The grain of the gods against poverty

Approaching the quinoa value chain in Bolivia and Peru with inclusive business models

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Florian Böhm

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With this thesis, I finish my studies of the "Global Business & Sustainability" master program at the Rotterdam School of Management. I hope that the end of my academic career means the beginning of a career as a sustainability professional.

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Executive summary

The agricultural sector is dominated by around two billion small-scale farmers. These smallholders need to be better integrated in international systems to capture their potential to secure worldwide access to food and help them leave poverty. Academia is developing solutions to optimize form of international cooperation. The solutions are embedded in the realm of inclusive business and the Bottom of the Pyramid (BoP).

The BoP concept refers to business models that strive to include the 4 billion people, who live on less than $1,500 / year. Inclusive business is an umbrella term for commercially viable business models that include cross-sector partnerships along the value chain to generate maximum social, environmental and economic benefits for all parties. The philosophy behind the idea is that all parties have to understand their mutual interdependence to reach these profits.

While Latin America is mostly known for agricultural produces, such as coffee, banana or cocoa, changing consumer trends in North America have given rise to the product category superfood, produces of supposedly extraordinary nutritious value. One of the most famous superfood is quinoa. It is traditionally cultivated in the Andes region of Latin America. The current trend has helped quinoa to become an internationally demanded produce. The boom thereupon provided significant income opportunities for small-scale farmers in poor Bolivian and Peruvian Andean regions. However, at least 103 countries have been experimenting with quinoa cultivation in 2016. Some countries use the crop to secure food supply. Other countries engage in the commercialization of the crop. Thus, the current benefits for Latin American farmers might be under threat.

I conducted an exploratory research to identify the current status of inclusiveness in the quinoa value chain and possibilities to improve the current situation. This evaluation might help to secure the long-term viability of the value chain and to assure maximum benefits for all stakeholders.

In my analysis, I found out that quinoa farmers are the weakest link in the value chain. Despite the fact that Andean smallholders are the primary producers of quinoa, and they are the only farmers capable of producing high-quality produce, they lack collaboration and relevant inputs (seeds, expertise, technology and finance).

Most stakeholders are only in contact with their direct trading partners. Secondary stakeholders engage in uncoordinated attempts to link different parts of the value chain. The lack of an integrative approach can be explained by a lack of collective ambitions and the missing understanding of interdependence. However, several “champions” in Peru and Bolivia engage in economically viable business with inclusive approaches towards the poor. Moreover, especially in Bolivia, the different parties have built up associative networks that bridge gaps between stakeholders.

The precondition for a more inclusive value chain is a chain-wide understanding of the relevance of educated and well-equipped Andean small-scale producers in the respective sourcing strategies. Furthermore, the sector has to understand the need for interdependent activities to cope with the distant national and international part of the value chain.

In my analysis, I have found six levers that can help to address the identified challenges and make the value chain more inclusive. Increased associativity of farmers and a chain-wide stakeholder-platform can contribute to increasing mutual understanding and bridge geographical and economic distances efficiently. Central one-stop shops can provide farmers with relevant inputs (seeds, expertise, technology, finance). Andean farmers should make use of their extraordinary

agro-climatic conditions and focus on highly-demanded organic quinoa. In the marketing of their quinoa, farmers should build upon the knowledge of the international private sector to make sure to approach the right customer desires (current trends such as superfood or "gluten-free" can be decisive as well as "organic" and to a lesser extent "fair trade"). Finally, inter-cropping quinoa with other traditional produces, such as canihua, can secure income and soil quality.

Although quinoa is a plant with unique agro-climatic conditions, I am convinced that my results can be valuable for other emerging superfoods on the Latin American continent and even on other parts of the planet. Finally, the results of my theory confirm the theoretical premise of inclusive business and the Bottom of the Pyramid (BoP): poverty alleviation via viable economic business opportunities have to be built upon chain-wide cross-sector partnerships.

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List of abbreviations

ALADI	Asociación Latinoamericana de Integración (Latin American Association of Integration)
ANAPQUI	Asociación Nacional de Productores de Quinua (National Association of Quinoa Producers)
APQUISA	Asociación de Productores de Quinua Salinas (Producer Association of Quinoa Salinas)
AUTODEMA	Autoridad Autonoma de Majes (Autonomous Authority of Majes)
BoP	Base / Bottom of the Pyramid
CABOLQUI	Cámara Boliviana de Exportadores de Quinua y Productos Orgánicos (Bolivian Chamber of Exporters of Quinoa and Organic Products)
CBI	Centre for the Promotion of Imports from developing countries
CECAOT	Central de Cooperativas Agropecuarias “Operación Tierra” (Center of Agricultural Cooperatives “Operación Tierra”)
CIA	Cetral Intelligence Agency
CIAT	International Center for Tropical Agriculture
CIQ	Centro Internacional de la Quinua (International Center of Quinoa)
CIRAD	Centre de coopération internationale en recherche agronomique pour le développement (Center for international cooperation and agronomic research for development)
COMPASUR	Programa Complejo Productivo Altiplano Sur (Complex Productive Program of South Altiplano)
CPTS	Centro de Promoción de Tecnologías Sostenibles (Center of Sustainable Technology Promotion)
EU	European Union
EUFIC	European Food Information Coucil
FAO	Food and Agriculture Organization of the United Nations
FDI	Foreign Direct Investment
GAP	Good Agricultural Practices
GIZ	Gesellschaft für internationale Zusammenarbeit (German Corporation for International Cooperation)
IBPGR	International Board for Plant Genetic Resources
IADB	Inter-American Development Bank
IDRC	International Development Research Centre

