 líneas promisorias más sobresalientes de chocho, disponibles en el Programa de Cultivos Andinos a junio de 1994.

LINEA	A	B	C	D	E	F	G	H
1 ECU-654	15	126	1627	152	2.7	259	91	blanco
2 ECU-740	10	87	714	106	2.5	181	19	blanco
3 ECU-742	10	91	678	114	3.0	187	16	blanco
4 ECU-2657	10	86	862	108	3.1	180	20	blanco
5 ECU-2658	10	99	989	133	2.4	228	16	blanco
6 ECU-2659	10	92	763	115	3.0	194	21	blanco
7 ECU-2664	10	87	856	116	2.9	191	23	blanco
8 ECU-3050	--	131	1709	167	2.0	267	26	blanco
9 SLP-1 UNTA	10	85	698	118	3.0	189	28	blanco*
10 SLP-5 UNTA	10	87	564	112	3.4	186	23	blanco**
11 8 MORADA	10	80	770	69	---	173	10	blanco

* Con manchas negras
 ** Con manchas amarillas

A = Días a la emergencia
 B = Días a la floración
 C = Rendimiento en kg/ha
 D = Altura de planta, en cm
 E = Resistencia a Roya en % (*Uromyces lupini*)
 F = Días a la cosecha
 G = Número de vainas por planta
 H = Color de grano

Figure 3.1 Agronomic characteristics evaluated in the promising lines

These findings show how the process of primary instrumentalisation took place by taking the landraces from their original geographical, ecological and cultural spaces in order to isolate them in gene banks and then submit them to analysis and plant breeding. This was not only the result of the work of the plant breeders; there was also the operation of a network that made possible this de-worlding of the seeds from their native ecosystem and ancient relationships so as to transform them into promising lines with particular characteristics in which, little by little the principles and values of social rationality (Feenberg 2010a, 159) emerged. These values referred to 1) an optimisation of agricultural labour through monoculture, the use of chemical fertilisers on lands of a lower altitude and tillage in furrows at shorter distances instead of holes; 2) weed and pest control through the introduction of chemicals technologies; 3) uniform quality of colour and size, aesthetically attractive to the eyes of customers in urban markets.

The work with the lupin generated technological objects (seeds) that were no longer limited to their original locations but could be used 'anywhere' (Feenberg 2010a, 73), due to their de-worlding. It was assumed that lupin seeds had the same (single set of) agronomic characteristics, could be grown by any farmer, and that any problems arising would be resolvable with pre-established technological packages. The assumptions of these simplified designs do not necessarily work well in specific contexts, however, as proved to be the case with the new variety in the high *páramos* (below, Section 3.3.2).

3.3 Integration of the seed in other contexts: secondary instrumentalisation

Secondary instrumentalisation refers to the process by which objects, transformed and disconnected from their original environment (de-worlded) are subsequently integrated into new and complex environments. Feenberg (2010a, 72-73) emphasises that in this process the environments as well as the objects change, almost simultaneously.

3.3.1 The new variety and its behaviour as an object-institution

Object-institution is a notion that enables Latour (1994, 39-46) to explain certain processes of translation by which human beings assign actions to things. Object-institution is an actant whose properties belong to an institution, a 'corporate body'. According to Latour, technicians inscribe to certain artefacts actions that would otherwise be carried out by human beings. Here, I look at the downstream development and secondary instrumentalisation of the new variety of lupin, INIAP 450 ANDINO, developed by INIAP through the CIID-INIAP project in terms of this notion of object-institution.

Between 1994 and 1995, the Ecuadorian state delineated new agrarian and S&T policies. The Agricultural Development Law was passed, which, among other things, encouraged the liberalisation of land markets, while the National System for Science and Technology (SENACYT) was created, with a bilateral loan from the Interamerican Development Bank (IDB) arranged to commence its activities. The objective of this state organisation was 'To contribute to the strengthening of the scientific and technological capacity of the country in order to become one of the supporters of economic and social development' (SENACYT 2004, 6).

Following a programme of decentralisation and privatisation, the execution of the First Programme for Science and Technology was placed in the hands of a private foundation, FUNDACYT. Tenders were invited from universities and research centres, for a project called 'Study of the production, postharvest, and agro-industrial opportunities of the *chocho* (*Lupinus mutabilis* Sweet) for the Ecuadorian highland region'. The amount allocated for the implementation of the P-BID-206 FUNDACYT project was modest, reaching a total of just \$263,368 for the four years of its duration. In 1996, INIAP's PCA won the tender. Unfortunately, the project was carried out during one of the worst economic and social crises in the history of the country, when countless banks closed and dollarisation was introduced – for which reason, the Ecuadorian state failed to provide for INIAP's minimum requirements. (INIAP, Historia 2011)

INIAP's cash-strapped lupin project, as with the previous one with quinoa, did not concentrate particularly on plant breeding. Rather, according to the original document – 'Study of the postharvest production and agroindustrial opportunities of the *chocho*

(*Lupinus mutabilis* Sweet for the Ecuadorian highlands')⁵³ (INIAP 2000) – the focus was on the processes of production and post-harvest and on opening spaces 'to foster production and consumption' and 'encourage community-based businesses to produce and market the crop' (SENACYT 2004, 21, INIAP 2000). Thus it was that the network of researchers, new seeds, state and international organisations came to extend to producers and processors facilitating the diffusion of knowledge with the aim of increasing the consumption of the lupin:

We were involved in the whole process. It would not have been of much use if we had made genetic improvements without teaching people how to improve the agro-industrial aspect or without working to increase consumption of the highly nutritional legume. (Peralta 2009)

The objectives of this project aimed to develop five aspects: 1) to release the lupin seed which had been evaluated over ten years and to test new promising lines; 2) to generate mechanical and chemical technology and experiment with it to improve the quality and productivity of crops; 3) to test and improve new technologies of debittering and to study the *chocho* market in the cities; 4) to promote the creation of new dishes based on the lupin; and 5) to disseminate through the preparation of books, manuals and workshops the research into production and post-harvest developed since the 1970s. This was to be implemented according to a 'logic of marketing knowledge and technology', thus employing, as outlined (above), the central elements of a modernised S&T model of the 1990s (Cimoli, Ferraz & Primi 2007, 18).

During the first two years of the INIAP-FUNDACYT project, the promising line, ECU 2659, was transformed into a lupine cultivar called 'I 450 ANDINO' or 'INIAP 450 ANDINO'. With this action, the seed was converted into an *object-institution* – changed, in other words, into a seed capable of generating *technical acts* by itself. (Latour 1994, 40-46). These technical acts of the INIAP 450 ANDINO seed – taking the role of the technicians – consisted in promoting new systems of cultivation, the use of agrochemicals and new forms of processing, and all these in conformity with the ideas of researchers, policies of INIAP and state. Even the name of the new cultivar, INIAP 450 ANDINO, expressed its de-contextualisation from its origin and institutional incorporation. Such a name says very little about indigenous origins; instead, the name of the institution and the entry number in the seed catalogue illustrated the way in which the cultivar had become appropriated by the research institute.

INIAP 450 ANDINO had managed to translate the values promoted by the network of scientists, institutions, and the state into new properties linked to rationality, in the sense that 1) it was an early maturing plant (6-8 months to reach production); 2) the

53 *Estudio de la producción poscosecha y posibilidades agroindustriales del chocho (Lupinus mutabilis sweet) para la sierra ecuatoriana.*

bean was attractive to the urban market because of its ivory colour, large size and round form (which contrasts strongly with the Ecuadorian landraces – Figure 3.2); and 3) the plant was disseminated for monoculture (as a small variety, it allowed for increased crop density), and 4) agricultural work was optimised through the applicability of mechanical technology, such as threshing machines, and chemicals technologies, such as packages for fertilisation and pest and disease control.



Figure 3. 2 Lupin INIAP 450 (left) and *lupino paisano* (right)

As indicated, the incorporation of INIAP 450 ANDINO into new network and the installation of associated technological processes occurred under difficult economic conditions; the programme depended solely on money from the P-BID-206 project. In fact, in 1998 INIAP suffered a drastic cut in its already less than generous budget (Rosero, Carbonell and Regalado 2011, 42). This difficulty is continually stated in

annual reports, where budget cuts are mentioned, together with the difficulty of hiring new researchers due to lack of funds.

The specific objective of the project referring to 'promoting the production and cultivation of lupin' (SENACYT 2004, 21) was carried out starting with 'field days' (see below), newspaper, radio and television publicising activities, the formation of local agricultural research committees (*Comités de Investigación Agrícola Local*, CIALs) and the production and distribution of manuals explaining the technologies, procedures and recipes developed during the research process.

The first dissemination of the technology for the production of INIAP 450 ANDINO was enacted mainly through agricultural evaluations in combination with field days. The evaluation procedure involved comparing the behaviour of the new variety, (other) promising lines and landraces. During post-harvest and consumption, training workshops were given, and emphasis was placed on knowledge dissemination through publications (research reports, manuals, bulletins and recipe books) and press and radio reports (Mason 2009). All these activities stimulated not only the dissemination of the new lupin variety but also the emergence of a new network, which, in its turn, further encouraged dissemination.

3.3.2 Evaluation and dissemination of seeds in a new context

In the P-BID-206 project reports, a difference was established between 'agricultural evaluation' (traditional), which was carried out in 2002, and 'participatory evaluation', when most of the CIALs were formed, beginning in 2002 (INIAP 2002), after completion of the P-BID-206 project. Here, I will refer only to the manner of dissemination carried out during the P-BID-206 Project itself.

Used since the 1980s, agricultural evaluation and dissemination had as its goal evaluation of the behaviour of promising lines in accordance with the parameters of modern agriculture, and to compare them with those of other promising lines or with landraces. This process had two characteristics, which defined the later formation of the lupin network INIAP 450: 1) it was performed in medium-altitude ecosystems (lower than the *páramos*), and 2) it was carried out entirely by INIAP technicians (Peralta 2007).

First, the spaces used for evaluation and dissemination were mainly institutional and private and located in lower, different ecological zones to those where the lupin plant material originally came from. For the most formal evaluations, the farms of CEYPSA of the *Universidad Técnica de Cotopaxi*, the *Instituto Simón Rodríguez* (Cotopaxi), the *Escuela Politécnica del Chimborazo* (Chimborazo province) and INIAP's own Santa Catalina Experimental Station were utilised. In the private operations, technicians from the Legume Programme and PCA had links with indigenous communities such as Ninin Cachipata and Langualo (Cotopaxi province), the community of Pilapamba (Imbabura province) and the Hacienda Pusuchisi (Cotopaxi), where the agricultural

evaluations were carried out (INIAP 2001a). In all cases, the sites were located in similar ecological niches (Andean valleys) and the altitudes were no higher than 3300 masl (10,830 feet above sea level). Manifestly, this did not take into account the fact that most of the landraces developed by poor producers come from the high wet *páramos*, whose altitudes are over 3400 masl (11,200 feet above sea level) and where winds, frost and rain are constant. This is further evident from a review of the five places and altitudes where eight promising lines of lupin were evaluated (INIAP 2001a) (Table 3.1).

PLACE	CANTON	PROVINCE	ALTITUDE (masl)
Granja Ceypsa	Latacunga	Cotopaxi	2750
Pusuchisí	Latacunga	Cotopaxi	3100
Ninín Cachipata	Saquisilí	Cotopaxi	3300
ESPOCH	Riobamba	Chimborazo	2780
Pilapamba	Cotacachi	Imbabura	3200

Table 3.1 Locations and altitudes of eight promising lupin⁵⁴

Regarding the second lupin network characteristic – related to work by the INIAP technicians – for the evaluation of the variety and promising lines, parameters related to plant breeding were used, without including farmers' viewpoints. Thus, it was the scientists who established the criteria for comparing the new seeds with the landraces, with the principal goal of evaluating the performance capabilities and precocity of the new seeds. In this evaluation, the participation of owners of the land (large landowners, peasants and communities) was reduced to the loan of land and labour and 'very few participated in the knowledge of the whys and wherefores of the research' (Peralta 2007, ii). Supposedly 'participatory' practices that are not, in fact, very participatory at all, particularly at the upstream end of S&T development, is, of course, an area of general relevance for food sovereignty (below).

When some of the promising lines and INIAP 450 ANDINO were ready, dissemination of the results through 'field days', and 'demonstration plots' followed. The field days were events in which groups of farmers linked to INIAP were invited, the aim being to

⁵⁴ Elaborated by the author.

disseminate to them certain technologies or specific knowledge concerning the crop. The demonstration plots consisted of small areas cultivated by the owners of the land with the total support of the technicians. A number of farmers were invited regularly to observe the virtues of the new seeds, the development of the new crops and the new technology (Mason 2009). In 2001, for example, plots of lands were sown in the Hacienda Pusuchisi in the inter-Andean Valley zone at 3200 masl (10,500 feet above sea level). One part was dedicated to the agricultural evaluation of the new promising lines and the other to the reproduction of the basic INIAP 450 ANDINO seed.⁵⁵ In the report, it was stated that this last activity of seed reproduction also had as its goal the promotion of the crop (INIAP 2001a, 7-9). The same kind of relationship was established in Ninin Cachipata with a group of indigenous producers in Saquisilí, also at 3300 masl (10,800 feet above sea level). Over the course of a few years, the preparation of the demonstration plots and the evaluations were carried out there and a link gradually forged between the INIAP professionals, a group of indigenous producers (led by Domingo Totasig) and the new variety of lupin, as well as the promising lines (Mason 2009).



Figure 3. 3 Indigenous producers involved in the project

⁵⁵ The new seed was produced and controlled by the plant breeders (Peralta, et al. 2008).

During this period, the peasants lending their land for INIAP's trials learned how to manage and appreciate the new technology incorporated into the INIAP 450 ANDINO seed. In this way, they appropriated the technology to prepare the soil, sow in furrows, fertilise, control weeds through weeding and hoeing, and controlling pests with agrochemicals. At harvest time, the need to classify the seed was emphasised: 'The production of the seed and its classification are important in having the best seed to sow' (Mason 2009). In addition to this knowledge, the Cachipata group incorporated mechanical technology for threshing. Some members of this community are shown in Figure 3.3, next to one of the two threshing machines that INIAP acquired during the implementation of the project. These machines were specially designed for threshing *chocho* and beans. One of them is in the Santa Catalina Experimental Station, and the other was donated to the Cachipata group (Pizón 2009).

The relatively flat topology, the altitude and mild climate, together with their mastery of cultivation, post-harvest and organisation converted the Cachipata group into producers of the basic seed with good quality and genetic purity, as the INIAP scientists recognised.⁵⁶ Thus, INIAP 450 ANDINO was *transferred from experimental farms to the lands of peasants*, who became producers and merchants of the seed for the inter-Andean valleys, or zones no higher than 3300 masl. On transfer from the experimental stations, the name of the lupin, INIAP 450 ANDINO, was changed as the peasants began to call it '*chocho chawcha*'.⁵⁷

The distribution of the new basic seed was managed by the peasants and a few large landholders who worked with INIAP during the evaluation of the new lupin. This form of management of the basic seed is unusual in modern agriculture. As Kloppenburg (1988) has shown in the case of improved varieties of more prestigious crops – like wheat, barley and potatoes – the sale of the certified seed is typically controlled by the state and a few large companies, and Ecuador is no exception. The unusual manner of the distribution in this case was due mainly to three factors: 1) the links that the INIAP researchers had established with the peasants and large landowners, 2) the little commercial importance that the lupin had had up to that moment and its still growing importance as a nutritious food, and 3) the inability of the Ministry of Agriculture and Livestock to control the commercialisation of basic seeds, which were in the hands of the large agrocorporations. Thus the basic INIAP 450 ANDINO seed remained in the hands of the indigenous communities and a few landowners.

Gradually, as the new seed spread, other unintentional consequences appeared concerning production, among which two main negative results may be identified. First, because

56 During our fieldwork the INIAP technicians themselves recommended that we obtain the INIAP 450 Andino seed at Don Domingo Totasig's Cachipata farm, because its quality was guaranteed.

57 *Papa chawcha* is a variety characterised by its precocity; by extension the INIAP 450 ANDINO lupin being called '*chocho chawcha*' referred to its rapid growth and fruiting.

of its phenotypic characteristics, INIAP 450 ANDINO became the *benchmark for 'good quality'* and also the reference for price in the central-north part of the Ecuadorian highlands. With the new variety competing in and now significantly directing a market where landraces with diverse phenotypic characteristics still circulated, those landraces with beans of a different size, form or colour from the relatively large, round, ivory beans of the new variety (i.e. those that were now deemed small, pitted/gnarled or yellow/brownish) or those with other 'irregularities' or showing signs of some kind of disease, became deemed as of lower quality in regional markets, the price paid to the producers of these fell, and so mountain peasants and their communities lost income.

Second, younger peasants growing *chochos* in areas over 3400 masl often failed in their attempt to grow INIAP 450 ANDINO. One reason was that it is a small plant, and, because of the frailty of its branches, tends to succumb to winds and is vulnerable to the ambient humidity of the high *páramos*. Another reason was that the new technology associated with INIAP 450 ANDINO (sowing in furrows, weed control and chemical pest control) was *perceived by the high páramo peasants as not very profitable*; the indigenous people did not have the time and money to invest in the crop, especially when set against the landraces, which bear fruit with hardly any labour input. This represented short-term reversals for the mountain peasants, who lost time and money in their failed efforts, as well as restricting the extent of application of the new variety.

Putting these two, unintended effects together, it is apparent that the lupin variety development operated against the interests of the people living higher up in the mountains, and, moreover, that this transpired in large part because they – the people, the communities and their interests – went unconsidered throughout the development of INIAP 450 ANDINO, from the very first organisational establishment and inception of project plans to the final seed distribution and even sales. As Scott (1998, 296) maintains, this is not an isolated case, but, on the contrary, exemplifies a systemic problem, fundamental to the whole approach to agrarian S&T:

[T]he experimental plots of agricultural research stations cannot begin to represent the diversity and variability of farmers' fields. The researchers must operate on the basis of standard, normal-range of assumptions about soil, field preparation, weeding, rainfall, temperature, whereas each farmer's field is unique concatenation of circumstances, actions and events, some of which are knowable in advance (soil composition) and some of which are out anyone's hands (the weather). (Scott 1998, 226)

In conclusion, the INIAP 450 ANDINO variety developed and released for its commercial characteristics created a social and ecological segregation that ran along a line of altitude contributing to a graded distinction between lowland wealth and urban modernity as opposed to the highland poor and peasant traditional. Both underscoring and deepening differences and inequalities and also creating a new fissure, the new

variety very much comprised a ‘politicising product’ – which operates in the realm of the political-economy (Ruivenkamp 2005). Within this, it also operated to further the existing lower zone socioeconomic distinctions. The lupin ‘*chocho chawcha*’ has been particularly well received and grown by medium-sized producers in the Andean valleys, since it is these farmers, with the capacity to invest, who can develop the technology incorporated into the new seed. In other words, INIAP 450 ANDINO constituted a mediator capable of involving a specific profile of farmers and certain spaces and marginalising others.

3.3.3 To the market: Instruction in and mass dissemination of the new knowledge and values

In Chapter 2, when referring to the processing of the lupin by *mestizo* women in the towns, I proposed that this kind of activity could be considered as a *technique* in which knowledge and abilities are incorporated that are inseparable from the particular experiences of these women (Ingold 2000). In the case of the P-BID-206 project, with the dissemination of the INIAP 450 ANDINO variety, the research results were embodied as standardised knowledge (manuals) within the canons of modern science, which can be applied by any ‘fictional’ or ‘abstract’ farmer; that is to say, *technologies*, in Ingold’s sense (2000). Thus it was that efforts were made to disseminate the new seeds through books and workshops and finally radio programmes in which the knowledge and new abilities required to use the new seed were promoted. The publications, training programmes and radio acted as mediators to translate the knowledge generated by INIAP to the public and finally to the market in the final mediation form, branded consumer product.

Part of the recontextualisation of the lupin was the dissemination of the new seed through books – manuals and cookbooks – as had been envisaged in the project objectives. Considerable publication efforts were made between 1998 and 2001. The Project produced a total of 17 publications in that period, mostly compendia in which new methods for producing, processing and commercialising and consuming the lupin were explained. I briefly present here four texts aimed at a public non-specialist in agronomy and food processing.

Within INIAP, using manuals to facilitate the dissemination of new varieties has a long tradition. The first book published, in 1998, was a bibliographic guide, *Bibliographic Guide to the Chocho or Tarhui (Lupinus mutabilis Sweet) and other Lupin Species* (Caicedo, et al. 1998),⁵⁸ which collected the agronomic and plant-breeding research work on lupin done to that point and taken up from the 1970s by the INIAP researchers, university researchers and foreign researchers.

58 *Guía Bibliográfica del Chocho o Tarhui (Lupinus Mutabilis Sweet) y Otras Especies Lupinus.*

In the same year (1998), INIAP published a small agricultural manual on beans, peas, broad beans, *chocho* and lentils (Peralta, Murillo, et al. 1998). It is clear from the way in which it is written that this book was intended for technicians and the new producers who possessed some knowledge of modern agriculture. This is an important manual, because it is the first publication in which INIAP presented the results of research following the canons of the Green Revolution on a crop that had been previously represented as outside modern production.

In just seven pages with a single photograph, *Agricultural Manual of Legumes. Crops and Production Costs*⁵⁹ summarises the basic procedures that should be followed by *chocho* producers; also, in the part referring to growing the lupin, the agricultural technologies tested by INIAP are indicated. It is here that the INIAP 450 ANDINO seed is proposed as a monoculture, to be planted in furrows, not the traditional (square) holes (above, 2.2.1), and including the use of chemical products (Peralta, Murillo, et al. 1998, 35-43). Regarding the last of these, detail is given on how fertilisers should be administered, while the main characteristics of the diseases and pests that attack the plants are explained and chemical means proposed to mitigate these, with appropriate products on the market recommended. With respect to harvesting and threshing, the manual proposes using machinery to carry out these activities; this was a real novelty, since threshing machines were used only for wheat and barley at that time. Concerning the post-harvest stage, storage techniques are described: a highest level of humidity that *chocho* can withstand is advised and (again) chemical products recommended to avoid attack by insects. Finally, sample production costs per hectare of lupin sown are provided. Plainly, these publications were a vehicle for the introduction of a modernisation of lupine agriculture (and thus also for the marginalisation of the landraces and its other ontology).

The manual *Post-harvest and Marketing of Chocho (Lupinus Mutabilis Sweet) in Ecuador*⁶⁰ has a six-part summary of the most relevant activities and technologies for harvesting, threshing, bean classification, debittering, quality control and commercialisation (Caicedo, Peralta and Villacrés, et al. 2001). The easily-understood explanations include a description of the activities and the possible results. Aimed in large part, one assumes, at educated producers or educated people linked with producers, these recommendations have three characteristics: firstly they introduce values of modern production like efficiency, quality and hygiene; secondly, the criteria are supported in charts in which the previous (traditional) procedures are compared with modern ones and the efficiency of the latter demonstrated; thirdly, through the manuals procedures are standardised and the operator is separated from the object. This is what Feenberg (2010a, 172) calls 'rationalizing operations'.

59 *Manual agrícola de leguminosas. Cultivos y costos de producción.*

60 *Poscosecha y Mercado de Chocho (Lupinus Mutabilis Sweet) en Ecuador.*

One of the arguments for discriminating against the *chocho* was the absence of hygiene in its preparation. Traditionally washed and rinsed in irrigation ditches and lakes by poor and indigenous people and then sold in popular markets, it was considered unhealthy by the urban middle class. To counter this prejudice, special care was given in the manual to quality control: it was explained how the shape, size, smell and taste of the legume should be checked, along with procedures to guarantee product hygiene and perform sanitary controls on the processed lupin (Caicedo, et al. 2001, 14).

The first cookery book for what was to become the *chocho chawcha*, *Enjoy Cooking with Chocho*,⁶¹ was published at the end of the implementation of the P-BID 206 project and contains 38 novel recipes on how to prepare *chocho* (Villacrés, Caicedo and Peralta 1998). As well as stimulating the market, this book operated according to the same underlying logic as the agricultural evaluations and manuals: it established certain standards and norms (here, on the preparation of the *chocho*).

The stated aim of the text was to publicise ‘the great versatility of the *chocho* in the preparation of various dishes’ (Villacrés, Caicedo & Peralta 1998, 10). In contrast to the other cookery books, this one included an explanation of the nutritional value of *chocho* employing scientific principles, with statistical charts used to compare the chemical composition of the lupin with other Andean legumes and grains. The scientific information in this first part could hardly be used by the women merchants in local markets or the indigenous peasant women of the *páramos* – educated urban housewives or chefs, however, might have found it useful (see below). At the end of this section of the book, there is a large, page-size box, with the following hygiene advice: ‘Boil the *chocho* for ten minutes, before preparing or eating it when [asepsis] is not guaranteed’, i.e. to ensure it is germ-free (Villacrés, Caicedo & Peralta 1998, 9-14). Explaining the nutritional value of *chocho*, employing scientific principles, and giving hygienic advice all illustrate the effort of enabling the entry of *chocho* in the context of educated urban housewives. This was stimulated by the development of new recipes.

Summarising, the general aim of the books was to disseminate the new techniques for this crop and ways of cooking to a broad public, with the (implicit) target groups mentioned, although with the primary readership undefined; it is by no means entirely clear whether and which manuals and cookbooks were aimed at which social groups. The de-worlded seeds, one might say, are aimed at anonymous producers and consumers. Indeed, this follows the thrust of modern agriculture, in which diversity in contexts is minimised, so that technology can be applied indiscriminately. There is, however, evident emphasis in the manuals on the optimisation of effort and the calculation of results, two characteristics of social rationality (Feenberg 2010a), so regardless of the target, the function was certainly a modernising one.

61 *Disfrute cocinando con chocho. Recetario.*

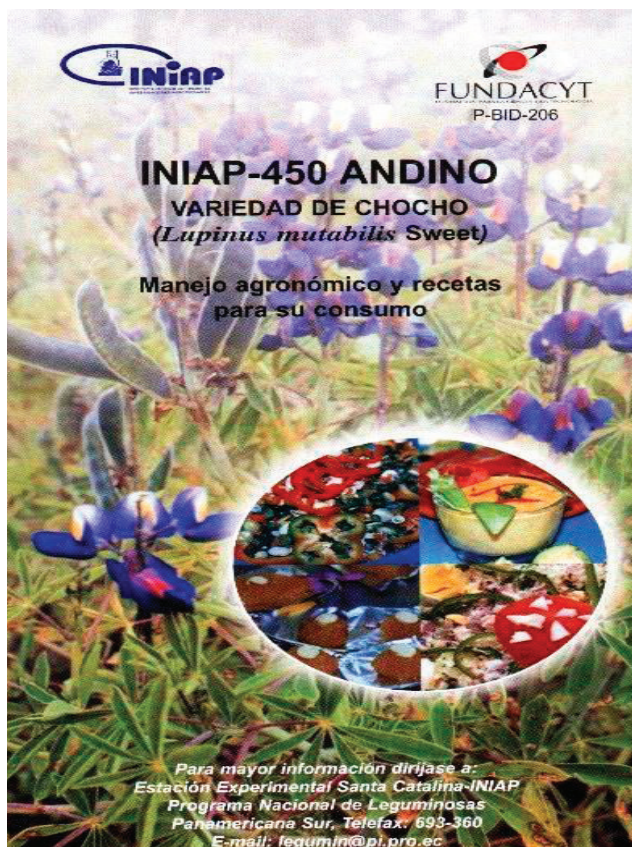


Figure 3.4 Chocho manual and cookery book

According to Villacrés (2009), the new lupin recipes were born out of participatory workshops organised to promote Andean crops, disseminate the nutritional value of the lupin and provide information on how to prepare it. The workshops were made up mainly of urban people: housewives, nutritionists, nurses, chefs and small bakers. The dissemination of the new way to prepare the lupin was important because of the bitterness of the lupin bean (Section 3.2.3). Thus, the proposal of the INIAP researchers was to prepare a pastry mix before preparing any new dish, as the researcher who created this mix indicates:

The aim of the workshops was to teach improved techniques for each of the three parts of the process: production, processing (rinsing and preparing the pastry mix) and the importance of consuming the lupin for its nutritional value. The first workshops were planned for three days. During the first two days the principles for making new dishes with the pastry mix, a novel procedure,

was explained. The third day was spent with the participants developing their own recipes, new dishes and their preparation. These recipes were collected and compiled in the books. We didn't impose anything; the participants developed their own creativity. That's what we published. (Villacrés 2009)

These workshops further enabled the expansion of the new lupin network. Starting from getting together people interested in processing and preparing meals from this legume, 'learning' was achieved and the new knowledge spread; *chocho chawcha* was situated in new contexts. The workshops took place in cities like Quito (at the Santa Catalina Experimental Station), Ibarra, Riobamba and Latacunga. Those targeted in these workshops were small business people, nutritionists, chefs, those responsible for food in nursing homes for the elderly and in poor children's homes, and nurses (Villacrés 2009). Many of these people, especially the men, got involved in the processing of the lupin and were active participants in INIAP's work.

The informative workshops were held also with the aim of disseminating the nutritional value of the lupin. Some of the workshops were held in collaboration with organisations like CAMARI, an NGO aimed at supporting the production and the commercialisation of products of the poorest peasants.⁶² These workshops offered information on the nutritional value of the lupin, its advantages over animal proteins and the importance of eating it together with cereals to gain its full benefit.

The workshops also enabled the incorporation of new forms of working with the lupin and the understanding of the new technology. That is to say, in these workshops INIAP technicians transmitted their knowledge 'by means of their own current activity', in Connerton's (1989, 73) terminology, 'incorporating practices' through the use of their bodies and imaginations as attendees to carry out the required activities. Thus, through these workshops, new ways were incorporated to process the lupin, solve problems related to the production of new dishes, process and commercialise the lupin respecting norms of hygiene and plan the commercialisation of the product. The workshops also enabled the emergence of a new network composed of agronomists, small businesspeople, urban women, new work tools, and novel machinery – all these actants and modern ways of thinking being quite different from those of the *lupino paisano* network.

In the case of the radio programmes, the aim was to disseminate information about the 'new' food source, show that the method of processing it was hygienic, illustrate the new ways in which it could be consumed and reinforce the message of its nutritional importance. Like the workshops, this use of radio can be seen as part of a 'recontextualisation strategy' (Feenberg 2010a, 76), in which new values were constructed around the lupin. According to one of the researchers interviewed, the dissemination

62 The marketing organisation Camari or *Sistema Solidario de Comercialización* is part of the *Fondo Ecuatoriana Populorum Progressio* (FEPP). At <http://www.camari.org/index.php>

of the new *chocho* recipes was achieved among many of the people of Quito via this medium, sometimes coincidentally:

For dissemination in Quito, communication via radio played a key role, and it was my friend, Dr Nelson Maldonado, with a programme called '*En su Punto*' ('Cooking to Perfection'), which was broadcast by Radio Genial [on] 93.3 FM. On one occasion, during his programme, he asked how to prepare *fanesca*,⁶³ so people called in; some called to say that they also put *chocho* in *fanesca*, but there were others who said that *chochos* were dangerous; they can harm people. So, Nelson asked on the radio if anyone knew why *chochos* were dangerous. Then, my wife called the radio station and said that her husband worked at INIAP and he was directing the research on *chocho*. There, we proposed a programme where information was broadcast on the nutritional benefits of the *chocho* and at the same time new recipes with *chocho* were explained. In 2002, we published a recipe book called '*Chochos en su Punto*' where recipes introduced on the programme were presented. (Peralta 2009)

In tandem with the publications and organised events and media strategy all aimed at promoting the new variety for production and consumption as the expression of lupin as a food, it entered the entrepreneurial market, as an attractive start-up proposition for processing enterprises. According to Peralta (2009), it was from dissemination of the new technology developed to wash and rinse the lupin and its propagation among the middle classes of its nutritional benefits that interest arose in creating small businesses for processing the lupin, like that established by the agronomist Mario Laverde and his wife Fernanda de Laverde in 1998:

The first person who threw himself into the market together with his wife after receiving a training course here at INIAP was Mario Laverde. Mario Laverde was essentially the pioneer in putting high quality *chocho* into Supermaxi,⁶⁴ where they were called '*chulpichochos*'. He took the decision to invest in a plant to process *chocho* after his training at INIAP. There, he realised the potential of the lupin. Later, other providers of high quality processed *chocho* like '*Flor del Valle*' and others that I don't remember now. (Peralta 2009)

Finally, the new *chocho* entered the consumer market. In July, 2003, the *El Universo* newspaper (El Universo 2003) published a report on the LaVerde Company (El Universo 2003). In this report it was stressed that the lupin was sold in the Supermaxi chain,

63 *Fanesca*: a typical soup in Ecuadorian cuisine, prepared during Holy Week: in a base of milk, squash and dried cod are added 12 grains or vegetables, like corn, broad beans, *chochos*, rice, peanuts, beans, etc., and cooked until the mixture becomes creamy.

64 Supermaxi is the largest supermarket chain in Ecuador; it owns 33 supermarkets in various cities of the country, targeting mainly the top-end of the market.

aimed at the middle and upper classes, and where new values like hygiene and quality were stressed by a perjorative comparison with the traditional form:

‘The *chocho* is Peruvian, I tried with the [old] Ecuadorian product, but I almost went out of business. Unfortunately, there are no quality criteria in the country, because the *chocho* they sold me contained stones, shells, and some were even rotten,’ said Laverde. (El Universo 2003)

Now the new lupin variety has spread, and reached the market as final product. Laverde purportedly buys 80% of its *chocho* from micro-producers in Guamote (Chimborazo), Palmira (Chimborazo) and Machachi (Pichincha) and imports the other 20%’ (Gómez 2013). Taking up the modern approach to agriculture, therefore, lupin has secured for itself a role in the consumer-oriented context as a niche product. It is produced by small businesses that supply to a major processor (Laverde), which markets (packages, distributes) a final product (brand), which enters the final stage of promotional activities by taking its place in exhibitions as a gourmet food and moves to the point-of-sale at large retail-outlet chains (like Supermaxi) (Fig. 3.5).



Figure 3. 5 Chocho LaVerde as a retail product

3.4 Conclusions

This chapter has been investigated how certain agricultural and S&T policies, designed to promote the agriculture development of the poorest peasants, neglect the alternative ontology of the *lupino paisano* network and obstruct the operation of alternative Andean food networks. On analysing the new lupin variety INIAP 450 ANDINO the research has shown that the social rationality immersed in modern agriculture and especially in

agricultural S&T and plant breeding policies shaped the INIAP 450 ANDINO seed and created a new food network where ontologies, spaces and actors like those found in the *lupino paisano* network were excluded.

Employing Feenberg's concepts of primary and secondary instrumentalisation, the de-contextualisation of the landraces from their physical and social environments has been detailed so as to throw into relief their functional features, their transformation into promising lines and finally their incorporation into spaces distinct from those from where they were extracted. This first involved description of how certain values typical of modern agriculture were incorporated as technical features of the new seed.

As Feenberg (2010b, 12) explains, values cannot be a part of a technological design without being translated into technical language (the paradox of value and fact). In the case of the lupin seeds, certain values programmed for crops destined for the market, such as productivity, precocity, appearance and resistance to particular diseases were introduced during the plant breeding work and thereby modified the lupin. Translated into phenotypic features, these values were easily accepted by a group of producers in the valleys (peasants and large landowners), who, from the beginning of the projects, were the groups most linked with the plant breeders. Following Feenberg, I then explained the recontextualisation of the lupin as a complex process, as a set of actions initiated by INIAP that generated new links not only with the valley producers, but also with small businesses and new groups of processors and consumers. All these actions generated a new food network around the INIAP 450 ANDINO seed in which the indigenous people of the *páramos* and the women selling food in local markets were excluded.

On explaining how the main released seed, INIAP 450 ANDINO, was recontextualised, I showed that this process began with the distribution of the seed in new contexts. This was achieved by creating local units (CALs) where the peasants and a few large landowners loaned their plots so that INIAP could carry out its experiments. These evaluations were made without taking into account the knowledge of the peasants and even less the original environment of the lupin seeds. An interesting result of this process was that, in contrast to modern agriculture where the sale of seeds is monopolised by large corporations, in the case of the INIAP 450 ANDINO seed, due to its relatively little commercial importance, the first people responsible for its commercialisation were groups of indigenous people and the large landowners who formed part of INIAP's research.

Finally, in this second part I showed the importance that the manuals, workshops and radio programmes as ways of recontextualising the lupin; it was through these means and the generation of new entrepreneurs of the *chocho*, of the distribution of novel recipes and the opening up of new markets that, little by little, a new food network was created. The manuals, workshops and radio programmes constituted practices that recontextualised the lupin, positioning it socially within the urban and middle

classes. Through the manuals and workshops, methods of processing were defined and a kind of rational relationship between the lupin and the processors, now entrepreneurs, was standardised: the workshops to prepare new recipes, the cookbooks and the radio programmes enabling the promotion of consumption among those classes to whom the lupin bean was offered – in addition to being nutritious – as aesthetically attractive and hygienic, niche-marketed and positioned in the most prestigious supermarkets in the country.

Through this analysis it can be seen, as shown by Ruivenkamp (2005) in his analysis of biotechnology, that new products like seeds do not only reflect power relations, but also reorganise the food system and create new social relations and boundaries of participation. In the case of INIAP 450 ANDINO, the de-contextualisation of seeds, isolating them in gene banks, and not taking into account the knowledge of the farmers and food processors who have supported the landraces for centuries is expressed as a form of power exercised by state and (international, Northern) donor agencies through which the emergence of modern agriculture is characterised.

This chapter has shown that the release the INIAP 450 ANDINO variety was the result of research projects engaged in as part of the Ecuadorian government's interest in developing modern agriculture, and the efforts of international organisations like the FAO to promote a global food security project. The confluence of these two kinds of discourses and political practices enabled an improvement in the production of a *chocho* aimed at urban, initially middle class consumption. Over time, however, the release of INIAP 450 ANDINO did improve food security somewhat, because it made available to all Ecuadorians a nutritious, hygienic food. In valorising an ancestral food and transforming from a despised thing into high-value and later even into a gourmet food, it also changed its meaning and became commoditised. Thus, that which otherwise lay embedded in a quite different cultural framework or ontology, the *páramo* lupin, was modernised.

While supporting especially urban food security, therefore, the lupin program, like many rural development projects immersed in the same kind of public policies, weakened some of the precepts of food sovereignty. Following the People's Food Sovereignty (2007, 3) three ways in which this transpired may be identified. First, the breeding activities eroded the right of the indigenous people and peasants to develop their own food and agriculture, since, from the beginning, the techniques and activities incorporated values in which the specific, modern characteristics of the 'technological object' (in this case, seed) were already established (i.e. without their input). Second, the breeding activities also reduced the capacity of the indigenous people and peasants to produce and interchange their own seeds and to protect their knowledge by de-worlding the seeds (the construction of gene banks was based on the separation of seeds from their original contexts and neglected the importance of knowledge of those who

originated these seeds). Third, the breeding activities undermined a local economy, since the recontextualisation of the lupin generated other networks with which the less-favoured actors, the indigenous people of the *páramo* and the women merchants, were omitted (by the incorporation of material and aesthetic qualities in the new seed as pre-set criteria for the selection of what to process and consume and what to exclude). The indigenous cash crop was devalued, which was actually the result of its not being valued as such, which was a function of the hegemony of the ontology of modernism.

CHAPTER 4

The translation of food sovereignty: Demise of a political and ontological proposal

4.1 Introduction

Moving from the (local- and regional-level) socio-economic and cultural examinations of the development of lupin as actant, away from the traditional peasant, non-dualist and food-sovereignty perspectives in the process of modernisation, the wider political contest in which that has operated is considered here with an investigation of a recent history expressing some of the main themes of this thesis at the national level. This has been an important moment in Ecuadorian history, marked by the writing of a new, relatively radical constitution, in which food sovereignty has featured strongly. The aim in this chapter is thus to examine the translation process of the ontological proposal for food sovereignty in its passage from the postulates of *Via Campesina* to incorporation in the Ecuadorian Constitution of 2008 and Organic Law of Food Sovereignty of 2009.

Upon being sworn in as the 56th Ecuadorian president on 15 January, 2007, Rafael Correa immediately convened, through a referendum, a National Constituent Assembly (*Asamblea Nacional Constituyente*, ANC) for the purpose of drawing up a new constitution. By September, elections had taken place to appoint assembly members, with President Correa's party obtaining 70% of the seats. Established in November, 2007, the ANC concluded its work in July, 2008, and the new constitution was adopted, through another referendum, in September, 2008.

During its eight months of preparatory work, the ANC had prepared a constitutional charter recognised by many left-wing parties as an advance on that adopted in 1998. Among the most prominent features endorsed was the central role of the state in the economy and the concentration of power in the figure of the President of the Republic, along with the extension of universal rights (including both social and environmental rights), and the characterisation of the Ecuadorian state as intercultural. The latter was evident in one of the two central elements finally adopted in the 2008 Ecuadorian Constitution, the declaration of the Ecuadorian state as plurinational (i.e. not identified with one nation, or people).⁶⁵ The other central element of the Constitution was a development proposal, called '*Buen Vivir*' in Spanish, or '*Sumak Kawsay*' in Kichwa.⁶⁶

Understood as 'a new form of living together in diversity and in harmony with nature', the concept of *Buen Vivir* / *Sumak Kawsay* was based on five general principles, which included – in addition to participatory planning for development, economic sovereignty, the strengthening of strategic sectors, and work and production – that of

65 In Ecuador there are 13 indigenous nationalities, each with its own language and culture; in the 2008 Constitution, Spanish was established as the official language, and Kichwa (Quichua) and Shuar deemed official languages for intercultural relations.

66 According to the Kichwa (Quichua)-Spanish dictionary of Luis Cordero 1989 [1892], '*sumak*' (or '*sumac*'), means 'lovely, excellent, beautiful' ('*sumak*' is differentiated from '*allt*', which means 'good'), while '*kawsay*' ('*causay*') refers to the existence of both human beings and animals; in other words, the expression refers to the joint well-being of living things, or animals and humans.

food sovereignty (Ecuador 2008). Social movements had lobbied the ANC strongly to include the *Sumak Kawsay* and food sovereignty proposals; indeed, the proposal on food sovereignty was included in the agenda of the ANC (2008) largely through the efforts of the indigenous and peasant movements of Ecuador. Then, various economic groups linked with food production and trade and with agricultural technology, as well as national and international NGOs supporting indigenous and environmental organisations also participated in discussions and subsequent agreements aimed at developing a food sovereignty law that would achieve what could not be accomplished in the Constitution.

In October 2008, the ANC dissolved itself and was replaced by a Legislative and Supervisory Commission (*Comisión Legislativa y de Fiscalización*, CLF), made up mostly by members of the president's party, responsible for the preparation of new laws. This commission had, among its other mandates, that of drafting the food sovereignty law. Many activists were involved in drawing up the draft legislation between October 2008 and February 2009, which took into consideration the criteria of the Presidency, the CLF, the indigenous movements, the NGOs and the chambers of production and commerce. The CLF tried to integrate the different proposals and, after various debates and clashes, produced a final version, called the Organic Law of Food Sovereignty (*Ley Orgánica del Régimen de Soberanía Alimentaria*, LORSA). This document was voted on and, although failing to obtain a majority vote, delivered for the approval of the president, who modified the content. On returning the law to the CLF for its definitive passage, disagreement over the president's changes again caused it to fail at the voting stage. A month later, however, it was passed by *Ministerio de la Ley*.⁶⁷

The research problem addressed in this chapter is the gradual translation that the political and ontological proposal of food sovereignty experienced during the process outlined above, that of its introduction into the 2008 Constitution and then into the LORSA. During the ANC period, one of the results of the lobbying was the introduction of a definition of food sovereignty, promoted by an activist/advocacy network following the *Via Campesina* suggestion and drawn up by the advising members of the NGOs. The confused and contradictory articles in the various proposals for and final version of the Constitution appear in key issues, like the absence of any move to change the agrarian structure or agrarian reform and the state centralisation of water, which had been partially in the hands of peasants and the indigenous people.⁶⁸

67 *Ministerio de la Ley*: the automatic coming into effect of a draft law, which, as it does not abide by any norm, does not comply with ordinary procedure. In the case of laws drafted by Congress, those that do not obtain a majority vote come into effect after thirty days.

68 Peter Rosset (2006, 5) points out that one of the main problems of the peasants of the global South is limited access to land, and the contradictory growth of agro-exportation businesses.

Then, in the LORSA, the ideas developed by the network from *Via Campesina* were further weakened. Four aspects are important here: 1) access to land and water was understood as access to ‘factors of food production’; in other words, there was a simplification of the meaning that ‘land’ has for some Ecuadorian indigenous organisations (and in that assumed in *Via Campesina*’s proposal); 2) ancestral knowledge was confined to rhetorical discourse and, instead, bureaucratic structures were planned for the transference of new technologies; 3) the introduction of transgenic organisms was regulated; 4) the participation of peasants was reduced to a bureaucratic structure (a ‘council’), which lacked the capacity to define or implement policies.

The issue, therefore, is that of how a road paved with such good intentions – the introduction of the idea of food sovereignty as a national project of fundamental import – fall so far short of its supposed destination? The answer refers to political process, of course, but also to underlying philosophies, or the dynamic of modernism. This chapter thus addresses the final research question:

How did the introduction of the food sovereignty discourse into the 2008 Constitution weaken the ontological and political proposal put forward by *Vía Campesina*?

First, this question implies reflection on the role of states and the macro-political context in putting food sovereignty into practice. There are important studies on transnational agrarian movements that concern the relationship between globalisation, social movements and agricultural demands in the context of neoliberal regimes: Edelman (1998, 2001), Della Porta et al. (2006) and Desmarais (2002, 2011), among others, wrote significant works on globalisation and peasant movements. Specific contributions have been made on *Vía Campesina* and its fight for land, such as works by Borras (2008, 2010) and Rosset (2004, 2006).

On examining studies of the politics of agrarian movements and their impacts within states, Borras, Edelman and Kay (2008, 179-80) point out various limitations of these publications, that (a) the external relationship of the groups are stressed but the local dynamics of the agrarian movements are often missed in the analysis; (b) there is a weakness in the analysis of the links between local, national and global dynamics and leaders’ capacity of representation (Borras 2010); and (c) some works show little consistency when explaining the links between the actual phenomena of peasants’ movements and agrarian changes, and also display weaknesses when analysing agrarian structure, a very important issue in this phenomenon.

Further to these, there are a few studies on the role that governments play in promoting food sovereignty within nation states. An interesting new example is that of McKay and Ryan (2013), which analyses the ways in which Bolivia, Ecuador and Venezuela have realised the food sovereignty proposal in their constitutions. Asking how food

sovereignty manifests itself through a state-led process in the national economy, these authors show that the best strategies to accomplish the restructuring of relations of control and access to resources for 'pro-reform' states are those where a synergy is achieved between the social actors and the state. They also emphasise that the mere creation of laws and rights does not necessarily lead to social justice, and, following Scott (1998), they propose that, in the majority of cases, what is observed is a process of simplification of the discourse, where food security has (merely) been re-labelled, as 'food sovereignty' (McKay and Ryan 2013, 23-4).

Here, in order to address the issue of what was changed and lost in the state's incorporation of what was an essentially peasant-orientated notion, I describe and analyse the social movements and the government as networks. Keck and Sikkink (1998) have already applied this approach in their analysis of the formation of transnational networks, studying the interactions between different kinds of entities, such as governments and national policies. Also, Nicolas Rose (2006), referring to Foucault and ANT, has studied liberal democracies and governments in general as a network of knowledge, technical procedures and people ('governmentality' in Foucault's [2009] terms). Rose and Miller (2010) use this same perspective to analyse the political power behind government, investigating the relationships between knowledge, technology, civil society and government.

In this chapter, I argue that the weakening of the ontological and political proposal for food sovereignty in the 2008 Constitution and the LORSA was the result of a translation process generated by the networks immersed in the ANC. More specifically, during the drafting of the Constitution and later the LORSA, the multiplicity of organisations and drafts led to the networks that negotiated the introduction of food sovereignty discourse to gradually produce new orders, discourses and links which transformed the ontological and original political perspectives put forward by *Vía Campesina*.

Three key moments in this process are explained here: first, I recount the formation of the Ecuadorian food sovereignty network as an assembly of persons, institutions, objectives and national and international discourses in the context of the earlier dispute with the state to avoid the signing of the FTA with the United States; then, I analyse the actants and networks participating in the lobbying during the ANC period, their different objectives and understandings of food sovereignty and how these contributed to the weakening of the food sovereignty idea; finally, I examine the formulation of the food sovereignty law and the actions of the NGO experts and the elites to eliminate or simplify central elements of the political and ontological proposal.

4.2 The Free Trade Agreement (FTA)⁶⁹ and the emergence of a food sovereignty network

In 2004, two significant events for the formation of the food sovereignty network in Ecuador occurred. The first was the creation of the *Ecuador Decide* (Ecuador Decides) alliance of the National Confederation of Peasants, Indigenous Peoples and Afro-Ecuadorians (*Confederación Nacional de Organizaciones Campesinas Indígenas y Negras* FENOCIN)⁷⁰ with the Confederation of Indigenous Nationalities of Ecuador (*Confederación de Nacionalidades Indígenas Ecuatorianas* CONAIE),⁷¹ together with other NGOs. This organisation initiated a nationwide campaign to collect signatures for a referendum to vote on the FTA. The second event was Quito's hosting of the Social Forum of the Americas (2004). In this forum, the peasants' organisations of Latin America called for the defence of the 'food sovereignty of the people' and of 'water, land and seeds.' (La Hora 2006)

From January to March 2006, the main indigenous organisations, such as FENOCIN, CONAIE and the Council of Evangelical Indigenous Peoples and Organisations of Ecuador (*Consejo de Pueblos y Organizaciones Indígenas Evangélicas del Ecuador*, FEINE),⁷² agreed on a common proposal and led a resistance against the signing of the FTA. At that time, the administration of President Alfredo Palacio⁷³ agreed to listen to the arguments against the treaty.

The reasons that each organisation had for supporting this movement never totally coincided. FENOCIN openly favoured a food sovereignty discourse against neoliberal policies that prioritised international trade and worsened the food supply for the people (Ecuador Inmediato 2006). At this point, this organisation understood food sovereignty as:

The right of peoples to define and determine their own policies and sustainable strategies for production, distribution and consumption of food, guaranteeing the right of the whole population to food based on small and medium-sized production, respecting our own cultures and the diversity of peasants, indigenous

69 In Spanish, *Tratado de Libre Comercio* (TLC).

70 Created with the support of the Catholic Church in 1964, in 1968 FENOCIN was transformed into a 'nationwide indigenous peoples', peasants' and Afro-Ecuadorian organisation'. At <http://www.fenocin.org/>

71 An Ecuadorian indigenous organisation, founded in 1986, CONAIE brings together indigenous organisations from the Ecuadorian Highland and Amazon regions, aiming at the maximum representation of the peoples, ethnic groups, cultures and nationalities of Ecuador. At <http://conaie.nativeweb.org/>

72 Original name the Ecuadorian Federation of Evangelical Indigenous People. At <http://www.feine.org.ec/pacha/>

73 Alfredo Palacio was the interim president (2005-07), after the overthrow of the previous president, Lucio Gutierrez, and before Rafael Correa.

peoples, fishermen and farmers and the commercialisation and management of rural spaces. (FENOCIN and Heifer 2006, 8)

FEINE (2006) published a paper on its *Llacta* website that, besides joining the fight against the FTA, denounced the 'lack of aid to areas hit by the severity of the winter and the prevailing lack of governmental action' and demanded the resignation of the President. CONAIE pursued four goals for the demonstrations of March and April: (1) denouncing the negotiations on the FTA, (2) terminating the OXY oil company contract, 3) denouncing the 'Plan Colombia',⁷⁴ and' (4) calling for elections to form the ANC (ECUARUNARI 2005).⁷⁵ In the press release endorsed by CONAIE and published by ECUARUNARI (2005), it can be seen that the main objections to the signing of the FTA were related to the risks to local agriculture, ancestral knowledge and health. All these are issues directly linked to food sovereignty:

CONAIE reaffirms that the government of Alfredo Palacio should fulfil its promise to call a referendum on the FTA. It is not possible behind the backs of all the citizens to try to sign a treaty which will only benefit the United States, destroy national agriculture, allow the theft of our ancestral knowledge, and which will gravely affect the health and other basic service sectors. (CONAIE 2006)

Having highlighted the difficulties consequent on the signing of the FTA, CONAIE reiterated the need to construct a plurinational and democratic state, the historical objective of its political agenda:

We call on all our countrymen. We have before us the opportunity to change history; to construct a Plurinational and Democratic country for all Ecuadorians. Now it depends on us, on our capacity to fight, on the unity of all the social movements, of the indigenous peoples, of the students, of the workers, of the intellectuals, of the whole country. (CONAIE 2006)

Other peasants' organisations from the coastal region, such as the Eloy Alfaro National Peasants Coordination (*Coordinadora Nacional Campesina Eloy Alfaro*) and the National Coordination for the Defence of Mangroves (*Coordinadora Nacional de Defensa de los Manglares*) joined the network, while various NGOs also took part in this struggle against the FTA, including rural development institutions like *Terranueva* and the training and leadership organisation Andean Centre for the Formation of Social Leaders (*Centro Andino para la Formación de Líderes Sociales*, CAFOLIS), which work with indigenous

74 A 1999, originally bilateral agreement between the US and Colombia aimed at terminating the armed conflict in Colombia and fighting against drug trafficking.

75 ECUARUNARI: the Movement of the Indigenous People of Ecuador (Kichwa: *Ecuador Runakunapak Rikcharimuy*), or Confederation of Peoples of Kichwa Nationality (Kichwa: *Ecuador Kichwa Llaktakunapak Jatun Tantanakuy*; Spanish: *Confederación de Pueblos de la Nacionalidad Kichwa del Ecuador*). At <http://ecuarunari.org/portal/>

peoples' and peasants' organisations on issues related to land, water sources, organic farming, and the development of leaders.



Figure 4. 1 Anti FTA poster

The knowledge and discourses disseminated via books and pamphlets targeted at peasants, indigenous peoples in the provinces and students played a key role in the formation of the network. The pamphlets were distributed in Quito and in the provinces most linked with the peasant organisations. In addition to providing information on the effects of the FTA and promoting the food sovereignty cause, these texts also had the capacity to form and mould the position of actants, and not only of the indigenous people. On the website of *Llacta!*,⁷⁶ there is a page that contains texts, articles and correspondence in 2006-07 resulting from the fight against the FTA (*Llacta!* n.d.). From this webpage, one can see that many activists who contributed with reflections on the disadvantages

76 *Llacta!* is a website dedicated to disseminating information related to the political grievances of social movements, especially the Ecuadorian indigenous organisations. At <http://www.llacta.org/>

of signing the FTA were intellectuals later linked with the 'government of the citizens' revolution' (*gobierno de la revolución ciudadana*), the self-designation of the governing *Alianza País* party.

Forums and cultural meetings led by FENOCIN took place in 2005 and early 2006, and various universities in Quito also organised debates to analyse the consequences of the FTA and the significance of food sovereignty (FENOCIN and Heifer 2006).⁷⁷ NGOs and research institutions contributed to the discussion. Ecological Action (*Acción Ecológica*) did so specifically on issues related to the effects of the FTA on agriculture, and warned of the risks that imports and the use of transgenic seeds pose to biodiversity in particular and food sovereignty in general (Bravo 2009). The Research System on Agrarian Issues of Ecuador (*Sistema de Investigación sobre la Problemática Agraria en Ecuador*, SIPAE), the Institute for Ecuadorian Studies (*Instituto de Estudios Ecuatorianos*, IEE) and the Seed Guardian Network (*Red Guardianes de las Semillas*) provided significant research on land ownership, the situation of agriculture and the distribution of water resources in Ecuador. Important political and intellectual leaders also published widely-distributed papers to explain the complexity and issues that the FTA could entail (Centro de Derechos 2006). Alberto Acosta and Fander Falconí (2005), and Javier Ponce (n.d.), who later became members of President Correa's cabinet, also made contributions to the debate on this issue.⁷⁸

The international organisations and their discourses promoting policies in favour of social movements during neoliberal regimes were also important in buttressing the fight against the FTA and strengthening the food sovereignty movement. The Heifer Foundation, an international NGO that had been working for a long time in ecological agriculture, embraced the food sovereignty notion in 2004 and disseminated the idea in assemblies and workshops, specifically among the peasants in the coastal region (Ponce 2009). Other international organisations, such as Intermón OXFAM,⁷⁹ IBIS⁸⁰ and FoodFirst Information and Action Network (FIAN)⁸¹ (Landívar 2004) provided funding for seminars, demonstrations and publications. And finally, *Vía Campesina* had accompanied and supported FENOCIN and FENACLE for many years.

Ultimately, the outcome of the campaign that, indeed, did halt the signing of the FTA was the achievement of an informal, loose-knit organisation of what may be described

77 In November 2005, FENOCIN held a seminar called 'Continental meeting, challenges and demands of the indigenous peasant movement'. One part of this event took place in the *Universidad Andina Simón Bolívar*. In February 2006, students of the *Universidad Politécnica Salesiana*, with the presence of indigenous men and women leaders, organised a debate on the impact of the FTA and the importance of agriculture and food sovereignty in the country (La Hora 2006).

78 Javier Ponce began as Minister of Defence and is now, at the time of writing, Minister of Agriculture in Rafael Correa's government.

79 At <http://www.oxfamintermon.org/>

80 At <http://ibis-global.org/>

81 At <http://www.fianecuador.org.ec/>

as a heterogeneous and geographically widespread network made up of a variety of entities with diverse origins and aims. The common goal of this network as it emerged, both formally, and through, in particular, the Ecuador Decides alliance, and informally, through the many different contributions and communications of interested individuals and other organisations, was simply to impede and prevent the signing of the FTA, which in their view was harmful to the majority of Ecuadorians. In 2007, the *Colectivo Agrario* (Agrarian Collective) group was formed by various NGOs and IOs to formally consolidate these relationships. This group acted as advisors for the ANC during the drafting of the new constitution; it was made up of CAFOLIS, FIAN, Heifer, the IEE, Intermón OXFAM, SIPAE, PROBIO⁸² and VECO⁸³ (Colectivo Agrario 2009, 4).

4.3 Tactics of governmentality

Political forces, particularly the government, have the capacity to mobilise techniques, agents and resources for their own purposes and agendas. This section looks at how certain symbols, strategies, procedures, and tactics employed in the history narrated comprised part of an ensemble, which Foucault (2006) referred to as ‘governmentality’. Tactics of *governmentality* were used for a specific population, to exercise a particular form of power, and to create the impression that everybody is participating as a citizen, under equal conditions, in the construction of a new constitution and a new state. This is how from this multiplicity of forms of exercising power that the translation of the proposal gradually and often became imperceptible.

4.3.1 Participation: members of the same nation?

From its inception, the Correa government used certain procedures and discourses intended to institute the idea that all citizens, under the same conditions, would participate – with their opinions and presence – in the construction of a new constitution and of a new state. This idea of participation also allowed certain actants and forms of exercising power to be concealed – as becomes clear in recounting the story of the birth of the 2008 Constitution, starting with the setting for preparatory work on the document.

82 The Ecuadorian Corporation of Biological Farmers, aiming to contribute to self-sufficiency of food at local and regional levels. See <http://www.ecuadorinfo.de/cliente/probio/esp/probio.html>

83 The regional programme of Vredeseilanden, aiming to develop cooperation projects in Ecuador and Peru with sustainable agriculture as their central focus. At <http://www.hivos.nl/dut/community/partner/10010837>

The pilgrimage to Ciudad Alfaro

Montecristi is a small town in the province of Manabí where Eloy Alfaro (1842-1912), the hero of the Liberal Revolution and two-time President of Ecuador, was born. President Correa ordered the construction of the Ciudad Alfaro complex in an area of open ground close to the town and sheltered by a small mountain. It was in these buildings that assembly members worked on the drafting of the new constitution. From the moment of its design, this site was proclaimed a privileged place to inspire the 'Citizens' Revolution', like a shrine specifically developed for *pilgrimage*.

First, the complex is located on a historically significant site. On the one hand, it is close to the town of Montecristi, where Eloy Alfaro was born, at the foot of Mount Montecristi (*Cerro Montecristi*), and part of the *Cerro de Hojas* archaeological complex, the site of one of the most important pre-Columbian cultures (from the Manteña Culture). This geographical location, therefore, allowed visitors to establish links with weaving artisans in Montecristi, the prehistoric villages in Cerro de Hojas and the fighters of the Alfarista Liberal Revolution. Then, some of the architectonic features of the complex suggest continuity from the ancient inhabitants of the 16th century, through the Liberal Revolution of the early 20th century, to the participants of the 21st century 'Citizens' Revolution'. The complex, comprising three buildings connected to each other by paths and wide gardens, extends this sense of the historical, with a museum, Eloy Alfaro's mausoleum (where his ashes are laid) and the ANC building.

During the six months of the drafting of the constitution, Ciudad Alfaro was visited by thousands of individuals requesting constitutional reforms. The methods used to reach Ciudad Alfaro by the movements and groups did not appear too different from the images of pilgrimages in Ecuador. The difference was that these journeys were filmed and broadcast on a daily basis by public and private television networks. The groups were often seen arriving on foot, many times in busloads accompanied by musical groups, speeches and banners, and often dressed in traditional or festive costumes.



Figure 4.2 Visitors to Ciudad Alfaro

Paraphrasing Stensrud's explanation of the pilgrimage to the sanctuary of Qoyllurit'i in Cuzco (2010, 41), one might say that the journeys to Ciudad Alfaro reveal the visitors' interest in this journeying lay, as with any pilgrims, in securing their future (leaving their petitions) and obtaining protection and help (from assembly members) and securing support) by means of rituals that demand reciprocity (the pilgrimage made). All in all, these practices effectively acted out a vertical power relationship to the government as authority; this was a process of supplication whereby the decision on what to include in the constitution was conceded (power was given away by the people to the government).

As in other places of pilgrimage, souvenirs were sold in Ciudad Alfaro – here, with the picture of Eloy Alfaro. Individuals and groups posed for pictures next to the

Ecuadorian flag and the imposing monument and mausoleum of Eloy Alfaro, or next to any archaeological piece from Cerro de Hojas. Upon arrival, the pilgrims, having booked in advance interviews with Assembly authorities, performed group dances or shamanic rituals for an audience of assembly members, advisors and fellow travellers. Later on, the members of the constituent committees met with the groups and received their proposals. According to the final report of the Carter Center (Carter 2008, 11) approximately seventy thousand individuals presented their proposals from January to June 2008 – including the groups promoting food sovereignty.

Manuela Cocabango, acting president of FENOCIN, led a delegation to Ciudad Alfaro. In her opening speech she stated that:

Our proposal does not contradict the President's proposal, [...] What we want is to support a change in the country and to be participants in these spaces where food is guaranteed for all – our own food and not junk, valuing our own products and thus improving family economy. (LatinAmericaPress 2008)

Having assembly members and advisors on their side was not enough to achieve these wishes. As with other indigenous and peasants' groups, it was the pilgrimage of a large delegation of FENOCIN with members from different parts of Ecuador that assembled the people – the indigenous people and the peasants as actants – and thereby assured the success of their undertakings.

Participation in forums

The *participation* discourse is widely used as a neoliberalist governance strategy by NGOs, IOs and elected representatives of the state and its administrators (Gupta and Sharma 2006, 21), and Ecuador was no exception; indeed, this practice not only continued but developed with assembly members forming dialogue committees in the provinces, known as 'travelling forums'. These participation discourses and the practices around this idea supported the notion that the government of the Citizens' Revolution had established a new order (Law 1994, 20, Rose and Miller 2010, 275); the times of indigenous uprisings as a strategy to achieve political goals seemed to be far away. Although the information gathered in the travelling forums was not of a very precise nature, and in practice it did not help much in strengthening the constitutional articles (Rosero 2008), it did help to give people a sense of participation and build an image of change as a new government policy.

According to the Carter Center (2008, 11-12), the goal of these meetings was to gather points of view directly from various organised groups of people (the travelling forums gathered 1,632 proposals). Thus, each committee organised open meetings in various cities that were attended by trade unions and women's, indigenous peoples' and peasants' organisations, which all presented their issues and demands. Sociologist,

CAFOLIS director and member of the food sovereignty network Fernando Rosero, who attended these forums as an advisor, explained that the petitions met diverse objectives and interests:

[I]n their contributions, immediate demands were combined with trade unions' grievances and public policy proposals, all of this very rich in ideological discourse but the complete opposite in terms of specific proposals and articulated projects for the new constitution. (Rosero 2008, 6)

In essence, what was achieved with the forums was to position, before the attending people and before the international community, the idea that the new government of the Citizens' Revolution was open to discussion of forms of government. Although it worked well also to encourage a perception and genuine feeling of public inclusion, since this inclusion had somewhat little substance in terms of material input, most importantly it operated as a public relations exercise. It is possible to see here how power was exercised through various forms which were not necessarily coercive (Gupta and Sharma 2006, 25)

4.3.2 Networks and actants in the ANC: Committee 6

With President Correa's party controlling the majority of seats of the ANC (70%), the Assembly formed ten groups, or Constituent Committees, of 13 members, each making decisions by absolute majority in carrying out its allotted task (Carter 2008, 12). The allies and promoters of food sovereignty in the Assembly were some of the assembly members and advisors that took an active part in the food sovereignty network. Alberto Acosta, for example, played a key role in the campaign that put Rafael Correa in the presidency; he was a trusted friend, the Energy Minister and the first speaker of the ANC. According to his writings and speeches, from the outset Acosta appeared to be convinced of the significance of promoting the food sovereignty proposal in the new constitution. As quoted from one of my interviewees, 'thanks to Alberto Acosta we were able to position food sovereignty in the new constitution as a government obligation, as a strategic goal, as a fundamental right' (Ponce 2009).

The Labour, Production and Social Inclusion Committee (Committee 6) was in charge of receiving, studying, discussing and drafting a proposal for food sovereignty to be included in the new constitution. This committee was chaired by Pedro de la Cruz, an important indigenous leader from FENOCIN, an activist in the Socialist Party, and an ally of the *Alianza País* party in the presidential campaign. Other members of this committee were Guillermo Touma, president of FENACLE, and another five assembly members from the *Alianza País* party. The other group was made up of five people from right-wing political parties and business interest groups.

In spite of being a member of *Via Campesina*, Pedro de la Cruz had an ambiguous position from the outset regarding the link between agrarian reform and food sovereignty. Thus, in an interview by the Institute for Research and Debate on Governance (Entrevoces 2007) expressed staunch support for *Alianza País*'s 'agrarian revolution' proposal, but also considered that the food sovereignty network's ideas should be drafted as laws, not included in the constitution. This meant postponing discussion of food sovereignty in the ANC, where the network had a lot of – and as it turned out, more – supporters.

According to Rosero (2008), three bodies – FENOCIN, FENACLE and the United Confederation of Peasants' Organisations in the Social Security Institute (*Confederación Unitaria de Organizaciones Campesinas afiliadas al Seguro Social*) – had a relatively clear notion of the political and technical aspects that would support a food sovereignty proposal for the constitution. For CONAIE, the constitutional proposal that it prioritised was the construction of a plurinational state; in its draft constitutional plan there were clear elements promoting food sovereignty but without directly proposing agrarian reform or a change in the agrarian structure.

Various members of the food sovereignty network directly promoting the food sovereignty proposal, such as researchers and technicians from CAFOLIS, SIPAE (SIPAE 2008b) and Ecological Action, which had provided support during the anti-FTA campaign, were among the advisors to this group of assembly members (Bravo 2009). According to their publications, the perspectives on food sovereignty of SIPAE and CAFOLIS were in line with a vision of food sovereignty developed from a (consciously) politically oriented approach to economics – and, in SIPAE's case – a Marxist political economy (SIPAE 2007), which is certainly far from the ontological proposal put forward by *Via Campesina*.

In the same Committee 6 and in the rest of the Assembly there was another group of actants, unconvinced about or clearly against including food sovereignty as a strategic goal of the state. These were assembly members, advisors and observer visitors linked to right wing political parties such as the Social Christian Party (*Partido Social Cristiano*, PSC), the Institutional Renewal Party of National Action (*Partido Renovador Institucional Acción Nacional* PRIAN) and the Patriotic Society Party (*Partido Sociedad Patriótica*, PSP) two of which (PSC and PRIAN) are directly linked to large-scale growing, processing and food-product distribution business operations.

For example, members of the PSC own one of the largest importers of agrochemical products in Ecuador, as well as the country's largest manufacturer of iodised salt and its derivatives, while the director of PRIAN owns one of the three largest companies importing and processing wheat and oats (mill and bakery) and is a large scale banana exporter (*Importadora Bananera Noboa*). As observers and advisors, representatives were present from the National Food Processing Company (*Procesadora Nacional de Alimentos*

PRONACA), and the Supermaxi chain of grocery stores (a subsidiary of *Corporación Favorita*).⁸⁴

Also, present was Diego Borja a man linked with the Chambers of Production and Commerce and to the government of President Correa. Previously the Economy Minister in charge of FTA negotiations in the government of Alfredo Palacio, Borja had been elected member of the Assembly by the Citizen Power (*Poder Ciudadano*) movement and the social democratic party *Izquierda Democrática*. He was also Executive Director of the Association of Flower Producers (*Expoflores*).⁸⁵ At this time he was a trusted confidant of the Minister for the Coordination of Social Development and maintained a discourse which supported the business chambers and food producing companies.⁸⁶ Finally, the Coordination and Social Development Ministry (*Ministerio de Coordinación y Desarrollo Social*) and the Ministry of Agriculture, Livestock, Aquaculture and Fisheries (*Ministerio de Agricultura, Ganadería, Acuacultura y Pesca*, MAGAP) also joined the group against the food sovereignty proposal (Rosero 2008, 4).

In fact, assembly members and advisors belonging to this group knew little about the food sovereignty proposal, but they always associated it with agrarian reform. The next section will look at how these actants revealed their positions as they came to understand the meaning of the proposal, and how their arguments focused mainly on sidestepping a new agrarian reform, not banning the use of genetically-modified organisms (GMOs) or the manufacturing of biofuel but avoiding definition of the concept of *latifundio* (Ecuador 1998).⁸⁷

The well-informed opinions that did not look kindly on the food sovereignty proposal and its banning of the introduction of GMOs came mainly from FAO international, scientists of private universities (Torres 2009), MAGAP and officials of INIAP. Not only were the last two government institutions, but it was INIAP, of course, that had enabled production of the genetically modified lupin variety (Chapter 3). Thus the evidence of a deeply rooted institutional distance from the peripheral – peasants, mountain life, etc.

84 According to the table 'Economic groups and tax contributions 2012-2013' drawn up by the Ecuadorian Internal Revenue Service, the *Corporación Favorita* occupied fourth place in the ranking of companies with the highest income in Ecuador, the *Exportadora Bananera Noboa* part of the 110-company *Grupo Noboa* conglomerate, which belongs to Alvaro Noboa, fifth-time presidential candidate. And PRONACA eleventh place.

85 After his membership of the ANC, Diego Borja was appointed Economy Minister and later Managing Director of the Central Bank of Ecuador by President Correa.

86 During the fight against the FTA, the indigenous and peasant movements had identified Diego Borja as an ally of the transnationals.

87 The *latifundio* is a very large agrarian property. Historically, the *latifundios* were characterised by low crop-yields, underutilisation of the land, and labour employed under precarious conditions; discussions during the 1998 Constitution (Ecuador 1998) centred around the extension of the *latifundio* system.

– emerges, which was to translate in the modernist rejection of food sovereignty even as this was legislated into public life.



Figure 4.3 Members of the National Assembly (ANC), Montecristi

4.4 Translation of the proposal into the draft constitution

In Committee 6 and in the Assembly the negotiations were particularly complex on two central issues: 1) the relevance of introducing a food sovereignty proposal instead of the food security perspective, already existent in the 1998 Ecuadorian Constitution; and 2) the need to carry out an agrarian reform that would also address issues related to the control of water and mining resources. The aim here is to describe the operation of the networks that were in favour of and opposed to the introduction of the food sovereignty proposal and agrarian reform.

Discussions in the ANC to include these two points took place through the consideration of written texts. In the following section, therefore, I will observe the central role of language, bearing in mind the type of observ Rose and Miller (2010)

Language is not merely contemplative or justificatory, it is performative. An analysis of political discourse helps us to elucidate not only the *systems or thought* through but also of the *systems of action* through which they have sought to give effect to government' (Rose and Miller 2010, 275).

4.4.1 Food sovereignty or food security

The proposal for food sovereignty was presented to the members of the food sovereignty network and had different focuses depending on the organisation. Despite their differences, however, the network members had a more or less common understanding concerning of what should be included regarding food sovereignty in the new constitution. The network as whole, therefore, takes the place of an actant in the process of preparing the constitution with respect to food sovereignty, and as such must be regarded as fundamentally weak in its starting assumptions (see below).

As mentioned, in October 2007, before the ANC convened, CONAIE and ECUARUNARI had already sent a proposal for the constitution to congress. From Chapter X of the document sent by CONAIE (2007, 120-122), 'Of Agricultural Development and Agrarian Reform', it is apparent that their idea of agrarian development is linked with the ideas on food sovereignty, developed by *Via Campesina*:

The integral and sustainable development of agricultural, livestock, aquacultural, fishery, handicraft, and agroindustrial activities, which provide quality products for the internal market, shall be the permanent objective of the State with the purpose of making food sovereignty a reality... (CONAIE 2007, 120)

Key elements of the seven principles proposed by *Via Campesina* (mentioned in Chapter 1) included:

- A concern that the state give priority to small and medium-sized producers
- An interest in preserving access to healthy and cultural suitable nutrition
- An emphasis on stimulating sustainable agriculture
- A stress on the preservation of ancestral knowledge and on the conservation of biodiversity, and the prohibition of transgenic organisms
- A concern that small producers participate (through associations) in taking decisions on the national plan for development.

Crucially, however, what was missing here was any reference to the fundamental issue of land and agrarian reform (again, see below). FENOCIN (2008) drew up a document 'FENOCIN: For a National Agrarian Plan and Interculturality', which was delivered to President Correa on the 20th March, 2008. In this document, less comprehensive than that of CONAIE, it was argued that the first requirement was to advance food sovereignty in the constitution, with *Via Campesina's* idea of food sovereignty presented, transcribed almost word for word:

[It is necessary to promote certain constitutional concepts which guarantee food sovereignty for the population starting from national agricultural production, fostering agroecological systems and avoiding dependence on food

imports, protecting and stimulating peasant agriculture, small and medium-sized producers and community sectors through access to land, water and basic services for the production of healthy, suitable, adequate, sufficient food. (FENOCIN 2008d, 3)

In addition, FENOCIN (2008d, 6) promoted agriculture for the internal market, and an appreciation of 'traditional' knowledge; it also put special interest on the strengthening of agroecology. Regarding participation and democratic involvement, it proposed the 'strengthening of rural territorial planning in a participatory way, oriented to the organisation of production in predominantly peasant lands' (FENOCIN 2008d, 7). Both FENOCIN's proposal and that of CONAIE emphasised the link between food sovereignty, the participation of small and medium-sized agriculture, and the necessity for agricultural production to be first destined for food and internal consumption, and then for export, and also respect for ancestral knowledge.

In 2007, before the ANC met, SIPAE published the book 'Towards an Agenda for Peasant Economies in Ecuador' (*Hacia una Agenda Para las Economías Campesinas en el Ecuador*), in the sixth chapter of which three strategic elements are stipulated to achieve an 'equitable, inclusive and sustainable' agriculture, namely, food sovereignty, integral agrarian reform and land-use management. Referring to the issue of food sovereignty from a political economy perspective, SIPAE established a relationship here between culture and ecosystems with the aim of preserving the peasant economy, a central element for cultural reproduction. Aspects of this that were later included in the constitution and laws were

Food Sovereignty: This is not only to guarantee the right to food and protection by the State of peasant production, which besides producing food, provides employment to an important segment of the population; it is also to guarantee the survival of forms of production which conserve and maintain the diversity of ecosystems and maintain diversity of agricultural species, and it is to guarantee the *survival of the peasant economy*... (SIPAE 2007, 73; emphasis added)

During January and February 2008, researchers from SIPAE visited the ANC at Montecristi and met with some of the constitutional committees to present their proposal. The proposal they presented was published in their bulletin, 'Agrarian Alert' (*Alerta Agraria*), of March 2008. This proposal consisted of three parts: 1) democratisation of land, 2) food sovereignty and the right to food, and 3) social and environmental regulations on agroindustry (SIPAE 2008b). Concerning food sovereignty, the concept and proposal were almost identical to those of FENOCIN, with an emphasis on agroecology, support for small and medium-sized producers, and the fostering of local and regional markets, along with support for women farmers, advocacy of the categorical prohibition of the use of transgenic seeds and the promotion of social research (SIPAE 2008b, 9-10). SIPAE's affiliation with contemporary thinking and a politically oriented

economics was clear in this bulletin, in that they advocated the welfare of peasants and indigenous peoples, economic development was regarded as central for the survival of cultures, and nature regarded as an entity that should be respected and preserved to guarantee the survival of societies.

Composed mainly of NGOs and part of the food sovereignty network, the Agrarian Collective (*Colectivo Agrario*) took charge of systematising the constitutional proposals put forward by the indigenous organisations and, according to (Rosero 2008, 5), prepared a document that was not published because the organisations did not reach a consensus, especially on pluri-nationality and intercultural issues. However, on the topic of food sovereignty, those participating in the fight against the FTA – indigenous movements, peasant movements, NGOs and IOs – did have a common understanding and discourse.

As mentioned, a problematic point during the negotiations to introduce the food sovereignty proposal was the lack of knowledge of most of the assembly members, politicians and the press concerning its meaning. Salomón Fadul (El Universo 2008b) of the PSC acknowledged before members of the press that minority groups also were not familiar with the concept. The most frequent explanations for denying the importance of introducing the proposal into the draft constitution were twofold. First, there was the argument that a food sovereignty proposal was unnecessary because there was already a food security law and there was no significant difference between the two. In effect, various Ecuadorian scientists in the field of health and also some members of the IOs put forward the idea that a food sovereignty proposal was unnecessary because in the 1998 Constitution there had already been incorporated the subject of food security and the Law of Food Security was still in force (Naranjo 2008).

The apparently innocent idea that there was a lack of need since a food security law already existed was actually the starting point for a political strategy generated against food sovereignty. One Assembly member of the PSC stated that ‘One should not speak of sovereignty since sovereignty refers to a territory, and not to food; we would need to speak of food security’ (El Universo 2008a). This confusion, apparently, became a semantic issue. Definitions of ‘food sovereignty’ and ‘food security’ were knowingly distorted and the two terms often used as synonyms. What is guaranteed in the 1998 Ecuadorian Constitution, explicated in a rights-based framework in Clauses 6 and 20, was, indeed, food security – food as one of the essentials of life – alongside but not linked to culture, peasants’ control over the land, seeds, and the local provision of food. Rights’ recognition affording legally enshrined guarantees was given to

6. The right to live in a healthy environment, ecologically balanced and free from pollution. The law shall establish restrictions on the exercise of certain rights and freedoms in order to protect the environment.

20. The right to a quality of life which ensures health, food and nutrition, potable water, environmental sanitation, education, work, employment, recreation, housing, clothing, and other necessary social services. (Ecuador 1998)

The second reason for rejecting the need for a food sovereignty proposal was its promotion and consequent perception as a subversive discourse from Cuba whose main objective was to change the agrarian structure. The press, especially the newspapers, *El Comercio* and *El Universo* (Calderon 2008) contributed to this ‘spin’. An article in *El Comercio* explained:

The Food Sovereignty proposal has more to do with a political and ideological concept. That precept is new and arose as a result of the pressure of peasant movements throughout the world concerning access to foods. And it was reaffirmed at the Havana Convention. (El Comercio 2008a)

Lobbying against the inclusion of constitutional articles referring to food sovereignty made their introduction difficult, and though these were eventually introduced, their inclusion as food sovereignty articles was essentially nominal, since they did not properly represent the *Via Campesina* discourse fostered by the network, and, rather, were closer to the discourse of the industrial food system (*agroexportación*). The text that Committee 6 sent to the first debate of the general assembly was one with which all the development and social organisations that were part of the food sovereignty network were unhappy. As Rosero (2008) stated, ‘It was a salute to the flag of food sovereignty’.

As a result, Luis Andrango, FENOCIN⁸⁸ member and advisor to Pedro de la Cruz (the committee chairman), invited all the organisations linked to the food sovereignty network to a meeting. The objective was to achieve a consensus on what ought to be introduced into the constitution. It is evident that the network members had some problems in achieving this as can be seen in a part of the following letter of invitation:

Regarding the texts on Food Sovereignty, which have taken us at least a month in the search for a minimum consensus for their approval... we must recognise that favourable circumstances do not exist for the approval of the first texts ..., and the texts which were finally approved have limitations which are the result of personal interests..., and this includes members of *Alianza País* who were part of our committee and, without doubt supported the political definition of the President of the Republic concerning agribusinesses and transgenic products in opposition to the position of the president of the Assembly... (Rosero 2008)

However, the results of the work of the food sovereignty network did eventually bear fruit, it seems, since, in the end, a definition of food sovereignty quite similar to the *Via Campesina* original was introduced – albeit without, of course, any reference to land

88 In 2009, Luis Andrango was elected President of FENOCIN, and in 2010, Executive Secretary of CLOC-VC (the Latin American Coordination of Rural Organisations of *Via Campesina*).

reform. Thus, in the draft constitution proposed by the ANC (Ecuador 2008, 24), it was stated that:

Food Sovereignty constitutes a strategic objective and an obligation of the State to guarantee that persons, communities, peoples and nationalities achieve self-sufficiency in healthy and culturally appropriate foods in a permanent fashion.

This was developed in the Second Chapter, Sections One and Two, and in the Third Chapter related to Development Policy (*Régimen de Desarrollo*), particularly in Articles 13 and 281 (Box 4.1). If this is compared with the formulations proposed by CONAIE, FENOCIN and SIPAE, it is evident that their proposals on food sovereignty carried the day in the initial struggle, with regard especially to the clauses on fostering the production of small and medium-sized farmers, extending preferential mechanisms of finance, promoting and recovering agro-biodiversity, fostering the use and exchange of ancestral seeds, developing scientific research, regulating the use of biotechnology and generating fair systems of food distribution.

Equally, most of the issues raised in the seven food sovereignty principles of *Via Campesina* are addressed in the draft constitution. These include the right to food, the protection of natural resources and the recovery of agro-biodiversity, the reorganisation of trade in food products through fostering peasant organisations and producer and consumer networks, the need to control food monopolies and the fostering of social peace through boosting food programs.

In short, agreement was reached by the ANC to introduce a food sovereignty proposal in the new constitution with postulates similar to those of the network and, thus, of *Via Campesina*. As a result, on 24th July 2008 the ANC passed the new draft constitution, which was ratified on 28 September of the same year. The Constitution was now an actant in the protection and delivery of food sovereignty. The question now, therefore, is how this would be changed before becoming law and how strong a role it would then play in determining the specific legislation to follow. First, though, the second, crucial issue at play during this process should be examined, that of land reform, and its relationship with the food sovereignty proposal.

Box 4.1

Box 4.1 ANC constitution: Articles 13 and 281

Article 13. Persons and collectivities have the right of secure and permanent access to healthy, sufficient and nutritive food, preferably produced at local level and consistent with their diverse cultural identities and traditions. The Ecuadorian State shall promote food sovereignty.

Article 282. Food sovereignty constitutes a strategic objective and an obligation of the State in order to guarantee that persons, communities, peoples and nationalities achieve permanent self-sufficiency in healthy and culturally appropriate food. For this, it shall be the responsibility of the State:

1. To foster agrifood and fishery production and the transformation of small and medium-sized units of production, communities and the social and supportive economy.
2. To adopt monetary, tax and tariff policies which protect the national agrifood and fishery sector, to avoid dependence on food imports.
3. To strengthen diversification and the introduction of ecological and organic technologies in agricultural production.
4. To promote policies of redistribution which allow access of the peasantry to land, water and other productive resources.
5. To establish preferential finance mechanisms for small and medium-sized producers, facilitating the acquisition of the means for production.
6. To foster the preservation and recuperation of agrodiversity and the ancestral knowledge associated with it, as well as the use, conservation and free exchange of seeds.
7. To ensure that animals destined for human consumption are healthy, and are bred in a healthy environment.
8. To ensure the development of appropriate scientific research and technological innovation to guarantee food sovereignty.
9. To regulate under biosafety standards the use and development of biotechnology, as well as its experimentation, use and marketing.
10. To strengthen the development of producer and consumer organisations and networks, as well as those for the marketing and distribution of food which promote equality between rural and urban areas.
11. To create fair and supportive distribution and marketing of food products. To prevent monopolistic practices and any kind of speculation with food products.
12. To provide populations who are victims of natural or man-made disasters which put access to food supplies at risk. Food received via international aid should not affect the health or future production of locally-produced food.
13. To protect the population from the consumption of contaminated food, or that which puts their health at risk, or that where science has doubts over its effects.
14. To acquire food and raw material for social and food programmes, with priority to associative networks of small producers.

4.4.2 Agrarian reform, agrarian revolution, democratisation of land or national land fund

According to the report made by the Carter Center (2008, 43), ‘The most controversial aspect when discussing the Development Policy was the right to land and property’. In fact, the parties of the right and the corporations linked to agribusiness were opposed to substantial changes in the agrarian structure in Ecuador; assembly members of both PRIAN and the PSC expressed their opposition. As Rosero (2008) confirms, the 2008

Constitution included the consensual suggestions from Quito under Article 281 (on food sovereignty), while it is again stated that the main confrontation concerned land, water and technical assistance, issues on which no agreement was reached as is manifested in an imprecise manner in Article 282 (Box 4.2):

Box 4.2:

Box 4.2 ANC Constitution: Article 282

Art. 282.- The State shall regulate the use of and access to land which shall fulfill its social and environmental function. A national land fund, established by law, shall regulate the equal access of peasants to land.

The *latifundio* and concentration of land is prohibited, as is the hoarding of water and its sources.

The State shall regulate the use and management of irrigation water for food production, under the principles of equality, efficiency and environmental sustainability.

The controversy was between the radical position – in the sense of getting to the roots of the food insecurity problem – which put forward the issue of access to productive resources: land, water, credit, technical assistance and training, and a light position which sought to introduce the topic of food sovereignty but without addressing the critical points, with the expectation of doing that later in laws and regulations (Rosero 2008).

In other words, although the main food sovereignty issues appeared to be addressed in the Article 281, this was really not the case. It was the ‘light’ position that had been adopted, a verbalisation (with consequences in future acts of governmentality) that followed the food sovereignty discourse but left the hard issues not only unresolved but unaddressed as can be seen in Article 282 (Box 4.2). In spite of the fact that none of the actants had a proposal for a change in the agrarian structure on their agenda, there had been a debate on land redistribution and agrarian reform, or ‘land democratisation’, as SIPAE called it – but it was problematic, due to two types of complexity. On the one hand, there was the multiplicity of actants and interests within the food sovereignty network (which failed to take up a unified position regarding whether or not to push for a transformation in the agrarian structure), and on the other hand, the fact that the large

groups linked with agribusiness were interested not only in avoiding a change in the agrarian structure but also in restricting the scope of the 1998 Constitution concerning land ownership and what was understood by *latifundio*.

The stances taken by CONAIE and FENOCIN in respect of whether to push for changes in the agrarian structure via the constitution underwent various changes during the ANC period. In some cases, these changes in position were due to the new alliances they formed. For CONAIE, as mentioned, the priority was the declaration of the Ecuadorian state as plurinational, so its energies were directed towards achieving this goal, although it did support agrarian reform. This was evident from two magazine interviews given by CONAIE leader, Luis Macas: one for *América Económica* and the other for *In Motion*.

In the first interview, Macas followed the historical position of CONAIE by mentioning that its priority for the ANC was ‘the construction of a plurinational state, acknowledging the diversity of cultures’ (Montero 2007). On August 31st, answering a question from Nic Paget-Clarke (2007) of *In Motion* magazine, ‘What is the situation on land ownership?’ Dr Macas answered:

We believe that at this time a new agrarian reform is important for Ecuador in order to encourage production from the hands of peasants, peasants with medium-sized holdings, small producers who are the ones that feed these peoples... (Paget-Clarke 2007)

In October 2007, however, while CONAIE’s constitutional proposal made it clear that it believed the state should foster the development of ‘a sustainable agrarian model’, and, in Article 346, it proposed that the state ‘guarantee’ ownership of land in production and ‘stimulate’ the agricultural and livestock business – but it made no mention of agrarian reform. ECUARUNARI and CONAIE, in their constitutional proposal, put forward the redistribution of land as a central element which should appear in the constitution. Thus, under the subheading ‘Land’ (Ecuadorunari-CONAIE 2007, 4-5):

1. The State shall advance and stimulate policies aimed at guaranteeing access to land and its fair distribution.
2. The maximum extension of private and individual landholdings shall be limited according to regional and soil conditions, in order to avoid the *latifundio*.
3. [On water]1. It shall be a common good for humanity and a strategic resource of social and communitarian function, regulated and administered by communities, peoples and nationalities themselves, and protected by the State.

On arriving at Ciudad Alfaro, FENOCIN director Manuela Cocabango, proposed 'Agrarian Revolution' (*Revolución Agraria*) as a strategy (FENOCIN 2008d), which was in line with the proposal of the government party, *Alianza País*:

This revolution must include the redistribution of land, the de-privatisation of water, the sustainable management of natural resources, the protection and conservation of biodiversity, respect for cultural identity, and interculturality (FENOCIN 2008c).

In the same year, in the document sent to the ANC, it was explained what FENOCIN understood by 'Agrarian Revolution', namely

- ...to strengthen the rural social fabric based on national, regional, provincial and local organisations;
- ...to establish direct links with all the public sector institutions which have to do with rural and agricultural development;
- ...to manage programmes and projects jointly by institutions and small and medium-sized agricultural producers;
- ...to empower new practices based on partnership... (FENOCIN 2008d, 5)

Plainly, this was far from what Cocabango had in mind, since this Agrarian Revolution did not entail a change in the agrarian structure or a redistribution of land – nor even was the state asked 'to guarantee' land ownership and water administration on the part of indigenous communities.

In the book published by SIPAE before their participation in the ANC (above), there was a proposal for the development of peasant economies. This included three strategic pillars, of which one was 'Agrarian Reform':

[T]he democratisation of land ownership is a crucial issue for the future of peasant economies, since the peasants have less land as a result of: reconcentration, loss of fertility, and extreme fragmentation of land. (SIPAE 2007, 74)

During SIPAE's visit to the ANC, issues like 'democratisation of land' were discussed – although no reference to 'agrarian reform' was made – and it was under this new heading that SIPAE's proposal was presented. It states, thus, regarding land ownership:

The state shall guarantee access to land for productive ends through the implementation of local control mechanisms on land ownership, which recognise other forms of land use with productive ends, and at the same time guarantee owners' rights. Land grabbing and unproductive *latifundio* are proscribed. (SIPAE 2008b, 7)

SIPAE also proposed an explanation of the meaning of the 'social, economic and environmental functions of land' from a modern perspective, where land is a natural resource to be exploited respecting environment and human rights (SIPAE 2008b, 7). Obviously this was a more radical position than that adopted by FENOCIN.

In essence, there did not exist a consensus to propose a change in agrarian structure among the members of the food sovereignty network, and agrarian reform was mentioned only twice in the entire constitutional proposal, partly due to a historical agreement with previous governments which decreased the interest of fighting for land reform.⁸⁹ In the meeting in Quito, organised by FENOCIN, no agreement was reached on this issue, so what they did was to accept consensually that one article should be incorporated where the 'catechism' of food sovereignty was introduced, and another where an agrarian revolution should be pushed for.

The group of actants opposed to food sovereignty were able to make use of their links with the media to direct public discussion towards the disadvantages of agrarian reform. According to the main newspapers, *El Comercio* and *El Universo*, there was a heated controversy on this issue. Agribusiness lined up against any change, while in Committee 6, PSC member Salomón Fadul told the *El Universo* newspaper that the 'social function' of land was subjective, adding that:

It [land reform] is not new, it was used in the 1990s and it has never been expanded on, and it referred to the function that rural and agricultural land should fulfil; but now, with the issue of ownership, all property is incorporated, not only land ownership, so private ownership is in danger. (El Universo 2008a)

89 The question as to why the indigenous movements and NGOs were not anxious to push for a new agrarian reform during the Assembly is a matter of historical analysis beyond the scope of this thesis. According to Zamosc (1994, 42-43) the two land reforms in Ecuador played a key role, changing the structure of the state and contributing to the redistribution of land, while according to Bretón (2008), agrarian reform was the discourse that organised rural development in Ecuador. Generally, it is argued, the fight for land was a central element up until the 1990s (De la Torre 2004, Bretón 2008). From the time of the indigenous uprising of 1990, the priorities of this fight had been the recognition and strengthening of their ethnic identity. In fact, during the uprising, a central element on the negotiation agenda was unresolved land conflicts, but CONAIE accepted the formula proposed by the government of Rodrigo Borja, which entailed the creation of a national fund of lands and agrarian development programmes instead of agrarian reform (Chiriboga 1999). In 1994, the main indigenous organisations of Ecuador joined together in the National Agrarian Coordination (*Coordinadora Agraria Nacional*) to oppose the Agrarian Law by organising the second national indigenous uprising, which paralysed the entire country for a month (Becker 2008, 182). This coalition only lasted a short time, however, and was dissolved after achieving a negotiated settlement with the then president Sixto Durán Ballén. On this occasion, the National Agrarian Coordination, CONAIE among them, had accepted the end of agrarian reform in exchange for state support to maintain collective property (land) and the withdrawal of the proposal to privatise water. Nevertheless, according to Becker (2008, 182), 'This mobilization revealed that land rights continued to be a central demand for indigenous organizations and remained a defined characteristic of Indigenous movements'.

In the end, the principal discourses – the demands of the network (to introduce a genuine food sovereignty) and the interests of certain parts of the government and the elites together with agribusiness (to avoid a change in the agrarian structure) – were bridged by the compromise of coexistence in the same constitution. The right of persons to secure access to food products ‘produced at local level and corresponding to the different cultural identities and traditions’ was stated in Article 13; in Article 281 the aim to ‘promote redistributive policies which allow peasants access to land’ was mentioned, but no change in the agrarian structure. And, in Article 282, a concrete proposal for the redistribution of land was clearly avoided. (Box 4.2)

... A national land fund, established by law, shall regulate equitable access of the peasants to land. The *latifundio* and the concentration of land are prohibited, as well as land-grabbing or the privatisation of water and its sources. (Ecuador 2008)

It is interesting to note that in this article there is no mention of a need to guarantee access to land for productive ends, as SIPAE had proposed. Instead of a reform in the agrarian structure that would guarantee access to land, a national fund of land was proposed, this being an initiative of the World Bank from the 1990s.⁹⁰ Also, in Article 282 (Ecuador 2008), the state assumes the responsibility to regulate the use and management of irrigation water, which may avoid its privatisation – or may allow for that, albeit state regulated – but certainly hinders the management of water by the indigenous communities.⁹¹

Finally, as indicated (above), the constitution adopted became an important mediator in itself. Thus, as an actant, it caused the members of the Assembly to adapt their discourses to the new constitution with the referendum that had to ratify it in mind. The right, despite having managed to avoid any direct reference to significant agrarian reform, continued to employ an anti-agrarian reform discourse with the aim of obtaining votes against the new constitution. For their part, the members and allies of the governing party did not speak any more of agrarian revolution, or of agrarian reform. In a *La Hora* news item, it was stated that in response to the accusations of the groups on the right that the government was attempting to modify land ownership, two members of the Assembly with ties to the network and the government explained that agrarian reform had been ruled out. Thus, Norman Wray, an important member of the left, member of

90 Starting in the 1990s, the World Bank proposed a market-assisted agrarian reform (Borras, Kay and Lodhi 2007, 9-11). According to Mendes (2007) the World Bank led a second generation of structural reforms during that decade that had ‘four main lines of action: incentives for land lease; incentives for land trading; privatization and individualization of property rights in collective and state farms; and privatization of public and communal lands’ (Mendes 2007, 22).

91 In the Andean region, water administration is a right that has been historically enjoyed by peasant irrigation associations and which indigenous communities – even today – conceive as a sacred responsibility (Sherbondy 1998, 229-30).

the government party *Alianza País* and ANC member, assured the press that the new constitution would ‘foster the social function of property... without necessarily going so far as an agrarian reform’ (La Hora 2008b).

4.4.3 Assessment: problematic beginnings and a final twist

Summarising the first phase of the transition of the *Via Campesina* concept through network demands into Ecuadorian law through inclusion in the constitution, we should note that the mandates related to food sovereignty and the reorganisation of land ownership suffered different fates. The food sovereignty proposal was introduced following the suggestions of the members of the food sovereignty network, with general guidelines that the movements and NGOs hoped would be established in law, while the issue of agrarian reform or agrarian restructuring – a central element of the *Via Campesina* proposal – was translated into a simple mandate that the state should regulate the use of and access to land.

This translation was significantly the result of the moderate proposals of the indigenous movements. Most of these actants did not prioritise a call for radical changes in land distribution; perhaps they saw a disjunction between ‘a desired utopia and a realisable change,’ in Rosero’s (2008) characterisation of the results of the negotiations in the ANC. Certainly, it would seem, a process of weakening during the development of food sovereignty can be traced back to the basic division into food sovereignty and agrarian reform, the latter referring especially to land and the former thus somewhat narrowly defined. With land separated in this way, the food sovereignty proposal was inherently undermined.

SIPAE’s perspective on what was achieved in the 2008 Constitution was ambiguous, and reveals the historical moment it was experiencing regarding the government of the Citizens’ Revolution. SIPAE regarded the newly proposed constitution as an advance on the 1998 Constitution (because it introduced food sovereignty as a way forward), and also recognised the limited achievements regarding land ownership, but it placed these gains within a wider structural context of failure:

[In a]gricultural land ownership [and] rural women’s rights... advances were still very limited ... But that limitation, which alludes to a structural issue, is a limitation which in general terms appears throughout the Constitution, since it does not institutionalize mechanisms which would contribute to changing in any substantial way the social relations of production.

Another serious limitation is the fact that there are no specific dispositions concerning agroindustry; serious, because ours is a country in which this branch of production occupies an important agricultural land surface, it occupies a significant number of workers, and causes the displacement the peasant

population, violations of labour rights and over water use, and high levels of pollution. (SIPAE 2008c, 4)

The last stage in the process of the translation of the network idea of food sovereignty to its expression in the constitution occurred during the concluding writing process at the Assembly. Here, there was a nasty surprise in store, since the committee in charge of drafting (*Comisión de Redacción*)⁹² the constitution to be submitted before the people changed the text referring to food sovereignty. In the version passed by the Assembly in a plenary session, it had been stated that ‘the State shall *guarantee* food sovereignty’; in the definitive text submitted to the referendum, it was stated that ‘the State shall *foster* food sovereignty’ (Carter 2008, 48; emphasis added).

Political reactions downplayed the adjustment. Leaders like Alberto Acosta expressed the belief that ‘such modifications do not alter the text in its substance and should not be appealed to in order to reject the plan for the new constitution, as some sectors of the opposition are doing’. Pedro de la Cruz told the press that he had not noticed this change, but he was preparing an official complaint: ‘We are not going to allow a committee, however enlightened they might be, to change that which we have agreed upon.’ The drafting committee defended itself against accusations of fraud, indicating that ‘the term ‘guarantee’ is used in the constitution only to guarantee civil rights, and food sovereignty is not a right which can be fully enforced’ (El Universo 2008d).

In spite of the apparent agreement of the assembly members belonging to the network with the suppression of agrarian reform, many members of the network like Luis Andrango, FENOCIN’s president in 2008, hoped that the law could achieve what the constitution could not (FENOCIN 2008b); that is, in contrast to his colleague, Pedro de la Cruz, Andrango continued advocating a change in the structure of land ownership.

4.5 Drafting the food sovereignty law

Do you believe that boosting agricultural exports, the anti-food sovereignty discourse and the few achievements with the Food Sovereignty Law go hand-in-hand?

You have to read the law with care. At the beginning some assembly members showed sensitivity to the demands of the movements of the collectives and a more or less interesting draft of the Food Sovereignty Law was accomplished. Not too much. But the presidential veto eliminated all these achievements and it was reduced to a legal framework. In other words, everything was changed.

Cecilia Ponce (2009)

92 In principle this committee had a mandate just to improve the grammar of the constitutional text. The members of this committee were appointed by the ANC president, who at that time was Fernando Cordero, a member of the government party.

Beginning with an analysis of the three elements that have a close relationship with the ontological proposal for food sovereignty, the focus here is placed on the ways in which the food sovereignty proposal laid out in the 2008 Constitution was obscured and, in its place, a modernist and economic-development vision of agricultural development was introduced.

After the public had approved the Constitution and while the Legislative Commission (CLF) was still in existence (from 27 October, 2008 to 30 July, 2009), eight laws considered as priorities and central to the development of the country were approved. One of these foundational laws was that of Food Sovereignty. The government presented the CLF with three drafts: from the Ministry of Production, linked directly with the Presidency and the Chambers of Production and Commerce, the drafted by the National Secretariat for Planning and Development (*Secretaría Nacional de Planificación y Desarrollo, SENPLADES*), and the drafted by the Health and Environment Commission, which would be responsible for implementing the law.

From the moment when the President had been presented with the draft version of the constitution, the food sovereignty debate had become polarised. On the one side were ranged the Chambers of Production and Commerce, the agro-exporting companies and the Presidency, and against them, on the other side, the food sovereignty network, the indigenous organisations and the NGOs, who defended small producers and worked with the CLF as advisors.⁹³ Following the new constitutional precepts of participation,⁹⁴ some Assembly members pushed for the drafting of legislative proposals among the network members and other organisations. Now, as well as the drafts prepared for the government, the indigenous movements voiced their positions in a variety of ways.

ECUARUNARI (2008) sent another (so fourth) legislative proposal, CONAIE made comments on the drafts sent by SENPLADES and by the presidency, and FENOCIN also made comments on the draft laws produced by the government institutions. Some of the NGOs and international organisations drew up proposals, which were disseminated and discussed in national workshops like the 'Land and Food Sovereignty Seminar' (*Seminario Tierra y Soberanía Alimentaria*) organised by SIPAE and other NGOs.

By the end of December 2008, the Health and Environment Commission of the CLF with the participation of various members of the Agrarian Collective (see Note 24) had drawn up a legal framework (Rosero 2008) for what was to become known as the LORSA, the Organic Law of Food Sovereignty (conceived of as 'organic' because it protected other laws, like those relating to land ownership and the redistribution of water, which were enacted years later). This document was sent to the Presidency where

93 After the conclusion of the ANC, some of the national and international NGOs formally established a group called the Agrarian Collective (Colectivo Agrario 2009, 5), some of whose members had worked as advisors to the Environment Committee of the ANC.

94 Articles 95 and 96 of the 2008 Constitution.

it was vetoed and amended (thus producing a fifth version). Although the amendments were discussed in the Legislative Assembly, this proposal did not receive a majority vote. On 5th May, 2009, however, it was passed (by *Ministerio de la Ley*). In fact, this absence of a majority was due to the fact that with the law modified according the requests of the president, Correa, on the day of the vote a group of assembly members, together with some of the opposition, left the assembly, leaving it without a quorum.



Figure 4.4 Land and Food Sovereignty Seminar, 2008

One of the leaders of the food sovereignty network clearly expressed the inadequacy of this law:

It is supposed that laws regulate, prohibit or permit. The LORSA is a law which does not do that. What this law does is refer to other laws which are not yet ready. For example, those related to the land issue, the water issue. (Ponce 2009)

During the drafting of the food sovereignty law, proposals of different kinds had been developed: complete formulations of the law, comments on the drafts or proposals sent, and letters where specific ideas on the issue were presented. In addition to the draft laws presented by the different institutions of the State (mentioned above), ECUARUNARI sent in their proposal; after that the Environment Commission with inputs from all the proposals presented and, in consultation with the NGOs that were part of the food

sovereignty network, produced a draft (the ONG draft) and the final version, corrected by the secretariat of the presidency and published in the Official Register on 5th May, 2009.

During the drafting of the LORSA, the process of translation advanced and directly affected the principles of food sovereignty that had been inserted into Article 281 of the Constitution. Here, the transformation of the legal proposal from that sent by ECUARUNARI (where elements of the original political and ontological proposal were kept) to the enacted law is clear. Following ANT, I propose that the process of 'translation' here – or, the creation of a new understanding (Latour 1994, 32-9) – was a mediated process. The mediator for this translation of the meaning of food sovereignty was the draft of the law proposed by the NGOs in cooperation with the Committee for Health and the Environment (*Comisión de Salud y Medio Ambiente*) (CAFOLIS 2009). This was the draft law that was first worked on in the committee and then later in the Presidency.

Starting from an analysis of three elements that have a close relationship with the ontological proposal for food sovereignty – 1) the relationship between culture-environment and food, 2) the relationship between ancestral knowledge and the production of scientific and the technological knowledge, and 3) and the democratic control or the capacity of small farmers to define their own agricultural policies – I now how a relational ontological proposal changed into a modernist proposal for agricultural development.

4.5.1 The relation between culture-environment and food

In the (LORSA) proposal sent by ECUARUNARI (2008), land is understood as the place where culture and ecosystems are reproduced, as a privileged territory and space for agricultural production, hunting and fishing. The meaning that land has here is broad: land or territory is not only a useful surface to produce food (social function), it is also a place of interrelated entities with a common history. In Chapter I, 'On Land, Agrarian Reform and Community Control of Territories' (*De la Tierra, Reforma Agraria y Control Comunitario de los Territorios*), it is stated that:

The State protects the natural ecosystems which form part of the traditional lands, territories, water resources, coastal waters of the indigenous people, afro-descendants, and montubios,⁹⁵ strengthens the relationship which they have with these ecosystems and other resources which they have traditionally possessed or occupied with the aim of guaranteeing their food sovereignty and that of future generations. (Ecuadorunari 2008, 10)

95 Coastal lowland peasants.

In addition, ECUARUNARI proposes that territory be conceived of according to the following:

Article 3. Ancestral community territory is a fundamental right for the reproduction of the identity and life of peoples and nationalities, as well as their historical continuity ...

Article 5. Territorial rights comprise the following:

The management, control and administration of natural resources within them.

1. The political-administrative domain of exercise of power of the Community Territorial Government of the nations, and peoples, communes and communities, and the other powers which this Law, the Political Constitution, and International Agreements and Declarations determine.

In the proposal drafted by the NGOs, these senses are thoroughly modified. The same title and chapter referring to land and water is transformed to 'Access to the Factors of Food Production' and, following the ideas embodied in the constitution, land and water are 'factors of food production', and nature generates 'goods and services' that should be protected. In the following articles of the law, it can be seen how the modernist perspective was introduced:

Article 6. Access to land. Use and access to land should fulfil its social and environmental function. [Constitutional mandate]

The social function of land entails access to the generation of employment, the fair distribution of income, the productive utilisation of land, and the maintenance of the environment.

The environmental function of land entails that this be administered in such a way that environmental goods and services which nature provides are protected and preserved; the fertility and health of soils are guaranteed; and which enables an integral management of watersheds, areas of forest and woods... (CAFOLIS 2009, 9)

Here, the link proposed by *Via Campesina* between culture, agriculture and the environment is minimised according to a discourse linked with political economy. Land, water and forests are thereby transformed into goods of which services and people are the beneficiaries as regulated by the state. The question that arises is thus why the NGO proposals were *ahead* of the state's proposals in transforming the sense of food sovereignty.

Essentially, according to the interviews and discussions in the forum, it appears that the group that drafted the document tried to attune with the government's ideas; it

attempted to adapt itself to a new way of organising the administration of the state, to forms of relations with it, in other words, 'a mode of ordering' (Law 1994, 20-21). In aligning with an anticipated executive construction, therefore, the NGOs effectively converted a participatory process to a version of top-down administration; a novel form of classical hierarchical direction was followed with the appearance of bottom-up procedures.

It is heavily ironic, according to this analysis, that the executive would seem to have been a little less radical in its implementation of the political economy perspective, since in the definitive (final) version of the LORSA, in contrast to the NGO version, at least a link is established between natural resources and people. According to this text, it is humans who should be at least partly responsible for conserving ecosystems and who are the beneficiaries and caretakers of other entities. Thus, Article 7 states:

Protection of agrobiodiversity. The State as well as persons and collectivities shall protect and conserve ecosystems and shall promote the recovery, use, conservation and development of agrobiodiversity and the ancestral knowledge linked to it. (Ecuador 2009, 4-5)

This, in fact, is closer to the ECUARUNARI proposal (although with notions of 'breeding' and 'reproducing' biodiversity that are more associated with relational thought, as shown in Chapter 2):

The State recognises the indigenous-peasant communities and traditional farmers as the principal breeders, conservers, and reproducers of agrobiodiversity, and that the conservation and reproduction of this has an intrinsic relationship with the preservation of cultural diversity and forms of peasant production... (Ecuadorunari 2008, 13)

4.5.2 The relationship between ancestral knowledge and the production of scientific and technological knowledge

Comparing ECUARUNARI's proposal with those of the NGOs and with the LORSA, it is two points are striking: 1) in the case of knowledge, the translation involved emphasising the importance of scientific and technological knowledge and minimising local knowledge; and 2) there was no suggestion of a dialogue of knowledge, but rather training and outreach.

The ECUARUNARI proposal established a link between reproduction (not conservation) of biodiversity, culture and local knowledge. Thus, to foster agrobiodiversity and food sovereignty it proposed:

- a. [The state] shall promote, finance and strengthen the initiatives of local populations for conservation *in situ*, including local community centres

for germplasm conservation, local fairs for the exchange of seeds, and other mechanisms for conserving agricultural and livestock biodiversity, through activities which enable the prevention of loss of genetic variability, particularly in areas where the local plant and animal varieties may be affected by the introduction or substitution of other species or varieties;

- b. [The state] shall create tax incentives to favour the use of agrobiodiversity... and its associated knowledge;
- c. [The state] shall create incentives for the production and use of traditional varieties, with the aim of supporting food sovereignty and reducing the causes of genetic erosion... (Ecuarunari 2008, 13)

Article 16. The State guarantees the use, conservation, commercialisation and free exchange of seeds ... (Ecuarunari 2008, 13)

Article 23. Centres for the Dissemination of Traditional Knowledge and Management of Agrobiodiversity (CDCTMA) should be created, under the control of peasant and indigenous organisations, with financing from the Special Fund for the Recovery and Conservation of National Agrobiodiversity. (Ecuarunari 2008, 14)

In the draft presented by the NGOs, there is a section called 'Research and Exchange of Knowledge'. Despite this title, it is the importance of training and of scientific research that is explained. The training is aimed at peasants and food processors, and the research is led by scientists. In other words, a clear difference is made between those who have the knowledge and those to whom the knowledge is imparted. Here there is no mention participatory research:

Agrifood Research.⁹⁶ The State shall foster training and scientific and technological research into agrifood, which shall have as its aim to improve the nutritional quality of food, productivity and food hygiene, environmental sustainability of ecosystems and to improve and develop suitable techniques for small and medium-sized production-related to peasant culture, ecosystem equilibria and agroecological production. Training and research shall be developed in coordination with and complementarily with producers, especially small and medium-sized producers (CAFOLIS 2009, 10-11)...

Financing for agrifood research shall appear in a special item within the State's budget.

The exchange of knowledge shall be coordinated by the National Council for Food Sovereignty.

96 Emphasis original.

The State shall strengthen public institutions dedicated to agrifood research, like universities, polytechnic schools and specialised centres of study through the allotment of resources. (CAFOLIS 2009, 10-11)

In the LORSA, the generation of scientific knowledge and the transfer of technology are stressed, and it is stated that the state will ensure the preservation of ancestral knowledge. In the first paragraphs of Article 9, the importance of scientific and applied research and the generation of technologies is highlighted. Also, systems of agricultural outreach are proposed in order to transfer technology ‘respecting ancestral knowledge’.

In the following paragraph of the same article, the law fosters the maintenance, protection and development of ‘collective knowledge, sciences, technologies, ancestral knowledge and genetic resources which biological diversity and agrobiodiversity contain’. Thus, under the title ‘Research, technical assistance and dialogue of knowledge’ there are established confused and not very convincing regulations, because of evident mismatches between scientific knowledge and traditional knowledge:

Article 9. Research and outreach for food sovereignty.⁹⁷ The State shall ensure and develop scientific research into agrifood, which shall have as its aim to improve the nutritional quality of food, productivity, food hygiene, as well as to protect and enrich agrobiodiversity.

In addition, it shall ensure applied and participatory research and the creation of an *outreach system*, which will *transfer the technology generated in the research* in order to provide technical assistance, based on dialogue and knowledge exchange with small and medium-sized producers, valuing the knowledge of both men and women. [Emphasis added.]

The State shall ensure respect for the right of communities, peoples and nationalities to conserve and promote their practices of biodiversity and environmental management, guaranteeing the necessary conditions so that they may maintain, protect and develop their collective knowledge, sciences, technologies, ancestral knowledge and genetic resources which biological diversity and agrobiodiversity contain. (Ecuador 2009, 6)

In Article 11, the creation of a national technology transfer system directed at small and medium-sized producers is envisaged. The precision with which the creation of this structure for ‘technology transfer’ is regulated contrasts sharply with absence of a definition as to how a ‘dialogue of knowledge’ will take place.

Regarding the connection between traditional and scientific knowledge, there is not much difference between the NGOs’ proposal and the LORSA. In both cases there are knowledgeable subjects who will provide ‘participatory’ training, with the addition, in

97 Emphasis original.

the case of the LORSA, that the knowledgeable subjects ‘shall transfer technologies’. According to Rosero (2008, 16), during lobbying strong actants like MAGAP always demanded a leading voice on agricultural issues, arguing the sound knowledge of their technocracy. It is clear here that in neither case was the idea of a dialogue of knowledge as a way of learning, as understood by *Via Campesina*, on the agenda. Rather, the view furthered by the Green Revolution, of ‘technology transfer’, was held.⁹⁸

The proposal of technology transfer assumes a modern and statist vision of how knowledge is constructed, of who are the experts and who are the learners. For Winter (1997, 265), ‘technology transfer’ means not only the dissemination of new ways of thinking and new technologies from the researchers or experts to farmers, but introduces new practices and also implies a way of perceiving farmers as passive recipients, and not as active participants; it implies that it is impossible for farmers to be capable of producing knowledge outside of ‘science’.⁹⁹

One of the anonymous advisors to the Health and Environment Committee was of the opinion that negotiation around this law was difficult because of the impossibility of reaching minimal agreements among the members of the government party itself. To avoid fragmentation among these, the scope of the LORSA was minimised, ‘so the result was a law which basically established a procedure for designing a future body of legislation’:

The Law of Food Sovereignty, being a legal framework merely expressed the decision of the government to postpone discussion of crucial issues like land, water and transgenic organisms. They just dragged their feet on the issue. As Juan Domingo Perón said, ‘If you’re not sure what to do, form a commission and drag things out’. (Anonymous 2 2010)

What this anonymous informant expressed, with some irony, is the ambiguity and uncertainty with which this law was drafted. With the presidency fighting for a modernist vision, the members of the food sovereignty network had to make choices based on political expedience, in order to maintain something of their original proposal.

98 In one of my conversations with a legal advisor, I asked why the law kept to this idea of ‘technology transfer’ if this contradicts the principles of food sovereignty. The advisor knew exactly what I was talking about and the issue I was referring to, but he explained – in a disdainful tone – that these kinds of legal details were politically irrelevant at that moment (Anonymous 1 2009).

99 Following the tradition of authors like Boserup (1965), Richards (1985) and Van der Ploeg (2003), Wiskerke and Van der Ploeg (2004, 9) have shown that farmers are not only active participants but also generators of knowledge forged in their work processes and associated with local knowledge.

4.5.3 Democratic control, or the capacity of small farmers to define their own agricultural policies

Surprisingly, the ECUARUNARI proposal did not set out a way to organise food sovereignty policies at state level, even though it mentioned that policies should foment rural initiatives. In its Chapter III, power is granted to the state to organise food sovereignty policy. As can be seen in the two following paragraphs, no relationship is established between social movements and the state, as is pushed for by *Via Campesina*:

Article 6. The State shall implement institutional arrangements of permanent, coherent and organised intervention for the development of food sovereignty policy at central, regional and subregional level ...

Article 7. The State, *in consultation with farmers*, shall define and carry out a policy of promoting local economic initiatives in the rural areas... (Ecuaurunari 2008, 7; emphasis added)

On the contrary, in the draft proposals which originated with state organisations like that of SENPLADES, after the principles and objectives of the law, forms of ‘government and administration of food sovereignty’ are suggested where the state is the principal executor and administrator. For the Coordination Ministry, the most important body in the Administration was a National Council chaired by the President, various government ministers and the representative of municipal authorities; for SENPLADES, the Superintendence of Food Sovereignty was to be a technical body responsible for monitoring, auditing and controlling the various activities. In both cases, the last (lowest level) administrative body envisaged was a ‘Rural Territorial Committee’, headed by the municipalities and composed of organised groups of food producers, processors and merchants.

It was the Agrarian Collective that was most sure about how to manage food sovereignty policy and relations with actants outside the state, with the aim that peasant organisations had a decision-making space in agricultural policies as had been *Via Campesina’s* concern. This was seen in its Unified Law proposal. In the chapter referring to ‘Social Participation for Food and Nutritional Sovereignty’, the importance of peasant participation in policy definition was highlighted:

Article 26. Social Participation. The drafting of laws and the formulation of public policy for food sovereignty shall involve the broadest social participation, through processes of public discussion promoted by the State and coordinated by the System of Food and Nutritional Sovereignty (SISAN). (Ecuador 2009, 10)

According to this, the state was to recognise the right of peasant organisations to participate as members in national, regional and local bodies involved in decision-making in agriculture, aquaculture and fishing, and food sovereignty. In the following Article

27, three bodies were defined: SISAN, but without how this body was to be composed being detailed;¹⁰⁰ a National Food Sovereignty Council, composed of delegates from the various state and social organisations, which it was hoped would function as another of the councils attached to the Presidency; and a National Conference of Food Sovereignty, as ‘a space for debate, deliberation and generation of proposals’ (CAFOLIS 2009, 18). In spite of the abundance of bodies, however, a governing body to coordinate state policies regarding food sovereignty was not defined (it was hinted at that the ‘natural’ authority would be the MAGAP).

Although these articles of the proposed law enjoyed the support of the members of the Legislative Assembly, they were vetoed by the Presidency. In the presidential veto, the National Food Sovereignty Council was eliminated on the grounds that it was a governmental organisation that did not fit into the new organisation of the Ecuadorian State, and the ‘fusion of the two bodies’ was proposed (CAFOLIS 2009, 18; Ecuador 2009, 15-16). SISAN was kept, but its composition was not explained. A ‘Consultative Council for Food Sovereignty’ was created, among whose powers were those of promoting policies and advising the Presidency. A ‘National Conference of Food Sovereignty’ was also established. According to the law the powers of this Conference were:

Article 34. The National Conference of Food Sovereignty, notwithstanding other powers established in the Law and in the Regulations, shall have the following powers:

- a) To approve the internal rules which regulate its operation;
- b) To promote processes of dialogue to channel proposals and initiatives coming from civil society;
- c) To foster studies and research on the issue of food sovereignty; and,
- d) To issue reports and propose alternatives for the formulation of draft laws by the Executive. (Ecuador 2009, 10)

In this way, an aspiration of *Via Campesina*, ‘democratic control’, which calls for the participation of small producers in the formulation of policies, was ‘translated’ by the Presidency and simplified to a body composed of representatives of social organisations, the NGOs and the universities, but without the capacity to execute or direct policies, and without a budget.

100 In the same sense the law was questioned both by Fernando Rosero (CAFOLIS 2009, 16) and by the FAO in 2010 before the Commission on Biodiversity of the National Assembly. See <http://www.asambleanacional.gov.ec/201004283084/noticias/boletines/>

4.5.2 Final rites: the passage of the law

As mentioned, the law vetoed by the Presidency was sent back to the Legislative Assembly, but a majority vote was not obtained. During the days before the vote, it could be seen in the corridors and offices of the Assembly that nobody was happy with this new version of the law. Assembly members connected to the President preferred not to talk about it; all the interviews that they had agreed to were cancelled; and nor did the advisers wish to comment. Secrecy and silence had become the common currency.

At around 11 pm, just hours before the deadline for the final vote, there was still no majority in the Legislative Assembly (one more vote was needed), so the LORSA was not passed. A month later, by *Ministerio de la Ley*, the LORSA was published in the official register anyway, as it stood, and automatically came into effect.¹⁰¹ The law, then, was enacted without being passed. As a result of these events, many indigenous and peasant organisations understood the message, as one of them put it after leaving the last vote in the Assembly, that they ‘For the next discussions on the law for water’, first they had to ‘have an uprising’.¹⁰²

Indigenous and peasant organisations were also able to take note and incorporate their experience on their participation in the state and the new government process that, according to the precepts of the new constitution, they would be able to participate and give their opinions on laws, but, for the government, the discourses of those who were outside the Citizens’ Revolution do not have any ‘performative’ nature. In other words, they were not illocutionary acts, in the sense of Austin (1975); their proposals did not institute new practices or realities. The explanation for this way of exercising power was expressed by President Correa: ‘We won the election, not you’.

Some NGOs that were part of the network, like the Heifer Foundation and Ecological Action, expressed their rejection of the LORSA and published their comments through an open letter to the President of the Legislative Assembly. In this letter, the organisations considered that in the LORSA there was a ‘confused perception of the meaning of food sovereignty’, which did not respond to the constitutional proposal, nor meet the aspirations of civil society to have ‘a different agrarian model, not neoliberal’ (Acción Ecológica and Heifer 2009).

101 According to one of the advisors, in the Food Sovereignty Commission responsible for drafting the LORSA, a discussion did take place on the changes made by the Presidency (Anonymous 2 2010).

102 But later the indigenous and peasants movements did not have the support for an uprising. In fact, a month and a half earlier, in the middle of January, 2009, a call for an uprising by the organisations to request changes to the mining law was not heeded and the law was passed; moreover, many of the indigenous leaders by then held important bureaucratic positions in the government.

4.6 Conclusions

The question guiding this chapter has concerned how the introduction of the food sovereignty discourse into the 2008 Constitution and the LORSA weakened *Via Campesina's* ontological and political proposal. I have been able to show that the networks involved in the introduction of this discourse – the government, the economic elites, the indigenous peoples' and peasants' movement, the national NGOs and international organisations – gradually produced new orders and discourses which translated in a definitive way the original ontological proposal put forward by *Via Campesina*.

I began with an analysis of the food sovereignty network, which arose and was strengthened from the fight against the FTA with the United States. It was this network, heterogeneous both in its discourses and in the provenance of its actants, that promoted the incorporation of the food sovereignty proposal into the 2008 Constitution. In analysing the actants and their proposals to the ANC, I showed that on issues related to food sovereignty, the network achieved a level of consensus, and that although with those it managed to incorporate six of the seven *Via Campesina* principles as they were put forward by this movement, this had already assumed a separation of land issues from those of food sovereignty. Then, a consensus on the need for agrarian reform and change in the structure of land ownership was not agreed upon and not achieved.

Here, it is surprising to note that even the most radical indigenous movements did not propose an agrarian reform and it was not considered in the constitution. To the absence of definition of the indigenous and peasant movements can be added the media campaign of the power groups against agrarian reform and the total lack of interest on the part of the government of the 'Citizens' Revolution' concerning this issue. Thus, at the moment of the referendum, the idea of a radical change in the structure of land was rejected by both insiders and outsiders.

Finally, on analysing the drafting process of the LORSA and then its content, it can be seen that, as Scott says, the ontological proposal of food sovereignty as conceived by *Via Campesina* was 'stripped to its essentials' (Scott 1998, 347). As I showed in the first chapter, in the relational thought of peasants, land is not only a resource to be preserved for the sake of increasing productivity or a territory for the reproduction of culture; rather, the land is an entity with which men and women have co-evolved, a place where links are established and generated between different entities. It is this ontological perspective that was gradually 'translated' through the process that led to the 2008 Constitution and then to its disappearance in the LORSA.

In the LORSA, the relationship of culture-environment with food was presented from the political economy view: nature should be conserved only insofar as it guarantees the survival of future human generations. Culture and nature were considered as entities of a different sort and not even an object of attention, despite the explicit proposals of

ECUARUNARI. In the same way, the relational ontological proposal was displaced by a modernistic proposal in the legislation related to scientific and ancestral knowledge. Finally, the organisation of the peasants and indigenous people was based on the formation of a bureaucratic structure (and one that did not – and does not – have adequate financial resources for its operation). Such a structure operates quite differently to a rhizomatic organisation of production, processing and consumption, as described in Chapter 2.

CHAPTER 5

Conclusion: Food networks as essential elements of food sovereignty

Another science is possible. But it requires what today is to scientists a 'waste of time', namely rep-appropriating the imagination needed to open themselves up to others' preoccupations, to their knowledge, to their objections. We do not need scientists to inform the public better but we need scientists to be able to participate in the collective understanding of issues. Isabelle Stengers.

Chaillan (2013, interview)

In this study, I have explored the action of an Andean food network in Ecuador, its relevance to enhancing food sovereignty and the ways in which S&T policies obstruct autonomous development, and I have looked more generally at the translation of food sovereignty into law. As part of the TELFUN programme, this thesis focused on a legume (*Lupinus mutabilis* Sweet), whose centre of origin is the Andean region and whose cultivation and consumption was racialised for centuries but these days is now recognised for its nutritional importance and valued as a gourmet food. Examining the *lupino paisano* network in Cotopaxi and the journey of the lupin from the highlands to the city, this study began by identifying a traditional food ontology that is quite different from the modern one. This difference was then further considered in respect of, first, the introduction of a lupin seed developed through state-sponsored agricultural research and, second, the politics around two different ontological perspectives within the food sovereignty proposal in Ecuador as expressed in its new constitution and the subsequent food sovereignty law.

The primary investigation of the lupin legume employed an approach in which the actions of both humans and non-humans needed to be studied in developing a systemic analysis of some depth. Therefore, reference was made to Actor Network Theory (ANT) and Deleuze and Guattari's (1987 [1980]) rhizome concept. Overall, the thesis focuses on the co-existence of the two different ontologies – the traditional, with its relational logic, and the modernist, with its hierarchical, dualistic logic – and their expression at the (wild land and rural) local level of peasant practice and small-town trading, the (urban oriented) regional level of high-tech agrarian extension and delivery, and the (political centre) national level of debate on food sovereignty in Ecuador. The basic problem dealt with in this thesis is:

How are the content and practice of food sovereignty affected when agriculture, science and technology policies ignore and impede the work of food networks such as *lupino paisano*?

In order to analyse this phenomenon and to develop insights into how the traditional or 'alternative' ontology is fundamentally different from the modern way of thinking, the working of the *lupino paisano* food network was employed as a case-study to ground investigation through attention to the following research questions:

1. How can the *lupino paisano* network envisage and create strategies to stimulate food sovereignty?
2. How do certain agricultural and science and technology (S&T) policies, designed to promote the agriculture development of the poorest peasants, neglect the alternative ontology of the *lupino paisano* network and obstruct the operation of these Alternative Andean food networks?

3. How did the introduction of the food sovereignty discourse into the 2008 Constitution and in the LORSA weaken the ontological and political proposal put forward by *Via Campesina*?

In the first part of this concluding chapter, I synthesize the findings of my research, summarising the results of the investigations presented in Chapters 2-4; in the second part, I show some of the limitations of the research; in the third part, I reflect on the contribution of this thesis to the study of food sovereignty; and in the fourth part, I make recommendations for future research.

5.1 Answers to research questions

5.1.1 The *lupino paisano* network

The first research question, dealt with in the second chapter, concerned the *lupino paisano* network and its strategies to stimulate food sovereignty that resist modernism and describe the alternative, relational ontology. The main result of Chapter 2 is the cognisance that this network, like other Andean food networks, functions in a *rhizomatic* way. It is not founded on a philosophy or practice of binary differences between human and non-human entities like society vs. nature; rather, the entities are transformed through relations with other entities, and these interrelations go beyond conventionally drawn geographical and ecological borders.

In the first part of Chapter 2, the functioning of the *lupino paisano* network was described and how various types of relationships are instituted among different entities depicted. In particular, I focused my attention on *two kinds of alliance: peasant-lupin* and *peasant-trader*. Among the people of Guayama, as in other parts of the Andean world (Gose 2004, Stensrud 2010, Harris 1995, Orlove 2002), it is common to find a form of thought in which *entities are considered interrelated*, importantly without, that is, distinctions between the human and non-human. In the case of the Guayama community lupin farmers, a relationship of *fellowship* with the plants is recognised; thus, the labour of cultivation aims at allowing the plants to develop according to their nature (without imposing crop technologies). In addition, producers consider the landrace *lupino paisano* an entity with which they *share an ecological and historical space* and have in common their deeply embodied knowledge of their life in the *páramo*. In this sense, they are motivated to seek and allow *autonomous development* respecting their (human and plant) different ways of connecting with the world.

The second alliance analysed in Chapter 2 was that of *peasant-trader*. The links established between producers and intermediaries mean that the latter do not exercise control over the marketing of the lupin. Rather, due to the features of the *lupino paisano* network, including the desire of the producers to place their lupin on other markets and the forging of links between producers and traders that are not only economic but

also *social and even ritual, non-hierarchical alliances* are created. Traders attained the category of '*conocido*' (acquaintance) generating ties and thereby binding the two groups in *reciprocity*.

In the second part of Chapter 2, I analysed how the change of the lupin environment (the movement from the *páramos* to the valleys) and the technical process of debittering trigger *biophysical, semiotic and geographical changes* in women and the lupin, phrased in Latour's terms as processes of 'translation'. In the case of women processors and the Andean beans, there is a mutual transformation effected through their work: mestizo women do not work *on* the beans to produce food as a mere commodity; they work *with* the beans to produce food that is valued. This is not about working with a raw material as an inert entity, but rather involves a kind of *mutual, creative work* among different entities.

Using Deleuze and Guattari (1987 [1980], 7), the analysis of the *lupino paisano* network may be summarised as showing how it operates through *multiple horizontal relations*, hence displaying a rhizomatic as opposed to an arborescent growth, which is unilinear and vertical; and referring to the work of Latour (2007a, 107), this analysis shows how the various (human and non-human, social and economic) associations are connected in such ways as to *generate transformations or translations* among the entities. The research results show that, for example, the preparation of the *lupino paisano* and other foods destined for consumers in local markets is not only a form of subsistence for the townswomen, but it is also 'autopoiesis' (Ingold 2000, 345), referring to *systemic self-reproduction*. It has also been shown that foods with a special cultural value, like those composed of *chochos*, *mote* and meat, have the capacity to act as nutrients and link some actants with others emotionally. This is typical of the type of thing that proponents of food sovereignty have in mind when they emphasise the importance of *protecting traditional food* from capital in the form of global food chains.

5.1.2 Lupin seed modernist agriculture development

Chapter 3 focused on the research question concerning agricultural and S&T policies and how the aim of promoting the agriculture development of the poorest peasants is realised as a neglect of the alternative, relational ontology and obstructs the operation of peasant-based food networks. In the first part of the chapter, I introduced Feenberg's (2010a) concepts of *social rationality* and *primary and secondary instrumentalisation* to indicate the presence of the modernist ontology in agricultural and S&T policies. In the second part, I showed how the process of primary instrumentalisation (Feenberg 2010a: 72-3) occurs by the *removal* of the lupin landraces from their original geographical, ecological and cultural spaces (Feenberg's process of 'de-worlding') to *isolate* them in gene banks and *transform* them into material for analysis and breeding.

Focusing on the case of the developed lupin seed, INIAP 450 ANDINO, I showed how the process of primary instrumentalisation results in a transformation of landraces into new seeds with the *embedded values of modern agriculture* and *simplified agronomical characteristics*. Following the modernistic principles of science applied in the agrarian domain, plant breeders clearly worked on the assumption that new seeds can be cultivated outside the context of any particular socio-ecological environment for similar results and thus aimed to apply a *standardised technology package*.

The third part of this chapter was thus devoted to explaining the recontextualisation of lupin or secondary instrumentalisation through the *formation of a new food network*. I showed that INIAP initiated a complex process of communication with the aim of disseminating the new seed and looked at the knowledge and technology packages associated with this. These new actants (seeds, technologies and knowledge) opened other links not only with the valley producers but also with *new entrepreneurs* and *new processors and consumers*. And all these actions together combined to generate a new food network in which *the indigenous people of the páramos* and *the women selling food in local markets* were excluded.

Chapter 3 demonstrated that the organisation of plant breeding according to modern scientific precepts delineated not only the *ways of thinking and acting of scientists* engaged in extension work, but also their *product*, namely the shape, quality, colour, and the behaviour of the new lupin seed itself. Thence, the plant breeding and the release of Andean seeds did not contribute to enhancing the possibilities for food sovereignty in Ecuador. While *food security* was somewhat strengthened among the *(urban) middle classes*, *food sovereignty* was weakened among the *peasants in the highlands*, fundamentally because they were *not considered during the developmental process* and thus did not have the choice to be incorporated into the new food network. In the exclusive focus on *quantity of production* from the urban perspective, *peasant food sovereignty* was ignored.

5.1.3 Food sovereignty legislation

Chapter 4 moved from the local- and regional-level socio-economic and cultural dimensions of lupin to the political, national context of another, cotemperate history establishing the wider framing of the modernist project. Here, I looked at how the food sovereignty proposal proposed by *Via Campesina*, was weakened in its transformation into the general laws of the Ecuadorian state. I proposed that the *confluence of two networks* referring to two very *distinct ontologies* resulted in a *specific translation* of the food sovereignty perspective in the 2008 Constitution and the Food Sovereignty Law (LORSA). The *(alternative) political and ontological proposal for food sovereignty* vanished, and the *modernist ontology* gradually became increasingly integrated into the new legislative framework directing policy. In order to address this, I used the concepts of *translation*

from ANT, Foucault's *tactics of governmentality* and of *modes of ordering* used by John Law.

In the first part of this chapter, I started with the formation, from the anti-(US) Free Trade Agreement struggle, of a network of dissimilar actants (social movements, discourses, development organisations and politicians), which called themselves a food sovereignty network. In the second part, I introduced the idea of 'tactics of governmentality' from Foucault (2006) to analyse the capacity, particularly of the government, to *mobilise techniques, agents and resources for their own purposes and agendas*.

Specifically, two tactics were used by the government of the Citizen's Revolution: the first was the creation of an *architectural complex* with the objective of legitimating the revolution (showing it as heir to a glorious past), and strengthening the idea of a *powerful state* that can be accessed, through pilgrimage, to obtain protection and security. The second tactic was to use a *discourse of participation* with, notably, the organisation of tables of dialogue throughout the country. The objective here was to reinforce the idea that the new government of the Citizens' Revolution was open to discussion of new forms of government. In both cases the government's purpose was to *create the impression that all citizens would participate* in the construction of a new constitution and of a new state.

The second part of Chapter 4 examined the multiplicity of actants that converged during the negotiations to introduce the food sovereignty proposal into the new constitution. I maintained that *the confluence of the two networks*, whose actants had more or less opposing interests (some linked with the large companies of food production, food marketing and pesticides, and others with the food sovereignty network) resulted in a *translation of the original proposal* put forward by *Vía Campesina*.

The third part of Chapter 4 was devoted to an explanation of the results of this confluence and sometimes opposition of the two networks. As an effect of this *first translation*, food sovereignty was *embodied in two different constitutional articles*, one which took most of the postulates of *Vía Campesina*, and the other, referring to land and the organisation of food sovereignty, which *moved away from the original discourse* because it did not consider changes in the *agrarian structure of the country*.

On analysing in detail how this process of translation occurred, I observed that the NGOs and indigenous movements did not share a clear discourse in favour of a change in the agrarian structure, a long-standing indigenous demand; in other words, there was a *failure at the NGO level*. Despite the fact that they had expressed the idea that one of the central elements of food sovereignty should be a change in the agrarian structure of Ecuador, this proposal was *marginalised* when they realised that other actants, apparently allied to them (like FENOCIN and members of the governing party), did not support their position. So, the members of the *food sovereignty network modified their position*

and put aside a large part of the food sovereignty proposal pushed for by *Via Campesina*, abandoning the demand for agrarian reform.

The last part of Chapter 4 detailed a *further step in the translation process* of the food sovereignty proposal. ECUARUNARI, part of the indigenous movement, presented a draft law wherein a vision of food sovereignty was set down and in which relational thinking, similar to that expressed by other peasant movements in the world, was clearly evident. Meanwhile, in drawing up the food sovereignty law, the government and elites proposed articles that basically ignored the Constitution. In this appearance of new actants with contradictory positions, there thus appeared a new factor mediating agreement that was *external to food sovereignty*, and the draft for the food sovereignty law was drawn up by the NGOs from a *modernist perspective* (CAFOLIS 2009).

The NGOs' draft version was drawn up in such a way as to satisfy both the government and the food sovereignty network, the latter hoping to include certain demands excluded from the Constitution. In this draft law, once again there were translated *Via Campesina's* tenets on land ownership, the participation of social and indigenous movements, and ECUARUNARI's position, which referred to the ontological proposal. For example, the close relations among humans, land, water and animals, as proposed by *Via Campesina* and by ECUARUNARI, was translated into 'factors of production', and nature was understood as the generator of 'goods and services', which should be 'protected and regulated by the State'. Thus, those who drafted the proposal presented by the NGOs and the Presidency (in the form of a veto) opened the way for the state to institute a *new understanding* (Latour 1994, 32-39) of what food sovereignty is in Ecuador.

5.2 Contribution to the study of food sovereignty

Through the description and analysis of a thinking based on a relational ontology, it is possible to show that there are alternatives to the modernist perspective rooted in the discourses and practices of rural development, as various authors such as Arturo Escobar (2010) have pointed out. In particular, this thesis indicates the need for food sovereignty studies to take special care not assume the modern and thus overlook certain metaphysical perspectives still held by many societies, perspectives that differ from and fundamentally question the dualist perspective supporting conventional agricultural in particular and development politics more broadly.

In this context, I have described some possibilities offered by theoretical and methodological approximations that do not make ontological distinctions between nature and society and between humans and non-humans, and which see S&T policies as a provisional result of the dominance of the modernistic approach, effectively denying access to the participation of certain actants and ignoring and thus undermining their capacity to modify the strategies of others and provide opportunities for new alliances.

This assumes, of course, a holistic approach entirely in keeping with a range of alternative visions as to how we should see the world, organise our societies and move forward in the future.

My contribution here to the discussion on food sovereignty, the state and food networks has been 1) to show that the study of food networks enables the possibility of delving deeper into the ontological proposal of food sovereignty; 2) to demonstrate that plant breeding and agricultural research are the result of a particular modernist way of thinking (Feenberg 2010a), which makes it difficult to put food sovereignty into practice; and 3) to show that it is not enough to study the dynamics of social movements by analysing their initial political proposals, since it is also necessary to consider the transformations which operate on the actants as a result of negotiations.

- 1) I have demonstrated that food networks, like that of the *lupino paisano*, may be an integral part of a local (or wider) culture, and that their validity and operation are based on a form of relational thought wherein humans and non-humans are part of the network. Although the importance of food networks does not appear in explicit form in the seven principles of *Via Campesina*, academics like Peter Rosset (2011, 2012) highlight its importance. In the same way, in studies on alternative food networks (AFNs) (Murdoch 2000, Tregear 2011, Whatmore and Thorne 2008), the need to create or foment these kinds of networks is reasserted, in order to deal with the food chains generated by large corporations.

Approaching the issue from relational perspectives like ANT has enabled me to show that in order to put food sovereignty into practice, it is extremely important to take into consideration the special position of peasants as a starting point, on the understanding that their knowledge, experience and worldview have different cultural contexts. In the case of the men and women of Guayama, the production, processing and consumption of food are not just instrumental, economic activities separated from the rest of their lives, but valued in themselves as part of everyday life, which implies activities that constitute a rhizomatic form of organisation. These actor-networks, besides generating profits, are concerned with developing relations in such a way as to enable them to create greater opportunities, escape the power of intermediaries and acquire knowledge without depending on state institutions or development agencies.

- 2) The S&T policies conceived, designed and implemented under social rationality (Feenberg 2010a) hinder the development of Andean food networks. To analyse the historical process of the release of a new lupin seed and the scientific and political principles that underpinned it enabled me to see the value of applying Feenberg's proposal to research into agricultural

technology. My findings have also drawn attention to the importance of how studies on agro-ecology and laws related to seeds and alternative technologies (aimed at strengthening food sovereignty) might foster the questioning of the theoretical and epistemological presuppositions of modern scientific thought and suggest the use of relational or symmetrical (ANT) theoretical proposals.

- 3) Another contribution of this study is to show that the peasant and indigenous movements blur their proposals when they embark on negotiations with the state. The logic of food networks and the rationality of modern states are of a distinct nature. At the conference 'Food sovereignty: A critical dialogue', the anthropologist James Scott, (2013) listed various misgivings regarding the food sovereignty proposal; one of these was the problem in making the nation-state a guarantor for this – indeed, he made clear his doubts as to whether nation-states would even be able to guarantee the future of their citizens. As is evident in Chapters 3 and 4 of this thesis, the Ecuadorian State has been a follower of what James Scott (1998, 4) calls 'the high modernist ideology'; in other words, it assumes goals like scientific and technical progress, the expansion of production and the satisfaction of human needs, and expects that these can be attained through the control, design and administration of nature and society.

5.3 Limitations of the study

This study has provided a perspective that enabled me to evaluate food sovereignty and its *deep ecological grounding* in non-dualism, as it is practiced, as it is undermined and as it becomes lost in its reconstruction. I started with a study of the relationships through which an Andean food network is constructed and concluded with food sovereignty as a strategic goal of the Ecuadorian Constitution. Such a choice had its limitations, of course, which appear in questions like 'What is the relationship of the network to the Ecuadorian agrarian context?'

Although I have not directly addressed these questions, I have shown that food networks such as that of the *lupino paisano* have in appearance been far from agrarian policies, and it is clear that these policies have shaken the network's operation. In Chapter 2, I examined the links of the actants of the *lupino paisano* network, and I showed that their agricultural practices and those of food processing are far from the modernist perspective of Ecuadorian state policies to boost agriculture. In Chapter 3, I showed that the culturally neglected and even historically despised Andean food networks were outside the agricultural and S&T agenda of governments, when I referred to S&T policies, and, as a result, these policies have had an impact on apparently non-existent forms of production, processing, and consumption, like the *lupino paisano* network.

In the light of classical political anthropology and other sociological approaches, the question that jumps out in respect of Chapter 4 is ‘Why, to understand the actions of the NGOs and the indigenous movements during the National Constituent Assembly, was an exhaustive examination not made of their perspectives, political motivations and goals previously defined in discourses and agendas? Here, the absence of reference points for the actions of the NGOs and social movements can be explained, since in action theory, within which framework this thesis is situated, explanations for the motives for action can only be found in the interactions among the actants. The motivations (laid down in discourses or in goals) as well as the actants are causes and effects of the practices of other actants. This concerns ‘semiotic rationality’; in other words, it is the elements of the network that mutually define and mould the goals of each actant (Law 2009, 146). What counts are their practices, what they did, the effects they had on the entities that composed the network, and the paths that other actants took due to these actions.

5.4 Recommendations for future research

The ontological proposal for food sovereignty and the role of food networks in strengthening it are two aspects that should be explored from different angles and with particular theoretical perspectives. Below, I first explain some theoretical and methodological features that future research should have, and then I expand on these two areas of future research.

As has been shown in Chapters 1 and 2, there still exist forms of thought distinct from the modern. It is necessary to delve deeper into the study of forms of thought whose ontology and, in general, metaphysics may contribute to finding alternatives to modernism, and more specifically the modernist ideas on food production, processing, commercialisation and consumption. This implies engagement with research projects whose starting point is neither modernist ontology, nor humans as the centre of economics, politics or geography.

These projects should start from distinct theoretical and methodological postulates. In this thesis it has been possible to observe the value of working with theoretical approximations like that of Deleuze and Guattari, ANT and the proposals of the anthropologist, Tim Ingold, where one is describing the diversity and complexity of the relationships that different entities establish on living in the world. Following these authors, beyond understanding the ‘essence’ of these entities, it is important to take into account how they are transformed in their relations with others, and in Deleuze and Guattari’s proposal ‘see the world in terms of “becoming” rather than “being”’ (Pryke, Rose and Whatmore 2003, 622). These are the forms of approximation that can enable us to explain other forms of conceiving the world distinct from the modernist form, that

is the continuity that exists in the relationships among humans and other entities which inhabit the earth. (Law and Mol 1995, 109).

Methodologically, conducting research with this perspective compels us to seek ways to explain and appreciate the meaning and contribution of humans and non-humans that are part of subject of study. This is important not only to explain the operation of the networks but also to bear in mind that the research process is an interactive one, and if interaction with humans may be difficult, then neither is interaction with other entities exempt from uncertainties. In addition, in research of this nature, it is necessary to take into account the idea of philosopher Isabelle Stengers, that to do fieldwork is not to describe 'the pre-existent evidence', but first, as stated at the beginning of this chapter, to be open to '*others' preoccupations, to their knowledge, to their objections*'; second, to manage to recognise that we researchers are not the centre, because obtaining knowledge is a 'knowledge event'; and third, to work with humility, which helps to recognise that objectivity is impossible, that total immersion in the field and exact knowledge not even a compartment of reality. (Pryke, Rose and Whatmore 2003, 3080)

Having described, with the experience of this thesis, the opportunities which other forms of research can offer, I will describe some areas in which the study of other ontologies and networks can be fruitful in the Andean Region.

- Research into the existence of a relational ontology in peasant networks dedicated to food production aimed at the mass market. The objective of these studies should be to determine the presence or otherwise of relational thinking and of a rhizomatic operation of the production, processing and consumption of foods where there is a great demand in national markets, as in the case of potatoes in the Andean region.
- Research into the existence of a relational ontology in non-Andean peasant food networks that have been adopted by indigenous communities and which are used exclusively for family consumption and/or for barter. The aim of this research would be to observe how these networks operate and the opportunities that the kinds of crops involved, such as wheat and barley, provide for barter as a guarantee for food security and seed conservation. As many studies have shown (Earle 2012), there are foods consumed in South and Central America whose centre of origin was not America; they arrived with the Spanish conquest, but have been adopted by the indigenous communities and which now constitute part of their identity. It would be important to observe how a relational ontological perspective links these foods with other entities, how their colonial presence affects the rhizomatic relations among entities, and whether these foods generate networks similar to those of Andean foods.

- Research into the relationships of land and water with peasant cultures and practices. Water and land are central elements in the food sovereignty proposal. In *Via Campesina's* seven principles, the relationship of peasant families with these entities has been understood from the perspective of rights. It would be very advantageous to be able to explain through case studies the presence or otherwise of a distinct relationship of peasants and their local cultures (extending to food processors) with these entities.

5.5 The relevance of considering other ontological proposals

I believe God is everything, say Shug... She say, my first step from the old white man was trees. Then air. Then other people. But one day when I was sitting quiet and feeling like a motherless child, which I was, it come to me: that feeling of being part of everything, not separate at all.

Alice Walker (2011, 178).

What enabled McClintock to see further and deeper into the mysteries of genetics than her colleagues? ...Over and over again, she tells us one must have the time to look, the patience to 'hear what the material has to say to you,' the openness to 'let it come to you.' Above all, one must have 'a feeling for the organism.' One must to understand 'how it grows, understand its parts, understand when something is going wrong with it'.

Barbara McClintock (Fox Keller 2003: 198)

I conclude this chapter with two quotations which, despite their different provenance (literature and genetics), are similar in that their phrasing considers the validity of other ontologies and, in general, other kinds of metaphysics. Most studies of food sovereignty have been carried out from theoretical perspectives within the modernist perspective, which exult humanity as the only entity capable of making changes and researchers as the only people capable of determining efficient futures. This view has made it difficult to observe the ontological proposal for food sovereignty and, in particular, ignores what many peasant movements proclaim to be at the core of their way of being: their kinship with nature and the sense that their economy and politics have.

As researchers, we should take seriously what people say about their own lives and relationships with other entities. To take seriously, as Latour (2007a: 47) says, means first, not ignoring opinions even if they are stated in what may appear to us the 'queerest, baroque, and most idiosyncratic terms'; second, it means opting for theoretical and methodological proposals that enable us 'to hear what the material has to say to you', as McClintock (Fox Keller 2003, 198) suggests, without glossing over or trying to 'reveal' what has been said by the actants; and, third, finding ways to be able to communicate, recognising that many of these actants do not have a voice, and therefore listening is

not a hearing problem, but one of how we approach these entities. This is just what McClintock, in accordance with Keller (2003) achieved: '[O]ver the years, a special kind of sympathetic understanding grew in McClintock, heightening her powers of discernment, until finally, the objects of her study have become subject in their own right.

In this thesis, I have argued that, in Ecuador, food networks like that of *lupino paisano*, which do not establish ontological differences between nature and culture may promote food sovereignty if and only if agrarian and S&T policies enable their autonomous development, respecting their different ways of perceiving and relating to the world. I have shown the importance of delving more deeply into the study of the ontological proposal for food sovereignty, as these other ontologies still in effect, may help in thinking about alternatives for development distinct from the modernist one.

References

- Acción Ecológica & Heifer. 2009. 'Carta abierta sobre la Ley de Soberanía Alimentaria.' 18 02. Accessed Septiembre 28, 2010. www.ecoportal.net/content/view/full/84280.
- Acosta, Alberto, and Fander Falconí. 2005. *TLC, más que un tratado de libre comercio*. Quito: FLACSO-ILDIS.
- Acosta, Alberto, Fander Falconí, and Hugo Jácome. 2006. 'Verdades, medias verdades y falsedades del TLC. Doce puntos para el debate.' 04. Último acceso: 12 de 07 de 2008. www.lainsignia.org/2006/marzo/econ_008.htm.
- Agarwal, Bina. 2014. 'Food sovereignty, food security and the democratic choice: critical contradictions, difficult conciliations.' *The Journal of Peasant Studies* 1-22.
- Alberti, Giorgio, and Enrique Mayer. 1974. *Reciprocidad e intercambio en los Andes peruanos*. Lima: Instituto de Estudios Peruanos.
- Altieri, Miguel. 2009. *Agroecology, Small Farms and Food Sovereignty*. Accessed February 18, 2014. <http://agroeco.org/wp-content/uploads/2010/09/Altieri-agroecoMR.pdf>.
- Altieri, Miguel, and Victor Toledo. 2011. 'The agroecological revolution in Latin America: rescuing nature, ensuring food sovereignty and empowering peasants.' *The Journal of Peasant Studies* 587-612.
- Altieri, Miguel, Fernando Funes-Monzote, and Paulo Petersen. 2011. 'Agroecologically efficient agricultural systems for smallholder farmers: contributions to food sovereignty.' *Agronomy for Sustainable Development* 1-12.

- Anderson, Elizabeth. 2012. 'Feminist Epistemology and Philosophy of Science.' In *The Stanford Encyclopedia of Philosophy*, by Edward Zalta. <http://plato.stanford.edu/entries/feminism-epistemology/>.
- Becker, Marc. 2008. *Indians and leftist in the making of Ecuador's modern indigenous movements*. London: Duke University Press.
- Bernstein, Henry. 2014. 'Food sovereignty via the 'peasant way': a sceptical view.' *The Journal of Peasant Studies* 1-33.
- Borras, Saturnino. 2008. 'La Vía Campesina and its Global Campaign for Agrarian Reform.' *Journal of Agrarian Change* 8 (2 & 3): 258-289.
- . 2010. 'The Politics of Transnational Agrarian Movements.' *Development and Change* 41 (5): 771-803.
- Borras, Saturnino, Cristobal Kay, and Haroon Lodhi. 2007. 'Agrarian Reform and Rural Development: Historical Overview and Current Issues.' <http://www.nl/land>. Accessed 05 17, 2012. http://www.hubrural.org/IMG/pdf/iss_pnud_overview.pdf.
- Borras, Saturnino, Cristóbal Kay, Sergio Gómez, and John Wilkinson. 2012. 'Land grabbing and global capitalist accumulation: key features in Latin America.' *Canadian Journal of Development Studies / Revue canadienne d'études du développement* 402-416.
- Borras, Saturnino, Marc Edelman, and Cristobal Kay. 2008. 'Transnational Agrarian Movements: Origins and Politics, Campains and Impact.' *Journal of Agrarian Change* 8 (2): 169-2004.
- Borras, Saturnino, Ruth Hall, Ian Scoones, Ben White, and Wendy Welford. 2011. «Towards a better understanding of global land grabbing: an editorial introduction.» *Journal of Peasant Studies* 209-216.
- Boserup, Esther. 1965. *The Conditions of Agricultural Grow*. New York: Earthscan.
- Bretón, Victor. 2008. 'From Agrarian Reform to Ethodevelopment in the Highlands of Ecuador.' *Journal of Agrarian Change* 583-617.
- Brunori, Gianluca. 2007. «Local food and alternative food networks: a communication perspective.» *Anthropology of Food*.
- Brunori, Rossi. 2007. 'Differentiating countryside: social representations and governance patterns in rural areas with high social density: the case of Chianti, Italy.' *Journal of Rural Studies* 183-205.
- Burgos, Hugo. 1970. *Relaciones interétnicas en Riobamba*. Mexico: Instituto Indigenista Interamericano.

- CAFOLIS. 2009. 'Trabajando por una propuesta de Ley de Soberanía Alimentaria.' 302. Accessed Agosto 25, 2014. http://www.cafolis.org/index2.php?option=com_content&do_pdf=1&id=340.
- Caicedo, Carlos, and Eduardo Peralta. 2000. *Zonificación potencial y sistemas de producción y procesamiento artesanal del chocho (Lupinus Mutabilis Sweet) en Ecuador*. Quito: Estación Experimental Santa Catalina.
- Caicedo, Carlos, Angel Murillo, Pinzón Jorge, Eduardo Peralta, and Rivera Marco. 1999. *Iniap -450 Andino. Variedad de chocho (Lupinus mutabilis Sweet) . Manejo agronómico y recetas para su consumo*. Quito: INIAP-BID- FUNDACYT.
- Caicedo, Carlos, Eduardo Peralta, Angel Murillo, and Marco, Pinzón, José. Rivera. 1998. *Guia Bibliográfica del Chocho o Tarhui (Lupinus mutabilis Sweet) y otras especies de Lupinus*. Quito: INIAP-PRONALEG- FUNDACYT-BID.
- Caicedo, Carlos, Eduardo Peralta, Angel Murillo, Marco Rivera, and José Pinzón. 1998. *Guia bibliográfica del chocho (Lupinus mutabilis Sweet) o tarhui y otras especies de lupinos*. Quito: INIAP-FUNDACYT-BID.
- Caicedo, Carlos, Eduardo Peralta, Elena Villacrés, y Marco Rivera. 2001. *Poscosecha y mercado de chocho (Lupinus Mutabilis Sweet) en Ecuador*. Quito: INIAP-FUNDACYT.
- Calderon, Gabriela. 2008. 'Hambrientos pero soberanos.' *El Universo*, Junio 3.
- Callon, Michael. 1986. 'Some elements of a sociology of translation: domestication of the scallops and the fishermen of St Brieuc Bay.' En *Power, action and belief: a new sociology of the knowledge?*, de John Law, 196-223. London: Routledge.
- Callon, Michael, and Bruno Latour. 1981. 'Unscrewing the big Leviathan: how actors macro-structure reality and how sociologist help the to do so.' In *Advances in social theory and methodology: toward an integration of micro-macro Sociologies*, by Karol Knorr-Cetina and Ariana Cicourel, 277-303. Boston: Routledge.
- Callon, Michael, and John Law. 1997. 'After Individual in Society: Lessons on Collectivity from Science, Technology and Society.' *Canadian Journal of Sociology* 22 (2): 165-182.
- Carter, Center. 2008. *Informe sobre la Asamblea Nacional Constituyente de la República del Ecuador*. 1. Accessed 05 15, 2010. <http://www.policyarchive.org/handle/10207/bitstreams/5103.pdf>.
- . 2008. *Informe sobre la Asamblea Nacional Constituyente de la República del Ecuador*. 1. Accessed 05 15, 2010. <http://www.policyarchive.org/handle/10207/bitstreams/5103.pdf>.

- Chaillan, Pierre. 2013. *Isabelle Stengers: The Left's Vital Need Is That People Think*. 19 July. Accessed December 30, 2014. <http://www.humaniteinenglish.com/spip.php?article2311>.
- Chiriboga, Manuel. 1999. *Cambiar se puede: experiencias del FEPP en el desarrollo rural del Ecuador*. Quito: Fondo Ecuatoriano Populorum Progreso.
- Cimoli, Mario, Joao Carlos Ferraz, and Analissa Primi. 2007. 'Políticas de ciencia y tecnología en economías abiertas: la situación de América Latina y el Caribe.' Accessed 03 15, 2013. <http://www.eclac.org/iyd/noticias/paginas/5/31425/serie165esp.pdf>.
- Colectivo Agrario. 2009. *Soberanía Alimentaria. Porque creemos en el debate: propuestas de legislación*. Quito.
- CONAIE. 2006. «Asamblea Nacional de la Conaie: Contra la firma del TLC y por la Convocatoria a la Asamblea Nacional Constituyente.» 31 de 01. Último acceso: 07 de 08 de 2014. <http://www.llacta.org/organiz/coms/2006/com0004.htm>.
- . 2007. 'Constitución del Estado Plurinacional de la República del Ecuador.' *Propuesta de la Confederación de Nacionalidades Indígenas del Ecuador*. Quito, Octubre.
- . 2009. *Que es la CONAIE*. Último acceso: 29 de 10 de 2011. <http://www.proyectoep.conaie.org/en/sobre-nosotros/que-es-la-conaie>.
- Connerton, Paul. 1989. *How Societies Remember*. Cambridge: Cambridge University Press.
- Cordero, Luis. 1892 (2006). *Diccionario Quichua Castellano y Castellano Quichua*. 1899. Quito: Corporación Editora Nacional.
- Courville, Michael, and Raj Patel. 2006. 'The Resurgence of Agrarian Reform in the Twenty First Century.' In *Promised Land: Competing Visions of Agrarian Reform*, by Peter Rosset, Raj Patel and Michael Courville, 3-22. New York: Food First Books.
- Das, Veena, and Deborah Poole. 2004. 'State and Its Margins: Comparative Ethnographies.' In *Anthropology in the Margins of the State*, by Veena Das and Poole Deborah, 3- 33. Santa Fe: SAR Press.
- de Certeau, Michael. 1996. *La invención de lo cotidiano. El oficio de la historia. Artes de hacer*. Translated by Alejandro Pescador. Vol. 1. México: Universidad Iberoamericana.
- De la Cadena, Marisol. 1995. 'Women are More Indian.' In *Ethnicity, Markets and Migration in the Andes. At the Crossroads of History and Anthropology*, by Broke Larson and Olivia Harris, 329-348. Durham: Duke University Press.
- De la Torre, Carlos. 2004. 'Movimientos étnicos, democracia y ciudadanía en el Ecuador.' *Política* (24): 319-324.

- Dean, Erin. 2013. 'Contested Ecologies: Gender, Genies, and Agricultural Knowledge in Zanzibar.' *Culture, Agriculture, Food and Environment* 35 (2): 102-111.
- Deleuze, Gilles, and Felix Guattari. 1987. *A Thousand Plateaus: capitalism and schizophrenia*. Translated by M.B. Minneapolis: University of Minnesota.
- Della Porta, Donatella, Massimiliano Andretta, Lorenzo Mosca, and Herbert Reiter. 2006. *Globalization from Below: Transnational Activists and Protest Networks*. Minneapolis: University of Minnesota Press.
- Descola, Philippe. 2013. *Beyond Nature and Culture*. Traducido por Janet Lloyd. Chicago: The University of Chicago Press.
- Desmarais, Anne. 2002. 'The Via Campesina: Consolidating an International Peasant and Farm Movement.' *The Journal of Peasant Studies* 29 (2): 91-124.
- . 2007. *La Vía Campesina: globalization and the power of peasants*. Halifax: Fernwood.
- . 2011. 'PEASANTS SPEAK- The Vía Campesina: Consolidating an International Peasant Movement.' *Journal of Peasant Studies* 29 (2): 91-124.
- DuPuis, Melaine, and David Goodman. 2005. 'Should we go "home" to eat?: toward a reflexive politics of localism.' *Journal of Rural Studies* 21: 359-371.
- Earle, Rebecca. *The body of the Conquer. Food, Race and the Colonial Experience in Spanish America, 1492-1700*. New York: Cambridge University Press, 2012.
- Ecuador. 1998. 'Constitución 1998.' *Political Database of Americas*. Accessed 08 08, 2014. <http://pdba.georgetown.edu/Constitutions/Ecuador/ecuador98.html#mozTocId950068>.
- . 2008. *Constitución de la República del Ecuador*. Quito.
- Ecuador Inmediato. 2006. *FENOCIN organiza marcha para 31 de marzo en rechazo al TLC*. 29 de 03. Último acceso: 13 de 11 de 2010. http://www.ecuadorinmediato.com/Noticias/news_user_view/ecuadorinmediato_noticias--31585.
- Ecuador. 2009. 'Ley Orgánica de Régimen de Soberanía Alimentaria.' *Registro Oficial* 583. Quito, 5 Mayo.
- ECUARUNARI. 2005. *Boletín de Prensa: La CONAIE establece como único punto de su agenda la lucha contra el TLC, la Occidental y el Plan Colombia*. 11 17. Accessed 05 8, 2010. <http://www.ecuarunari.org/tlc/17nov05.html>.
- . 2008. 'Proyecto de Ley de Soberanía Alimentaria para el Buen Vivir.'
- ECUARUNARI-CONAIE. 2007. 'Propuesta para la Asamblea Constituyente.' Septiembre 13. Accessed 11 5, 2011. http://www.ecuarunari.org/es/info_especiales/anc/Propuesta%20para%20la%20Asamblea%20Constituyente.pdf.

- Edelman, Marc. 1998. 'Transnational Peasant Politics in Central America.' *Latin American Research Review* 33 (3): 49-86.
- . 2001. 'Social Movements. Changing Paradigms and Forms of Politics.' *Annual Review Anthropology* (30): 285-317.
- . 2014. 'Food sovereignty: forgotten genealogies and future regulatory challenges.' *The Journal of Peasant Studies* 1-20.
- El Comercio. 2008a. 'Soberanía Alimentaria ¿Qué significa?' 09 23. Accessed 09 13, 2010. http://www.elcomercio.com/solo_texto_search.asp?id_noticia=144059&anio=2008&mes=&dia=23.
- El Universo. 2003. 'Chulpichochos se venden en supermercados.' *El Universo*, 06 Julio: Economía.
- El Universo. 2008d. 'Política.' Julio 29. Accessed Octubre 13, 2011. <http://www.eluniverso.com/2008/07/29/0001/8/4A914F7EEC9A40A1BF1AF523B394641E.html>.
- . 2008b. 'Política. La Asamblea discute como garantizar la buena alimentación.' 21 Lunes. Accessed 10 12, 2009. <http://www.eluniverso.com/2008/04/21/0001/8/64F804EFAD1F455AB92EED7B350A1A40.html>.
- . 2008a. 'Política. Asambleista cuestiona términos usados en la nueva Constitución.' Junio 4. Accessed Octubre 12, 2010. <http://www.eluniverso.com/2008/06/04/0001/8/E4CE07391A9B422EABF87DF7E8E384E9.html>.
- . 2008c. 'Política. Pleno debatió prohibición de acaparamiento de tierra.' junio 4. Accessed Octubre 12, 11. <http://www.eluniverso.com/2008/06/05/0001/8/B1F79D5302D84E83996366E03DDB7FC0.html>.
- Ellen, Roy. 1992. *Ethnographic research. A guide of general conduct*. London: Academic Press.
- Entrevoces. 2007. 'Propuestas a promover en la Asamblea Nacional Constituyente. Visión de Pedro de la Cruz.' 12. Accessed 11 2011. <http://www.institut-gouvernance.org/en/entretien/fiche-entretien-70.html>.
- Escobar, Arturo. 2010. 'Latin America at a Crossroads. Alternative modernizations, post-liberalism, or post development?' *Cultural Studies* 1-65.
- Estrella, Eduardo. 1986. *El Pan de América*. Madrid: Consejo Superior de Investigaciones Científicas.
- FAO. 1990. «Cultivos Andinos subexplotados y su aporte a la alimentación.» Mario Tapia. Último acceso: 13 de 06 de 2007. http://www.rlc.fao.org/es/agricultura/produ/cdrom/contenido/libro10/cap03_1_3.htm.

- . 2013. *Hambre*. Accessed 03 14, 2013. <http://www.fao.org/hunger/hunger-home/es/>.
- . 2007. *International Plant Genetic Resources Institute (IPGRI)*. 27 Junio. Accessed 07 30, 2014. <http://www.fao.org/forestry/4994/en/>.
- Farfán, Marcelo. 2007. 'Una navidad en el páramo.' *Terra Incognita*.
- Feenberg, Andrew. 2010a. *Between reason and experience: essays in technology and modernity*. Massachusetts: Massachusetts Institute of Technology.
- . 2010b. 'Ten paradoxes of Technology.' *Techne* 14 (1): 13.
- . 2010c. «The mediation is the Message: Rationality and Agency in the Critical Theory of Technology.» April- May. Último acceso: 15 de 01 de 2011. <https://www.sfu.ca/~andrewf/brasil.pdf>.
- FEINE. 2006. *Llacta!* Accessed Octubre 19, 2009. <http://www.llacta.org/organiz/coms/2006/com0108.htm>.
- FENOCIN. 2008c. 'Boletín de Prensa. PROPUESTAS DE FENOCIN RECOGEN CAMBIOS PROFUNDOS PARA EL AGRO.' 01 24. Accessed 11 13, 2010. <http://www.fenocin.org/elisaboletines.html>.
- . 2008d. *FENOCIN: Por un plan nacional agrario y la interculturalidad*. Accessed 09 11, 2012. http://www.google.ca/search?as_q=Material+Web+Propuestas&as_epq=&as_o.
- . 2008a. *Historia*. Accessed 11 3, 2011. <http://www.fenocin.org/fenocininternacional.html>.
- . 2008b. 'Noticias.' Octubre 1. Accessed Noviembre 24, 2011. <http://www.fenocin.org/noticias.html>.
- FENOCIN, and Fundación Heifer. 2006. *Soberanía alimentaria, una propuesta integral desde el campo*. Quito: Ediciones La Tierra.
- Ferraro, Emilia. 2004. *Reciprocidad, don y deuda. Formas y relaciones de intercambios en los Andes Ecuatorianos*. Quito: FLACSO- Abya Yala.
- Forum of Food Sovereignty. 2007. 'Declaration of Nyéléni.' *Declaration of the Forum for Food Sovereignty, Nyéléni 2007*. Mali: Forum of Food Sovereignty. 3.
- Foucault, Michael. 1978. *History of Sexuality: Volume 1: An Introduction*. Traducido por Robert Hurley. New York: Phanteon Books.
- . 1980. *Microfísica del poder*. Editado por Julia Varela y Fernando Alvarez-Uria. Madrid: La Piqueta.

- Foucault, Michael. 1992. *El orden del discurso*. Translated by Alberto Gonzales. Buenos Aires: Tusquet Editores.
- . 2006. 'Governmentality.' In *The Anthropology of the State: a reader*, by Aradhana Sharma and Akhil Gupta, 131-143. Malden: Blackwell Publishing.
- Foucault, Michael, and Gilles Deleuze. 1977. 'Intellectuals and Power.' Accessed 05 11, 2014. ntendtogether.pressible.org/files/2012/04/Deleuze-and-Foucault-Intellectuals-and-Power.-In-Bouchard-ed.-Language-Counter-Memory-Practice-Selected-Essays-and-Interviews.-Cornell-University-Press-1977.-.pdf.
- Fox Keller, Evelyn. 2003. *A feeling for the Organism*. New York: Holt Paperbacks.
- Fried, Michele O. 1986. *Comidas del Ecuador. Recetas tradicionales para gente de hoy*. Quito: Imprenta Mariscal.
- Gómez, Leonardo. 2013. 'LaVerde: En el chocho afianzó su estrategia para crecer.' *Revista Lideres*. 02 Febrero. Accessed Agosto 08, 2014. http://www.revistalideres.ec/empresas/chochos-LaVerde-empresa-alimentos_0_872312773.html.
- Goodman, David. 1999. 'Agro- Food Studies in the 'Age of Ecology': Nature, Corporality, Bio-Politics.' *Sociologia Ruralis* 17-38.
- Goodman, David, and Melanie DePuis. 2002. 'Knowing Food and Growing Food: Beyond the Production- Consumption.' *Sociologia Ruralis* 42: 5-22.
- Gose, Peter. 2004. *Aguas mortíferas y cerros profundos*. Quito: Abya-Yala.
- GRAIN. 2005. *GRAIN*. 04 29. Accessed 03 07, 07. <http://www.grain.org/article/entries/491-food-sovereignty-turning-the-global-food-system-upside-down>.
- Guerrero, Andrés. 2000. 'El proceso de identificación: sentido común ciudadano, ventriloquía y transescritura.' In *Etnicidades*, by Andres (comp) Guerrero, 9-60. Quito: FLACSO.
- . 1991. *La semantica de la dominación: el concertaje de indios*. Quito: Libri Mundi.
- Gupta, Akhil, y Aradhana Sharma. 2006. «Globalization and Postcolonial States.» *Current Anthropology* 47 (2): 277-307.
- Haraway, Donna. 1988. 'Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective.' *Feminist Studies* 4 (3): 575-599.
- Harding, Sandra. 1989. 'The Instability of the Analytical Categories of Feminist Theory.' In *Feminist Theory in Practice and Process*, by Micheline et al Malson, 15-34. Chicago.

- Harris, Olivia. 1982. «The Dead and the Devils among the Bolivian Laymi.» En *Ecology and Exchange*, de M. Bloch y J. Parry, 45-73. Cambridge: Cambridge University Press.
- . 1995. 'The Sources of Meanings of Money: Beyond the Market Paradigm in an Ayllu of Nothern Potosi.' In *Ethnicity, Markets and Migration in the Andes: At the Crossroads of History and Anthropology*, by Broke Larson and Olivia Harris, 297-328. Durham: Duke University Press.
- Hernández, Luis and Desmarais, Annette. 2009. *Feeding the world and cooling the planet: La Via Campesina's Fifth International Conference*. 15 October. Accessed December 30, 2014. <http://viacampesina.org/en/index.php/our-conferences-mainmenu-28/5-maputo-2008-mainmenu-68/770-feeding-the-world-and-cooling-the-planet-la-vcampesinas-fifth-international-conference>.
- Hofweber, Thomas. 2014. 'Logic and Ontology.' *The Stanford Encyclopedia of Philosophy*. Fall. Accessed Agosto 12, 2014. <http://plato.stanford.edu/entries/logic-ontology/>.
- Holt-Gimenez, Eric. 2009. 'From food crisis to food sovereignty: the challenge of social movements.' *Monthly Review* 142-156.
- Hospes, Otto. 2013. 'Food sovereignty: the debate, the deadlock and suggested detour.' *Agriculture and Human Values*.
- Ingold, Tim. 2000. *The Perception of Environment. Essays in Livelihood, Dwelling and Skill*. London: Routledge.
- INIAP & CIID. 1991. *Informe de actividades 1990. Programa de Cultivos Andinos*. Quito: INIAP.
- . 1993. *Informe de Actividades. Programa de Cultivos Andinos. 1992*. Informe anual, Quito: INIAP.
- . 1965. *Informe 1964*. Informe anual, Quito: INIAP.
- . 1979. *Resumen de informes Anuales (1963-1978)*. Quito: INIAP.
- . 1983. *Programa de Leguminosas. Informe Anual*. Quito: INIAP. INIAP. 2000. *Capacitacion y difusion del manejo, produccion, poscosecha y fomento de leguminosas*. Informe Técnico Anual, Quito: INIAP.
- INIAP . 1984. *Programa de Leguminosas. Informe Anual*. Quito: INIAP.
- . 1985. *Programa de Leguminosas. Informe Anual*. Quito: INIAP.
- . 1987. *Programa de Leguminosas. Informe Anual*. Quito: INIAP.
- . 1988. *Programa de Leguminosas. Informe Anual*. Quito: INIAP.
- . 1990. *Programa de Leguminosas. Informe Anual*. Quito: INIAP.

- . 1995. *Informe nacional para conferencia técnica internacional de la FAO sobre recursos fitogenéticos*. Quito: INIAP.
- . 2001. 'Poscosecha y mercado de chocho (*Lupinus mutabilis* Sweet).' *Publicación Miselanea* (Instituto Nacional de Investigaciones Agropecuarias (INIAP)) 105: 1-54.
- . 2001a. *Programa de Leguminosas. Informe Anual*. Quito: INIAP.
- . 2002. *Programa de Leguminosas. Informe Anual*. Quito: INIAP.
- . 2008. *INSTITUTO NACIONAL DE INVESTIGACIONES AGROPECUARIAS. ESTACION EXPERIMENTAL SANTA CATALINA. 1961-2008*. Accessed 06 26, 2014. <http://www.iniap.gob.ec/nsite/images/documentos/Estaci%C3%B3n%20Experimental%20Santa%20Catalina.%20INIAP.pdf>.
- . 2011. *Historia*. Accessed January 20, 2013. http://www.iniap.gob.ec/sitio/index.php?option=com_content&view=article&id=176&Itemid=206.
- Jacobsen, Sven, and Angel Mujica. 2006. 'El tarwi (*Lupinus mutabilis* Sweet.) y sus parientes silvestres.' *Botánica Económica de los Andes Centrales* 458-482.
- Jorgensen, Peter, and Carmen Ulloa. 1994. *Seed Plants of the High Andes of Ecuador -a checklist*. Denmark: Aarhus University.
- Junovich, Analia. 2003. *El cultivo del chocho según el Tercer Censo Nacional Agropecuario*. Quito: SICA- Banco Mundial.
- Keck, Margaret, and Kathryn Sikkink. 1998. *Activist Beyond Borders: Advocacy Networks in International Politics*. Ithaca: Cornell University Press.
- Kloppenburg, Jack. 1988. *First the seed. The political economy of plant biotechnology 1492-2000*. Cambridge: Cambridge University Press.
- . 2014. 'Re-Purposing the Master's Tools: the Open Source Seed Initiative and the Struggle for Seed Sovereignty.' *The Journal of Peasant Studies*.
- La Hora. 2004. *Colorido inicio de 'Ecuador decide'*. octubre 6. Accessed 03 14, 2009. http://www.lahora.com.ec/index.php/noticias/show/1000278597/-1/Colorido_inicio_de_%E2%80%9CEcuador_decide%E2%80%9D.html#.UP8IW1X1IM.
- . 2006. *Jóvenes debaten sobre impactos del TLC*. 02 12. Accessed 06 12, 2009. http://www.lahora.com.ec/index.php/noticias/show/393507#.UQBYZ_Ldn1U.
- . 2008a. 'Nacional.' Mayo 29. Accessed Julio 9, 2009. <http://www.lahora.com.ec/frontEnd/mainphp?busqueda=soberania+alimentaria>.

- . 2008b. 'País.' *Constitución de Ecuador prohibirá confiscación de tierras, según oficialismo*. 3 Junio. Accessed Octubre 15, 2011. <http://www.lahora.com.ec/index.php/noticias/show/729453/-1/home/goRegional/Manabi#.VQXqz46G-oM>.
- La Vía Campesina. 2006. *Rice and Food Sovereignty in Asia Pacific*. 13 de 07. Último acceso: 7 de 04 de 2014. http://viacampesina.net/downloads/PDF/2006_07_13_Rice_and_Food_Sovereignty_in_Asia_Pacific.pdf.
- . 2008a. *Food Sovereignty for Africa: A challenge of at fingertips*. Accessed April 8, 2014. http://viacampesina.net/downloads/PDF/Brochura_em_INGLES.pdf.
- . 2013a. *Paraguay: Declaración de Yvapuruvu, semillas en resistencia*. 25 Octubre. Accessed 04 07, 2014. <http://www.viacampesina.org/es/index.php/noticias-de-las-regiones-mainmenu-29/1942-paraguay-declaracion-de-yvapuruvu>.
- . 2013. *Women of Via Campesina International Manifesto*. 16 July. Accessed 30 Tuesday, 2014. <http://viacampesina.org/en/index.php/our-conferences-mainmenu-28/6-jakarta-2013/resolutions-and-declarations/1451-women-of-via-campesina-international-manifesto-2>.
- Landívar, Natalia. 2004. *Parallel Report The Right to Adequate Food in Ecuador - FIAN*. April. <http://www.fian.org/resources/documents/others/the-right-to-adequate-food-in-ecuador/pdf>.
- Langdon, Winner. 1999. 'Do artifacts have politics?' In *The Social Shaping of Technology*, by Donald MacKenzie and Judy Wajcman, 30-40. New York: Open University Press.
- Larrea, Carlos. 2005. 'Hacia una historia ecológica del Ecuador: propuestas para el debate.' Último acceso: 10 de 11 de 2013. www.estudiosecologistas.org/docs/ecopolitica/ecohistoria/eco_historia.pdf.
- Larson, Broke, and Olivia Harris. 1995. *Ethnicity, Markets and Migration in the Andes: At the Crossroads of History and Anthropology*. Durham: Duke University Press.
- LatinAmericaPress. 2008. *Alternative agrarian norm*. 23 Julio. Accessed 10 10, 2012. <http://www.latinamericapress.org/articles.asp?art=5676>.
- Latour, Bruno. 1986. 'The Powers of Association.' En *Power, Action and Belief. A new sociology of Knowledge?*, de John Law, 264-280. London: Routledge & Keagan Pau.
- . 'On Technical Mediation. Philosophy, Sociology, Genealogy.' In *Common Knowledge*, 29-64. Dallas: Oxford University Press.
- . 1996. 'On actor network theory. A few clarifications plus more than a few complications.' *Bruno Latour*. Último acceso: 15 de 03 de 2012. <http://www.bruno-latour.fr/sites/default/files/P-67%20ACTOR-NETWORK.pdf>.

- . 2007a. *Reassembling the Social. An Introduction to Actor-Network Theory*. Oxford: Oxford University Press.
- . 2007b. *Nunca fuimos modernos. Ensayo de antropología simétrica*. Translated by Victor Goldstein. Buenos Aires: Siglo XXI.
- Law, John. 1986. 'On the methods of Long Distance Control: Vessels, Navigation, and the Portuguese Route to India.' In *Power, Action and Belief: A new Sociology of Knowledge?*, by John (ed) Law, 234-263. London: Routledge.
- . 1992. 'Notes on Theory of the Actor Network: Ordering, Strategy and Heterogeneity.' *Systems Practice* 5 (4): 379-393.
- . 1994. *Organizing Modernity*. Oxford: Blackwell.
- Law, John. 1999. 'After ANT: Complexity, naming and topology.' In *Actor Network Theory and After*, by John Law and John Hassard, 1-14. Oxford: Blackwell Publishing Oxford.
- Law, John, and Michael Callon. 1997. 'After Individual in Society: Lessons on Collectivity from Science, Technology and Society.' *Canadian Journal of Sociology/ Cahiers Canadiens de Sociologie* 2: 167-182.
- Law, John and Anne Marie Mol. 1995. 'Notes on Materiality and Sociality.' *The Sociological Review* 274- 294.
- Lemke, Thomas. 2001. "The Birth of Bio-Politics' – Michel Foucault's Lecture at the College de France on Neo-Liberal Governmentality.' *Economy & Society* 30 (2): 190-207.
- Llacta! "ALCA-TLC: Recolonizando la América Latina." n.d.
<http://www.llacta.org/alca-tlc/listado.htm> (accessed 08 07, 2014)
- Lookie, Steward, and Simon Kitto. 2000. 'Beyond the Farm Gate: Production-Consumption Networks in Agri-Food Research.' *Sociologia Ruralis* 40: 3-19.
- MacKenzie, David, and Judy Wajcman. 2006. 'Introductory essay: the social shaping of technology.' In *The Social Shaping of Technology*, by David MacKenzie and Judy Wajcman, 3-27. Berkshire: Open University Press.
- Magnaghi, Alberto. 2005. «Local Self- Sustainable Development: Subjects of Transformation.» *Tailoring Biotechnologies* (1): 11-46.
- Martínez, Luis, A. 1903. *La Agricultura Ecuatoriana*. Ambato: Imprenta I. Porras.
- Martinez-Torres, María and Rosset, Peter. 2010. 'La Vía Campesina: the birth and the evolution of a transnational social movement.' *Journal of Peasant Studies* 149-175.

- Mazón, Nelson, Eduardo Peralta, Angel Murillo, Esteban Falconí, Carlos Monar, Cristian Subía, Paola Estrella, and José Pinzón. 2007. *Comites de Investigación agrícola y local (CIALs): Herramienta para generar capacidades locales en investigación y desarrollo*. Quito: PRONALEG-INIAP-.
- McMichael, Philippe. 2007. «Globalization in the Agrarian World.» En *The Blackwell Companion to Globalization*, de George Ritzer, 216-238. Oxford: Blackwell Publishing.
- McMichael, Philip. 2009. «A Food Regimen Genealogy.» *The Journal of Peasant Studies* 36 (1): 139-169.
- McMichael, Philip. 2014. 'Historicizing food sovereignty.' *The Journal of Peasant Studies* 1-20.
- McAdam, Doug, John McCarthy, and Zald Mayer. 1996. *Comparative perspectives on social movements. Political opportunities, mobilizing structures, and cultural framings*. Cambridge: Cambridge University Press.
- McKay, Ben, and Nehring Ryan. 2013. 'The 'State' of Food Sovereignty in Latin America: Political Projects and Alternative Pathways in Venezuela, Ecuador, and Bolivia.' *Conference Paper for Discussion at: Food Sovereignty a Critical Dialogue*. New Haven: Yale University. 1-36.
- McKinlay, Alan. 2010. 'Book Reviews. Peter Miller and Nikolas Rose: Governing the Present: Administering Social and Personal Life.' *Organization Studies* 1155- 1159.
- Mendes, Joao. 2007. 'The World Bank's 'Market-Assisted' Land Reform as a Political Issue: Evidence from Brazil (1997-2006).' *European Review of Latin American and Caribbean Studies* (82): 21-49.
- Meyer, Eduardo. 2002. *The Articulated Peasant. Household Economies in the Andes*. Boulder: Westview Press.
- . 2002. *The Articulated Peasant. Household Economies in the Andes*. Boulder: Westview Press.
- Ministerio de Agricultura, Ganadería, Acuacultura y Pesca. n.d. *Ecuador ama la vida*. Accessed 10 07, 2014. <http://www.agricultura.gob.ec/redes-comerciales/>.
- Missouri Botanical Garden. 1995-2015. *Research Projects: Paramo Ecosystem*. Accessed December 30, 2014. http://www.mobot.org/mobot/research/paramo_ecosystem/introduction.shtml.
- Montero, Rodrigo. 2007. «America Económica.Com.» 10 de 08. Último acceso: 12 de 09 de 2009. <http://www.americaeconomica.com/portada/entrevistas/agosto07/rmentrevistamacas.htm>.

- Moore, Henrietta. 1988. *Feminism and Anthropology. Feminist Perspectives*. Great Britain: Polity Press.
- Murdoch, Jonathan. 2000. 'Networks -a new paradigm of rural development?' *Journal of Rural Studies* 407-419.
- Murra, John. 1980. *The Economic Organization of Inka State*. Greenwich: Jai Press Inc.
- Naranjo, Plutarco. 1983a. 'Desnutrición, malnutrición e ignorancia dietética.' *Boletín de Informaciones Científicas Nacionales* 17 (114): 7-19.
- . 1983b. 'Quínoa, lágrima del sol.' *Revista de la Universidad de Guayaquil*.
- . 1984. «Plantas alimenticias del Ecuador Precolombino.» *Miselaena Antropológica. Revista del Banco Central del Ecuador* (4): 63-82.
- . 1985. *Desnutrición, problemas y soluciones*. Quito: Instituto Ecuatoriano de Seguridad Social.
- . 1986. 'Chocho, leche vegetal.' *Revista Universidad de Guayaquil*. 4 (66): 91-93.
- National Research Council. 1989. *Lost Crops of the Incas: Little-Known Plants of the Andes with Promise for Worldwide Cultivation*. Washington: The National Academies Press.
- Nieto, Carlos. 2001. 'Cultivo, producci[on y conservaci[on de la quinoa en Ecuador.' *Quinoa (Chenopodium quinoa Wild). Ancestral Cultivo Andino. Alimento del presente y del futuro*. Edited by Angel Mujica, Sven-Erik Jacobsen, Juan Izquierdo and Jean Pierre Marathe. FAO. Accessed 03 04, 2013. <http://www.rlc.fao.org/es/agricultura/produ/cdrom/contenido/libro03/home03.htm>.
- Nieto, Carlos, and Carlos Vimos. 1994. *Proyecto de cooperación técnica 3P-90-0160. Producción y procesamiento de quinua en Ecuador. Informe final de labores*. Informe final de proyecto, Quito: INIAP-CIID.
- Nyeleni. 2007. *Nyeleni, Synthesis Report*. Último acceso: 6 de 04 de 2014. <http://www.nyeleni.org/IMG/pdf/31Mar2007NyeleniSynthesisReport-en.pdf>.
- Orlove, Benjamin. 1977. *Alpacas, Sheep and Men: The Wool Economy and Regional Society in Southern Peru*. New York: Academic Press.
- . 1986. 'Barter and Cash Sale on Lake Titicaca: A Test Competing Approaches.' *Current Anthropolgy* 85-106.
- Orlove, Benjamin . 2002. *Lines in the Water. Nature and Culture at Lake Titicaca*. California: University of California Press.
- Osorio, Juan José, entrevista de Alexandra Martínez. 2008. *Situación de la agricultura en Guayama* (18 de February).

- Paget-Clarke, Nic. 2007. *Lo que estamos planteando es la autodeterminación de los pueblos. Entrevista con doctor Luis Macas de CONAIE*. 08. Último acceso: 15 de 11 de 2010. <http://www.inmotionmagazine.com/qanda/qanda.html>.
- Palán, Zonia. 1982. 'Proceso de generació, difusión y adopción de tecnologías de cultivo del trigo. Estudio de caso.' In *Estructuras agrarias, reproducción campesina. Lecturas sobre transformaciones capitalistas en el agro ecuatoriano*, by Cristian Sepúlveda, 239-274. Quito: Pontificia Universidad Católica de Ecuador.
- Patel, Raj. 2008. «What does food sovereignty look like?» *The Journal of Peasant Studies* 663-672.
- People's Food Sovereignty. 2007. *People's Food Sovereignty Statement*. Noviembre. Accessed Abril 8, 2014. http://www.world-governance.org/IMG/pdf_0070_Peoples_Food_Sovereignty_Statement_-_ENG.pdf.
- Peralta, Eduardo. 2007. 'Presentación.' In *Comites de Investigación agrícola y local (CIALs): Herramienta para generar capacidades locales en investigación y desarrollo*, by Nelson Mazón, Eduardo Peralta, Angel Murillo, Esteban Falconí, Carlos Monar, Cristian Subía, Paola Estrella and José Pinzón, ii-iv. Quito: PRONALEG- INIAP.
- Peralta, Eduardo, Angel Murillo, Carlos Caicedo, Pinzón José, and Marco Rivera. 1998. *Manual agrícola de leguminosas. Cultivos y costos de producción*. Quito: INIAP-COSUDE.
- Peralta, Eduardo, Marco Rivera, Antonio Murillo, Nestor Mazon, and Carlos Monar. 2010. 'Nueva variedad de chocho para la provincia de Bolivar.' *Boletín divulgativo No 382*. Quito: INIAP, Programa Nacional de Leguminosas, Julio.
- Peralta, Eduardo, Nelson Masón, and Elena Villacrés. 2001. *Evaluación del chocho desamargado y congelado*. Quito: INIAP.
- Peralta, Eduardo, Nelson Mazon, Angel Murillo, Rivera Marco, and Carlos Monar. 2008. *Manual agrícola de granos andinos. Chocho, Quinoa, Amaranto y Ataco*. Quito: PRONALEG-INIAP.
- Piñeiro, Martín & Obschatko, E. 1985. 'Politica Tecnológica y Seguridad Alimentaria en América Latina.' *Documento de Trabajo*. no. 8. Lima: Instituto de Estudios Peruanos, 12.
- Ponce de León, Sancho de Paz. 1992. 'Relación y descripción de los pueblos del partido de Otavalo.' In *Relaciones histórico geográficas de la Audicencia de Quito*, by Pilar Ponce, 359-371. Quito: Marka-Abya Yala.

- Ponce de León, Sancho de Paz. 1992. 'Relación y descripción de los pueblos del partido de Otavalo.' En *Relaciones histórico geográficas de la Audicencia de Quito*, de Pilar Ponce, 359-371. Quito: Marka-Abya Yala.
- Ponce, Cecilia, 2009. *Soberanía Alimentaria participación movimientos sociales* (interview by Alexandra Martínez) (29 December).
- Ponce, Javier. n.d. 'La soberanía: ¿Ha pasado de moda?' *Cartillas sobre el Tratado de Libre Comercio*. n° 3. Quito.
- Pryke, Michael, Gilliam Rose, and Sarah Whatmore. 2003. *Using Social Theory*. London: Sage Publications.
- Pucha, José Miguel, interview by Alexandra Martínez. 2008. *Sobre el lupino paisano* (13 Diciembre).
- Reynolds, Laura. 2002. 'Consumer/ Producer Links in Fair Trade Coffe Networks.' *Sociologia Ruralis* 42 (4): 405-420.
- Richards, Paul. 1985. *Indigenous agricultural revolution: ecology and food production in West Africa*. London: Unwin Hyman.
- Rose, Nikolas. 2006. 'Governing 'Advanced' liberal democracies.' In *The Anthropology of the State*, by Arandana Sharma and Akil Ed Gupta, 144-168. Oxford: Blackwell Publishing.
- Rose, Nikolas, and Peter Miller. 2010. 'Political power beyond the State: problematics of government.' *The British Journal of Sociology* 43 (2): 271-303.
- Rosero, Fernando. 2008. 'La Asamblea Nacional Constituyente: tensiones entre la utopía deseada y el cambio posible.' December. Accessed 09 12, 2009. <http://www.institut-gouvernance.org/en/analyse/fiche-analyse-448.html>.
- Rosero, Fernando, Yolanda Carbonell, and Fabián Regalado. 2011. *Soberanía Alimentaria, modelos de desarrollo y tierras en el Ecuador*. Quito: CAFOLIS.
- Rosset, Peter. 2004. *El Derecho a la Tierra. Cuatro textos sobre reforma agraria*. Barcelona: Agora Nord-Sud.
- . 2006. *Food is Different. Why we must get the WTO out of agriculture*. Bangalore: Natinal Prining Press.
- . 2011. 'Food Sovereignty and Alternative Paradigms to Confront Land Grabbing and the Food and Climate Crises.' *Development* 21-30.
- . *Cultivos transgenicos y Soberanía Alimentaria*. Quito, 19 11.
- . 2013. 'Re-thinking agrarian reform, land and territory in La Via Campesina.' *Journal of Peasant Studies* 721-775.

- Ruivenkamp, Guido. 2005. 'Tailor- made biotechnologies: Between Biopower and Sub-Politics.' *Tailoring Biotechnologies* (1): 11-33.
- . 2005. 'Tailor-made biotechnologies: Between Bio-Power and Sub-Politics.' *Tailoring Biotechnologies* 11-46.
- Ruivenkamp, Guido, Shuji Hisano, and Joost Jongerden. 2008. *Reconstructing Biotechnologies*. Wageningen: Academic Publishers.
- Schneider, Sergio, and Paulo Niederle. 2010. 'Resistance strategies and diversification of rural livelihoods: the.' *The Journal of Peasant Studies* 379-405.
- Scott, James. 2013. *Food sovereignty A critical dialogue. Inaugural conference*. Yale, 14-15 September.
- . 1998. *Seeing like a State. How Certain Schemes to Improve the Human Condition Have Failed*. New Haven and London: Yale University Press.
- Seligman, Linda. 2001. 'Introduction: Mediating Identities and Marketing.' In *Women Traders in a Cross Cultural Perspective*, by Linda ed. Seligan, 1-24. California: Stanford University Press.
- . 1989. «To Be in Between: The Cholas as Market Women in Peru.» *Comparative Studies in Society and History* 31 (4): 694-721.
- SENACYT, FUNDACYT. 2004. *Evaluación Ex-Post. I Programa Nacional de Ciencia y Tecnología*. Quito: FUNDACYT- SENACYT.
- Sharma, Ardahana, y Akhil Gupta. 2006. «Introduction: Rethinking Theories of the State in an Age of Globalization.» En *The Anthropology of the State: A Reader.*, de Ardahana and Gupta, Akhil eds Sharma, 1-41. Malden: Blackwell.
- Sherbondy, Janette. 1998. 'El riego Andino en una perspectiva histórica.' In *Buscando la equidad. Concepciones sobre justicia y equidad en el riego campesino*, by Rutgerd Boelens and Gloria Dávila, 226-231. Assen: Van Gorcum.
- Sikkiink, Lynn. 2001. «Traditional Medicines in Marketplace: Identity and Ethnicity among Female Vendors.» En *Mediating Identities, Market Wares*, de Linda ed Seligman, 209-225. California: Stanford University Press.
- SIPAE. 2008c. 'El proyecto de la nueva constitución y la cuestion agraria.' *Alerta Agraria* 11: 2-15.
- . 2007. *Hacia una agenda para las economías campesinas del Ecuador*. Quito: SIPAE.
- . 2008a. 'La reforma agraria dirigida por le mercado: alcances y límites de la propuesta del Banco Mundial en América Latina.' *Alerta Agraria* 13: 2-16.

- . 2008b. 'Propuesta Agraria del SIPAE para la nueva constitución.' *Alerta Agraria* 9: 1-7.
- Smith, Daniel and Protevi, John. 2013. 'Gilles Deleuze', *The Stanford Encyclopedia of Philosophy*. Accessed December 29, 2014. <http://plato.stanford.edu/archives/spr2013/entries/deleuze/>.
- Stensrud, Astrid. 2010. 'Los peregrinos urbanos en Qoyllurit'i y el juego mimético de miniaturas.' *ANTROPOLOGICA* 28: 39-65.
- Tapia, Mario. 2000. 'Presentación.' *Cultivos andinos subexplotados y su aporte a la alimentación*. Accessed 03 15, 2013. <http://www.rlc.fao.org/es/agricultura/produ/cdrom/contenido/libro10/home10.htm>.
- TELFUN. 2006. *Key documents*. 15 de 11. Último acceso: 12 de 08 de 2007. http://telfun.info/public/index.php?option=com_content&task=view&id=5&Itemid=6.
- Tregear, Angela. 2011. 'Progressing knowledge in alternative and local food networks: Critical reflections and Reserch Agenda.' *Journal of Rural Studies* 419-430.
- Uquillas, Jorge. 1988. 'Agricultura Andina: El sistema nacional de tecnología en el Ecuador.' *Memorias. VI Congreso internacional sobre cultivos andinos. Quito, 30 Mayo a 2 Junio de 1988*. Quito: INIAP. 407- 409.
- van der Ploeg, Jan Douwe. 1993. 'Potatoes and Knowledge.' In *An anthropological critic of development*, by M. Hobart, 209-227. London: Routledge.
- . 2000. «Revitalizing Agriculture: Farming Economically as Starting Ground for Rural Development.» *Sociologia Ruralis* 497-511.
- . 2010b. 'The Food Crisis, Industrialized Farming and the Imperial Regime.' *The Journal of Agrarian Change* 98-106.
- . 2010a. 'The peasantries of the twenty-first century: the commoditisation debate revisited.' *Journal of Peasant Studies* 1-30.
- . *The Virtual Farmer. Past, Present and Future of Dutch Paesentry*. The Netherlands: Royal van Gorcum.
- van der Ploeg, Jan Douwe, and Gert van Dijk. 1995. *Beyond Modernization: The impact of Endogenous Development*. Assen: Royal van Gorcum.
- Vivero, Jose Luis. «The food commons transition. Collective actions for food security.» *The Broker. Connecting worlds of knowledge*. 22 de January de 2014. <http://www.thebrokeronline.eu/Authors/Vivero-Pol-Jose-Luis> (access: 18 January de 2015).
- Villacrés, Elena, Armando Rubio, Luis Egas, and Gabriela Segovia. 2006. 'Usos alternativos del chocho (Lupinus mutabilis Sweet).' *Boletín Divulgatorio No 333*. Quito: INIAP-FUNDACYT, Junio.

- Villacrés, Elena, Carlos Caicedo, and Eduardo Peralta. 1998. *Disfrute cocinando con chocho*. Quito: INIAP-BID-FUNDACYT.
- Villacrés, Elena, Eduardo Peralta, and María del Carmen Alvarez. 2003. *Recetario Chochos en su Punto*. Quito: INIAP.
- Wajcman, Judy. 1991. *Feminism Confronts Technology*. Pennsylvania: The Pennsylvania University Press.
- . 2000. «Reflections on Gender and Technology Studies. What State is the Art?» *Social Studies of Science* 30 (3): 447-464.
- Weismantel, Mary. 1994. *Alimentación, género y pobreza en los Andes ecuatorianos*. Quito: Abya-Yala.
- . 2001. *Cholas y Pishtacos. Stories of Race and Sex in the Andes*. Chicago: University of Chicago Press.
- . 1988. *Food, Gender and Poverty in the Ecuadorian Andes*. Philadelphia: University of Pennsylvania Press.
- Whatmore, S., and Loraine Thorne. 2008. 'Nourishing Networks: Alternative Geographies of Food.' In *Reading Economic Geography*, by Barne Trevor and Eric Jamie, 235-247. Oxford: Blackwell Publishing.
- Whatmore, Sarah. 2002. *Hybrid Geographies. Natures, cultures, spaces*. London: Sage.
- Windfuhr, Michael, and Jannie Jonsen. 2005. 'UK Food Group.' *Uk Food Group*. Accessed 03 12, 2008. <http://www.ukabc.org/foodsovpaper.htm>.
- Wiskerke, Jan. 2009. «On Places Lost and Places Regained: Reflections on the Alternative Food Geography and Sustainable Regional Development.» *International Planning Studies* (14): 369-387.
- Wiskerke, Jan, and Jan Van der Ploeg. 2004. *Seeds in Transition. Essays on novelty production, niches and regimes on agriculture*. The Netherlands: Koninklijke Van Gorcum.
- Wittman, Hannah. 2009. 'Reworking the metabolic rift: La Vía Campesina, agrarian citizenship, and food sovereignty.' *The Journal of Peasant Studies* 805-826.
- Working Group on Indigenous Food Sovereignty. n.d. *Indigenous Food System Network Website*. Accessed April 8, 2014. <http://www.indigenousfoodsystems.org/>.
- Wyle, Alison, Elizabeth Potter, and Wenda Bauchspies. 2011. 'Feminist perspectives on Science.' In *Stanford Encyclopedia of Philosophy*, by Eduard Zalta, 1-87. Stanford: Stanford University.

References

Zamosc, Leon. 1994. 'Agrarian Protests and the Indian Movement in Ecuadorian Highlands.' *Latin American Research Review* 29 (3): 37-68.

Personal Conversations

- Anonymous 1. Interview by Alexandra Martínez. Personal conversation. Quito, May, 2009.
- Anonymous 2. *Conversaciones sobre las negociaciones en la ley de soberanía alimentaria*, interview by Alexandra Martinez. Personal conversation. Quito, October, 2010.
- Antepara, José. *Historia de vida*, interview by Alexandra Martínez. Personal conversation. Guayama, 16 December, 2008.
- Auz, Joselino. *Sobre la producción de alimentos en Guayama*, interview by Alexandra Martinez. Personal conversation. Guayama, February 16, 2009.
- Bravo, Elizabeth. *Soberanía Alimentaria y transgénicos*, interview by Alexandra Martínez. Personal conversation. Quito, January 10, 2009.
- Chaluisa, Segundo. *Sobre el cultivo de lupino*, interview by Alexandra Martínez. Personal conversation. Guayama, December 2007.
- Farfán, Marcelo. *Trabajo pastoral en la Zona de Zumbagua y Guayama*, interview by Alexandra Martinez. Personal conversation . Quito, October 15, 2014.
- Iracunga, Manuel. *Situación de la agricultura y la tierra en Guayama*, interview by Alexandra Martinez. Personal conversation. Guayama, November 30, 2008.
- Mason, Nelson. *Evaluación agronómica y evaluación participativa*, interview by Alexandra Martinez. Personal conversation. INIAP, Quito, July 27, 2009.
- Naranjo, Plutarco. *Lupino y quinoa como alimentos centrales en la dieta andina*, interview by Alexandra Martinez. Personal conversation. Quito, January 13, 2008.
- Osorio, Juan José. *Situación de la agricultura en Guayama*, interview by Alexandra Martínez. Personal conversation. Guayama, February 18, 2008.

- Peralta, Eduardo. *Sobre la liberación de la semilla INIAP 450*, interview by Alexandra Martínez. Personal conversation. INIAP, Quito, July 20, 2008.
- Pizón, José. *Conversación sobre investigación del lupino*, interview by Alexandra Martínez. Personal conversation. INIAP, Quito, July 21, 2009.
- Ponce, Cecilia, *Soberanía Alimentaria participación movimientos sociales*, interview by Alexandra Martínez. Personal conversation. Quito, December 29, 2009.
- Pucha, José Miguel, *Sobre el lupino paisano*, interview by Alexandra Martínez. Personal conversation. Guayama 13 Diciembre, 2008.
- Tiban, Mariana, *Historia de vida*, interview by Alexandra Martínez. Personal conversation. Latacunga, June 14, 2007.
- Toapanta, Margarita. *Venta y procesamiento de chocho en El Salto*, interview by Alexandra Martínez. Personal conversation. Latacunga, September 14, 2007.
- Torres, María de Lourdes, *Asamblea Nacional Constituyente, soberanía alimentaria y transgénicos*, interview by Alexandra Martínez. Personal conversation. Quito, November 26, 2009.
- Villacrés, Elena. *Sobre las nuevas formas de preparar y consumir chocho*, interview by Alexandra Martínez. Personal conversation. INIAP, Quito, July 25, 2009.

SUMMARY

This thesis looks at how modernism is expressed in science and politics in respect to agriculture in Ecuador. Expressed as three separate narratives that combine to develop the broader narrative of agrarian philosophy, it starts from the study of a local food (*lupino paisano*) network grounded in the traditional and moves through a regional public-institution development in agro-biogenetics to conclude with the construction of a national legal framework for food sovereignty. In journeying thus, literally as well as conceptually, from the world of smallholders in the Andean highlands so as to establish a contemporary context of the non-modern to that of national politics structured by the supranational, essentially this thesis argues that researchers and legislators work within a modernistic discourse even when promoting the public good and a pro-indigenous value system.

Crucially, these actors – researchers, politicians – do not recognise the existence and importance of a *different ontological perspective* – as expressed in the *lupino paisano* network – that is naturally aligned with and has the capacity to develop food sovereignty. As a result, for *development* as this is conceived and enacted through S&T and the Ecuadorian state, therefore, the only possible agrarian techniques and policies are those linked with the ‘high’ modernist agriculture. And this is expressed in the actual developments that occur – the products of technology and politics – even when the common interests of peasants are (apparently) emphasised over those of capital and agro-business. Thus, in practice, *food sovereignty reverts to food security*, and ultimately because of its grounding in the *modernist ontology*.

The thesis is organised into five chapters, the first theoretical, the next three empirical, and the fifth evaluative, as follows.

In Chapter 1, there is an explanation of the theoretical position, indicating the theoretical (food sovereignty debate) and institutional background (TELFUN program) from

which this research has evolved. I refer to the philosophical notion of the rhizome (as developed by Deleuze and Guattari), Actor Network Theory (ANT, especially Latour), and ideas about the construction and workings of power (as proposed by Foucault). These are employed in the thesis as conceptual structures for the idea of the alternative, non-modern (in the case of the *rhizome*), for the perception of non-human entities in this (*actants*) and for the institution of the modern (*governmentality*).

The second chapter examines the relations involved in growing, trading and food processing that have developed around the local lupin – the *lupino paisano* network. This chapter is concerned with the first research question: how can the *lupino paisano* network envisage and create strategies to stimulate food sovereignty? Commencing the thesis by analysing this network enables investigation of a *basic worldview in peasant practice* and thereby a presentation of how this type of food network supports food sovereignty on the fundamental basis of a different ontological perspective to that of the modernist.

Specifically, I explain that the rhizomatic organisation of this Andean food network 1) conceives of and thus allows for the participation of all the entities involved (human and non-human) respecting their characteristics, spaces and cultures – so it is essentially *autonomous* in orientation; 2) maintains the production, processing and consumption of food in the hands of peasants and women processors – so it prevents the concentration of power as *Via Campesina* have proposed in advocating *democratic control*; 3) gives relevance to actant relations not only for profit-making (as the modernist ontology assumes), but also and even mainly to *reinforce emotional and social ties*, one of the main proposals of the 2007 Declaration of Nyélény.

The third chapter addresses the second research question: how do certain agricultural and science and technology (S&T) policies, designed to promote the agriculture development of the poorest peasants, neglect the alternative ontology of the *lupino paisano* network and obstruct the operation of these Alternative Andean food networks? Following Feenberg's instrumentalisation theory, I show that certain standard (national and international) *agricultural policies*, such as those aimed at creating genetic banks, plant breeding and the communication of research results, *obstruct the development of food networks*; therefore, these kinds of policies do not support, are certainly not a guarantee and in fact work against the implementation of food sovereignty. This is enabled through a case study of lupin variety development by the National Agricultural and Livestock Research Institute (INIAP).

S&T projects established by the state under the logic of modern agriculture, such as seed development – in this case, the INIAP 450 ANDINO (GM lupin variety) – damage food sovereignty because *their main objective* is to *increase productivity*; the priority they give to farmers is *market oriented* and, as Scott (1998: 287) notes, is focused on *consolidating the power* of the state institutions responsible for *agricultural modernisation*.

Sociologically, this means promoting enterprise-based agriculture (production and processing), with a class shift from peasant to entrepreneur linked to resource focus in a territorial context in Ecuador on the valleys rather than mountains and thus shifting from the wild and rural to the rural and urban.

The research question posed in Chapter 4 concerns the introduction of the food sovereignty discourse into the 2008 Constitution and in a dedicated food sovereignty law (the Organic Law of Food Sovereignty, *Ley Orgánica del Régimen de Soberanía Alimentar*, or LORSA); specifically, how was the ontological and political proposal put forward by *Via Campesina* weakened in this process? The result is a historical case study that offers a consideration from the perspective of national politics of some of the *difficulties for the implementation of food sovereignty in a modernist state* like Ecuador. It is shown that the initiative to introduce a food sovereignty proposal in the Ecuadorian Constitution of 2008 came from peasant and indigenous movements linked with the international movement *Via Campesina* and various international NGOs; that during the period that the National Assembly worked towards preparing the new constitution, these same actors negotiated with representatives of the elites and government for the introduction of food sovereignty; and that vital components of food sovereignty were lost in this process, which were then further diluted in the drafting of LORSA.

In the two articles linked to food sovereignty developed in the constitution, most of the seven *Via Campesina* principles were, in fact, included. However, for reasons rooted in the recent political history of and ongoing dynamics specific to Ecuador but also reflecting the modernistic assumption of globalising forces, fundamental changes in the structure of land and water control were omitted. There was *no land or water reform*. Later, when the Assembly drafted a law on food sovereignty, the Ecuadorian State again *translated* the aspirations expressed by large numbers of indigenous peoples and peasants. The result was a law that, in essence, promoted – promotes – modernist agriculture.

The thesis concludes (Chapter 5) by reviewing the three narratives and how they combine. The story of how the *lupino paisano* moves from the highlands to the market town, the story of how a new lupin variety was developed and publicised (marketed) and the story of how food sovereignty was translated into capital-friendly legislation come together here to refer back to the non-modern ontology and the contradiction of trying to promote this in a modernistic context. It is noted, for example, that the *lupino paisano* network is not sourced from a dualistic split between the natural and the human; that this is, nevertheless, introduced as axiomatic in the development of a new lupin variety; and that in the end we find INIAP working against introduction in the sense of a robust interpretation of the *Via Campesina* approach.

Given the difficulties of using a modernist perspective in food sovereignty – both intrinsically (as a logical contortion) and practically (as self-defeating in the concession to power) – the ontological proposal contained in the *Via Campesina* discourse implies

another, profound reappraisal of value, development and state policies that would allow us, among other things, to better realise the Ecuadorian Constitutional proposal of food sovereignty. The way forward, therefore, is to go back to the beginning, to first of all develop a receptivity to the peasant way.

SAMENVATTING

Dit proefschrift gaat in op hoe het modernisme tot uitdrukking komt in landbouwwetenschap en -politiek in Ecuador. Drie afzonderlijke verhalen geven samen het bredere verslag van agrarische filosofie. Dat begint met de studie naar een lokaal netwerk rond een voedselgewas (*Lupino paisano*) dat is geworteld in traditie, vervolgt met de regionale publiek-institutionele ontwikkeling in de agro-biogenetica en sluit af met de tot stand koming van een nationaal wettelijk kader voor voedselsoevereiniteit. Met deze - letterlijke en conceptuele - reis van de wereld van kleine boeren in de Andes-hooglanden als hedendaagse context van het niet-moderne, naar de landelijke politiek die op boven-nationaal niveau wordt gestructureerd, stelt dit proefschrift in essentie dat onderzoekers en wetgevers werken binnen een modernistisch discours, zelfs wanneer zij een publiek goed en een systeem van pro-inheemse waarden zeggen te bevorderen.

Cruciaal is dat deze actoren - onderzoekers, politici - niet het bestaan en belang (h) erkennen van een *ander ontologisch perspectief* dat is afgestemd op en de capaciteit heeft om voedselsoevereiniteit te ontwikkelen. Het *lupino paisano* netwerk is daar een voorbeeld van. Het gevolg is dat voor *ontwikkeling* zoals de wetenschap & techniek en de Ecuadoraanse staat die percipiëren en uitvoeren, alleen agrarische technieken en beleid vanuit de 'hoge' modernistische landbouw mogelijk zijn. Dit geldt zelfs wanneer het algemene belang van kleine boeren expliciet boven dat van het kapitaal en de agro-business wordt gesteld, zoals blijkt uit de actuele ontwikkelingen. Zo wordt voedselsoevereiniteit in de praktijk teruggebracht tot voedselzekerheid als gevolg van de *modernistische ontologie*.

Het proefschrift is opgebouwd uit vijf hoofdstukken: het eerste is theoretisch, de volgende drie empirisch, het vijfde hoofdstuk evaluatief.

In hoofdstuk 1 wordt het theoretisch kader uitgewerkt waarmee dit onderzoek in discussie gaat. Daarbij komen de theoretische (voedselsoevereiniteit debat) en

institutionele achtergrond (TELFUN programma) aan de orde. Ik verwijs naar de filosofische notie van de rizoom (zoals ontwikkeld door Deleuze en Guattari), Actor Network Theorie (ANT, vooral Latour) en ideeën over de opbouw en de werking van de macht (zoals voorgesteld door Foucault). Deze concepten worden in het proefschrift toegepast om de idee van het alternatieve niet-moderne (in het geval van de *rizoom*), de perceptie van niet-menselijke entiteiten hierin (*actants*) en de institutie van het moderne (*governmentality*) te ontleden.

Het tweede hoofdstuk onderzoekt de relaties die zijn ontstaan rond de teelt, handel en verwerking van de lokale lupine - het *lupino paisano* netwerk. Dit hoofdstuk heeft betrekking op de eerste onderzoeksvraag: hoe kan het *lupino paisano* netwerk bijdragen aan de conceptualisering en vormgeving van strategieën om voedselsoevereiniteit te stimuleren? Via de analyse van dit netwerk begint dit proefschrift met onderzoek naar het lokale wereldbeeld zoals dat tot uiting komt in de boerenpraktijk. Zo wordt er een voorstelling gecreëerd van hoe een dergelijke voedselnetwerk bijdraagt aan voedselsoevereiniteit op grond van een fundamenteel ander ontologisch perspectief dan het modernistische.

Concreet leg ik uit dat de rizomatische organisatie van dit Andes voedsel netwerk 1) oog heeft voor en daarmee de deelname mogelijk maakt van alle betrokken entiteiten (menselijke en niet-menselijke) met respect voor hun kenmerken, ruimtes en culturen – het netwerk is dus in wezen *autonoom* in zijn oriëntatie; 2) de productie, verwerking en consumptie van voedsel in handen houdt van de boeren en boerinnen die deze uitvoeren - dus het voorkomt de concentratie van macht, conform het voorstel van Vía Campesina in zijn pleidooi voor democratische controle; 3) geeft waarde aan de relaties tussen *actants*, niet alleen voor het maken van winst (zoals de modernistische ontologie aanneemt), maar ook en zelfs vooral *om emotionele en sociale banden te versterken* - één van de belangrijkste voorstellen uit de Verklaring van Nyélény 2007.

Het derde hoofdstuk behandelt de tweede onderzoeksvraag: hoe verwaarloost landbouw-, wetenschap- en technologiebeleid bedoeld om de landbouwontwikkeling van de armste boeren te bevorderen, de alternatieve ontologie van het *lupino paisano* netwerk en belemmert het daarmee het functioneren van deze Alternatieve voedselnetwerken in de Andes? In navolging van Feinberg's instrumentaliseringtheorie, laat ik zien dat bepaalde standaarden in het (nationale en internationale) landbouwbeleid, zoals die gericht op het creëren van genenbanken, plantenveredeling en de communicatie van onderzoeksresultaten, de *ontwikkeling van voedselnetwerken belemmeren*. Daarom biedt dit beleid geen ondersteuning en zeker geen garantie voor het bereiken van voedselsoevereiniteit maar werkt dit zelfs tegen. Een case study van de ontwikkeling van lupinevariëteiten door het Nationale Instituut voor Landbouw en Veeteelt Onderzoek (INIAP) illustreert dit.

Wetenschap-en-technologieprojecten geïnitieerd door de staat volgens de logica van de moderne landbouw, zoals zaadontwikkeling - in dit geval, de INIAP 450 ANDINO (GM lupine variëteit) – brengen schade toe aan de beoogde voedselsoevereiniteit omdat *de belangrijkste doelstelling is om de productiviteit te verhogen*. Deze prioriteit is *marktgericht* en, zoals Scott (1998: 287) opmerkt, gericht op het *consolideren van de macht* van overheidsinstellingen die verantwoordelijk zijn voor de modernisering van de landbouw. Sociologisch betekent dit het bevorderen van agrarische ondernemingen voor productie én verwerking, met een klasse verschuiving als gevolg van boer naar ondernemer. In relatie tot de natuurlijke hulpbronnen in de territoriale context van Ecuador betekent dit een aandachtsverplaatsing van het hooggebergte naar de Andesvalleien en dus van het wilde en ruraal naar ruraal en stedelijk.

De onderzoeksvraag in hoofdstuk 4 heeft betrekking op de introductie van het voedselsovereiniteitsdiscours in de Grondwet van 2008 en in een wet gewijd aan voedselsovereiniteit (de Organische Wet van Voedselsovereiniteit - Ley Orgánica del Régimen de Soberanía Alimentar ofwel LORSA). Specifiek ga ik in op de wijze waarop het ontologische en politieke voorstel van Vía Campesina is afgezwakt in dit proces. Het resultaat is een historische case studie die - vanuit het perspectief van de nationale politiek - een beschouwing biedt van de *moelijkheden om voedselsovereiniteit in de praktijk te brengen in een modernistische staat* als Ecuador. Aangevoerd wordt dat het initiatief om het voorstel voor voedselsovereiniteit in de Ecuadoriaanse grondwet van 2008 op te nemen, kwam van kleine boeren en inheemse bewegingen in samenwerking met de internationale beweging Via Campesina en diverse internationale NGO's; dat deze zelfde actoren hebben onderhandeld met vertegenwoordigers van de elites en de overheid voor de invoering van voedselsovereiniteit in de periode dat de Nationale Assemblee de nieuwe grondwet voorbereidde; en dat vitale onderdelen van voedselsovereiniteit verloren gingen in dit proces en vervolgens verder verwaterden bij het opstellen van LORSA.

In beide grondwetsartikelen over voedselsovereiniteit is de meerderheid van de zeven Via Campesina principes opgenomen. Echter, om redenen die geworteld zijn in de recente politieke geschiedenis van Ecuador – zowel eigen aan het land als eigen aan het modernistische gedachtengoed van globalisering - zijn de voorgestelde fundamentele veranderingen in de controle over land en water achterwege gelaten. Er was *geen land-of water hervorming*. Later, toen de Nationale Grondwettelijke Assemblee een wet op voedselsovereiniteit opstelde, 'vertaalde' de Ecuadoriaanse staat opnieuw de ambities van een groot aantal inheemse volken en boeren. Het resultaat was een wet die, in essentie, modernistische landbouw bevordert.

Het proefschrift sluit af met een evaluatie (hoofdstuk 5) van de drie verhalen – lokaal, regionaal en nationaal - en het samenspel daartussen. Het verhaal hoe de *lupino paisano* zich beweegt van de hooglanden naar de stad, het verhaal hoe een nieuw lupinesoort

werd ontwikkeld en gepubliceerd (vermarkt) en het verhaal hoe voedselsoevereiniteit werd vertaald in kapitaal-vriendelijke wetgeving komen hier bij elkaar. De analyse laat de tegenstrijdigheden zien van het bevorderen van een niet-moderne ontologie in een modernistische context. Opgemerkt wordt bijvoorbeeld dat het *lupino paisano* netwerk van oorsprong geen dualistisch onderscheid maakt tussen het natuurlijke en het menselijke; dat dit niettemin een vanzelfsprekende vooronderstelling is in het ontwikkelingsproces van een nieuw lupinesoort; en dat we uiteindelijk constateren dat de benadering van het INIAP een robuuste interpretatie van de Via Campesina benadering tegenwerkt.

Gezien de moeilijkheden om een modernistisch perspectief te gebruiken in voedselsoevereiniteit - zowel intrinsiek (een verwringing in logica) als praktisch (zelfontluisterend in zijn concessie aan de macht) - impliceert het ontologische voorstel vervat in de Vía Campesina discours een andere, diepgaande herbezinning op waarden, ontwikkeling en overheidsbeleid die het ons mogelijk zou maken om, onder andere, het Ecuadoraanse grondwettelijke voorstel voor voedselsoevereiniteit beter vorm te geven. De weg vooruit is daarom een terugkeer naar het begin, om in de eerste plaats ontvankelijkheid te creëren voor de boerenmanier.

Annexes

Anex 1

Timeline of Lupin INIAP 450

Date	Authors	Detail	Results	Places	Comentarios
1976	INIAP-Legume Programme	<ul style="list-style-type: none"> Germplasm collection in various zones of lupin cultivation. Study of weeds, pests and diseases and application of fertilisers and pesticides 	Germplasm bank of <i>Lupinus mutabilis</i> Sweet with 22 entries. Selection of promising lines with characteristics like precocity, uniform maturation and performance	Collection from the central province of Chimborazo to the northern province of Carchi, Santa Catalina Experimental Station	<ul style="list-style-type: none"> For 1976, the extension of cultivation of lupin was 400 hectares Lupin is incorporated solely for the collection of germplasm
1977		International Congress on Andean Crops.		Ayacucho, Peru	
1981-	INIAP – Legume Programme	<ul style="list-style-type: none"> Evaluation of 104 germplasm lines Evaluation for resistance to diseases 	Plants without diseases Precocious lines are detected in Bolivia and Peru Plants with atracnosis, Sclerotinia, and Ascochyta disease are detected	Mulalillo Bolivia, Peru, Ecuador Santa Catalina Experimental Station	
1982	FAO	Third Congress on Andean Crops, Bolivia	Canadian government finances the congress	La Paz, Bolivia	
1983	Dr. Plutarco Naranjo	‘Desnutrición, malnutrición e ignorancia dietética’ (Malnutrition and Dietetic Ignorance) (1983a) is published		Quito	Malnutrition among the indigenous and poor people of Ecuador
1983	INIAP Legume Programme	<ul style="list-style-type: none"> Performance studies: 8 promising lines are selected for uniformity of maturation Round Table of Andean countries on legume production in Andean countries Workshops with peasant leaders Ing. Peralta included, with a Canadian 	Low performance is detected in native crops	Mulalillo Quito Quito	Activities where the lupin is not visible to the urban population

		government and FAO project in Andean region. Formation of Andean crop germplasm bank			
1984/2	INIAP, Universidad Central, Escuela Politécnica Nacional, Universidad Técnica de Ambato	<ul style="list-style-type: none"> • Engineering thesis: Characterisation (in accordance with parameters pre-established by FAO) of the different lupin seeds 		Quito	<ul style="list-style-type: none"> • INIAP's collection is characterised
		<ul style="list-style-type: none"> • Thesis on germoplasm, agronomy and post-harvest 		Quito, Ambato, Riobamba, Ibarra	<ul style="list-style-type: none"> • Information on the lupin (chocho) is produced in other institutions
1985	INIAP – Legume Programme	Refreshment of existing material and evaluation for performance in selected lines: improvement in performance	Vigorous plants with yields of 1400 to 2400 Kg-ha. This is perceived by researchers as adequate level. They now decide to do research in areas like fertilisation, density per hectare	Santa Catalina Experimental Station	<ul style="list-style-type: none"> • Activities where the Andean legumes are the centre of attention • Conversations with peasants about methods of legume seed production, including those of <i>Lupinus mutabilis Sweet</i>, are promoted
1985	Plutarco Naranjo	The book <i>Desnutrición, problemas y soluciones (Malnutrition, issues and solutions)</i> (1985) is published		Quito	Lupin as a source of protein is considered as a solution for malnutrition
1986	Eduardo Estrella	The book <i>El pan de América. Etnohistoria de los alimentos aborígenes del Ecuador (The Bread of America. Ethnohistory of aboriginal foods of Ecuador)</i> is published (Estrella 1986)		Quito	Among other things it presents the contribution of American crops in the world diet. It mentions the lupin as an important food.
1986	Plutarco Naranjo	The article 'Chocho leche vegetal'. ('Chocho: vegetable milk') (1986, 63-66) is published		Quito	It highlights the importance of chocho in ancient times and the importance of reintroducing it among the poorest people in Ecuador to solve the problem of malnutrition.
1986	Michele O. Fried	A cookbook <i>Comidas del Ecuador. Recetas tradicionales para gente de hoy (Meals of Ecuador.</i>		Quito	The first cookbook where Andean foods, previously undervalued in upper

		<i>Traditional recipes for people of today</i> (1986)			and middle class cooking are introduced.
1991	INIAP	Andean Crop Programme is created. Dr. Nieto is the director	A programme 'Producción y comercialización de quinoa en Ecuador' ('Production and marketing of quinoa in Ecuador') (INIAP & CIID, Informe de Actividades. Programa de Cultivos Andinos. 1992-1993) is begun with the support of CIID	Quito	The lupin passes from the Legume Program to the Andean Crop Program
1993	INIAP	A promising line of lupin identified as ECU-2659 (later Andino 450) is added to INIAP's germplasm bank		Santa Catalina Experimental Station	This variety is the product of a germplasm population introduced from Peru interbred with native varieties.
1994/1995	Ecuadorian State	SENESCYT defines the state's S&T policies	Guidelines are defined for the first state programmes in S&T	Ecuador	
1996	SENESCYT	<ul style="list-style-type: none"> • Creation of the National Secretariat for Higher Education, Science, Technology and Innovation (SENESCYT) • It designs and approves projects which form the First National Plan for Science and Technology 		Ecuador	<ul style="list-style-type: none"> • Credit from BID for \$21.5m; the Ecuadorian state contributes \$5m • 46 projects financed
1997-2	INIAP	<ul style="list-style-type: none"> • SENESCYT finances the lupin project presented by the INIAP Andean Crop Programme (P-BID 206) • Project name: Study of the production, post-harvest, and agro-industrial potential of 	The project introduces new processes of sowing, harvesting, threshing, drying, debittering, cooking, washing, preservation,	Quito	<ul style="list-style-type: none"> • Minimum financing: \$263,398 • Prejudice of FUNDACYT officials concerning the feasibility of the project

		the chocho (<i>Lupinus mutabilis Sweet</i>) for the Ecuadorian highlands • The research begins as planned	and marketing of the chocho. The goal of production, post-harvest and agro-industrialisation is achieved		
1997	INIAP	Dr Nieto, who is director of the Andean Crop Programme, leaves the programme and this is dissolved Part of the programme returns to the Legume Programme, which is directed by Ing. Peralta.	Ing. Peralta is the director of the Legume Programme	Quito	
1997	INIAP, FUNDACYT PRONALEG	Report on the first year of activities of the P-BID 206 project		Quito	
1998	INIAP-FUNDACYT-BID	Bibliographic Guide of the Chocho. (Caicedo, Peralta and Murillo, et al., Guía Bibliográfica del Chocho 1998) Scientific publications	National and international research on the lupin gained visibility	Quito	Publication in the framework of the BID/FUNDACYT project.
1998	INIAP-FUNDACYT-BID	A catalogue of the germplasm bank of the chocho (<i>Lupinus mutabilis Sweet</i>) Invalid source specified. is published		Quito	Publication in the framework of the BID/FUNDACYT project.
1999	INIAP	The name of the variety INIAP ANDINO 450 appears	After years of evaluation it was decided to release the promising line ECU-2659 as an improved variety, called INIAP Andino 450	Quito	
1999	Caicedo, c.; Murillo, A.; Pinzón, J.; Peralta, E.; Rivera, M.	Publication of a leaflet. '450 Andino. Variedad de Chocho (<i>Lupinus mutabilis Sweet</i>)'	Dissemination of the lupin in the cities	Quito	
1999-2002	INIAP	Work on promotion of the lupin in the cities, especially Quito	Radio programmes and the first recipe book on chochos	Quito and Ecuador	
2000	INIAP – Legume	Annual Report: agronomic evaluation and selection	New promising lines are	Quito, Universities	New varieties adapted to distinct

	Programme	and processing of the lupin	evaluated	of Cotopaxi and Chimborazo	ecosystems are sought
2001	Caicedo, Peralta,	Important technical report: The cultivation of the chocho, <i>Lupinus mutabilis</i> Sweet: plant nutrition, diseases and pests in Ecuador	The work on the lupin and the results obtained during the project are described in the report: Study of the production, post-harvest, and agroindustrial opportunities of the chocho (<i>Lupinus mutabilis</i> Sweet) for the Ecuadorian highlands	Quito	This book provides guidelines on how to carry out research into the lupin
2001	Caicedo, Peralta, Villacrés	Publication: <i>Poscosecha y mercado del chocho en Ecuador (Post-harvest and market of the chocho in Ecuador)</i> (Caicedo, Peralta y Villacrés, y otros 2001)	Results of the research on post-harvest with new technologies are described	Quito	Here are presented economic and hygiene arguments which had driven changes in the technology of washing and rinsing of the lupin
2001	Peralta, Mason, Villacrés	Publication: <i>Evaluación del chocho desamargado y congelado</i> (Peralta, Masón and Villacrés, Evaluación del chocho desamargado y congelado 2001) (<i>Evaluation of debittered and frozen chocho</i>)	The initial problems of researching the freezing of the lupin for export is described clearly.	Quito	It mentions that the pilot lupin processing plant is constructed within the BID-SENECYT project
2002	Villacrés, Peralta, Alvarez	Publicación 'Chochos en su punto' ('Chochos just right') (Villacrés, Peralta and Alvarez, Recetario Chochos en su Punto 2003)	First recipe book on the chocho	Quito	
2003	Laverde, Mario	Attends training programmes on the new technology for processing lupin. He forms his chocho processing company.	The chocho is successfully placed and positioned in the SUPERMAXI supermarket chain	Quito	
2004	INIAP	INIAP obtains financing	The nutritional	Quito and	

		for a small project aimed disseminating the importance of the chocho: FUNDACYT proyect PFN - 03 – 060: ‘Alternative Uses of Chocho’. 2005 - 2006	importance of the chocho is disseminated via workshops and radio	highland provinces	
2006	Villacrés, Elena	Alternative Uses of the Chocho. The PFN 03 060 INIAP project. FUNDACYT. (Villacrés, Rubio, et al. 2006)	An informative bulletin with the purpose of showing the results achieved in the research into processing the chocho	Quito	A document aimed at food technologists, nutritionists and food processors
2008	INIAP	A new variety of lupin is released called INIAP 451 Guaranguito (Peralta, Rivera, et al. 2010)	It is a variety which promises a better yield in the province of Bolívar	Quito	

Completed Training and Supervision Plan

Completed Training and Supervision Plan
Luz Alexandra Martínez Flores
Wageningen School of Social Sciences (WASS)



Name of the learning activity	Department/Institute	Year	ECTS*
A) Project related competences			
CERES orientation programme	CERES, Utrecht	2007	5
CERES presentation tutorials	CERES, Utrecht	2007	5.5
Information Literacy Course including End Note introduction	Wageningen UR	2007	0.6
Working With End Note	Wageningen UR	2007	0.6
Searching for Science on the Web	Wageningen UR	2007	0.6
Presentation Skills	Wageningen UR	2008	1.0
Writing Research Proposal	Wageningen UR	2007-2008	3
B) General research related competences			
Methodology Clinic A. Ethnographic Research Group Research Design	Amsterdam University	2008	2.5
Food Risk Analysis: An integrated approach combining insights from the natural and social sciences.	WASS	2009	3
Investigating Technologies: Politics, Power, and the Social Shaping of Technology.	WASS	2011	4
C) Career related competences/personal development			
"Redes, género y tecnología. El caso del chocho paisano en Ecuador" [Networks, gender and technology. The case of lupin paisano in Ecuador]	Seminario Internacional Cuerpos y Fronteras, FLACSO, Quito	2008	2
"La soberanía alimentaria en la Constitución y ley ecuatoriana". [Food Sovereignty in Ecuadorian Constitution and Law]	INIFAT, La Habana	2009	2
"The constitution of lupin paisano network in an Andean Region of Ecuador."	ISS/Den Haag	2010	2
"The Translation of Food Sovereignty proposal and Demarcation of the Margins of the State. Government, NGOs and Social Movements in Ecuador"	Emory University, The Carnegie Corporation	2010	2
"La liberación de la semilla "lupino Chawcha" y las consecuencias no intencionales de la tecnología." [The release of lupine seed chaucha as technology object and unexpected effects of agricultural technology]	Latin American Studies Association (LASA). Ecuadorian Section, Cuenca	2013	2
Total			35,8

*One credit according to ECTS is on average equivalent to 28 hours of study load