IFAD	International Fund for Agricultural Development
ILO	International Labour Organization
INIAP	National Agricultural Research Institute
ISE	International Society of Ethnobiology
ITC	International Trade Center
MDPyEP	Ministerio de Desarrollo Productivo y Economía Plural (Ministry of Productive Development and Plural Economy)
MDRyT	Ministerio de Desarrollo Rural y Tierras (Ministry of Rural Development and Acreages)
MINAGRI	Ministerio de Agricultura y Riego (Ministry of Agriculture and Irrigation)
MNE	Multinational enterprise
NASA	National Aeronautics and Space Administration
NGO	Nongovernmental Organization
OECD	The Organisation for Economic Co-operation and Development
PESTEL-analysis	Analysis of the political, economic, social, technological, environmental and legal influences
PIEB	Programa de Investigación Estratégica en Bolivia (Program of Strategic Investigation in Bolivia)
PO	Producer Organization
PROINPA	Promoción e Investigación de Productos Andinos (Promotion and Investigation of Andean Products)
SDG	Sustainable Development Goal
SENAPI	Servicio Nacional de Propiedad Intelectual (National Service of Intellectual Property)
SER	Social and Economic Council of the Netherlands
UN	United Nations
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Program
WEF	World Economic Forum
WOCAT	World Overview of Conservation Approaches and Technologies

1. Introduction

"Quinoa can play an important role in eradicating hunger, malnutrition, and poverty."
- José Graziano da Silva
(Director of the Food and Agriculture Organization of the United Nations)

Every fifth person in Latin America lives in poverty (Vakis, Rigolinin & Lucchetti, 2016). In the last decades, governments in the region have been trying to counter steer high poverty rates by socio-economic improvements (Berdegué & Fuentealba, 2011), such as economic liberalization, improved infrastructure, and an improved democratic basis in the agriculutral sector. Despite these improvements indigenous people living in rural areas often remain poor (Lustig, 2015).

The mentioned improvements have set the foundation for necessary international agricultural business involvement in the region in order to cope with raising questions of food security. Already today, the region accounts for 16% of global food and agricultural exports (Duff & Padilla, 2015). A large share of land is cultivated by smallholders with limited access to necessary inputs to raise productivity (Duff & Padilla, 2015).

In the past, investments in the agricultural sector were mostly large-scale acquisitions, which circumvented partnering with small-scale farmers. However, these acquisitons are often critiziced as "land-grabbing." Moreover, local structures, such as communal landownership systems, aggravate business as usual. Thus, stakeholders in the agricultural business become more involved in value chain solutions together with smallholders (Sjauw-Koen-Fa, 2012).

In academia, new value chain solutions are emerging that aim for better inclusion of small-scale farmers in international value chains. These approaches are based on the idea of the Bottom of the Pyramid and its logical continuation, inclusive business.

"If we stop thinking of the poor as victims or as a burden and start recognizing them as resilient and creative entrepreneurs (…), a whole new world of opportunity will open up."
- C. K. Prahalad

According to Prahalad (2006), the lowest level of the global population pyramid consists of approximately 4 billion people that are yet nearly not included in formal business at all. He claims that a huge viable opportunity exists of adding these people in legal business structures.

The idea of the Bottom of the Pyramid (BoP) logically connects to the umbrella term "inclusive business". Inclusive business means engaging in cross-sector partnerships along the value chain that maximize benefits for the poor while securing economic viability (Van Tulder & Da Rosa, 2014). The logic of inclusive business is that all parties in the value chain are mutually interdependent. Only by applying a systemic view, all parties in the industry can yield the best social, environmental and economic profit in the long-term. With around two billion smallholders worldwide and the necessity to secure food supply for a growing population, the agricultural industry offers immense potential for inclusive business (Sjauw-Koen-Fa, 2012).

Latin American agriculture is traditionally connected to produces, such as cocoa, banana or coffee. However, changing consumer preferences in large agricultural importing nations have created demand for ""superfoods"", agricultural produces claimed to have extraordinary nutritional value. One of the most booming ""superfoods"" of recent years, is quinoa, which is traditionally cultivated in the Andean region of Latin America.

In the years 2008 to 2014 quinoa experienced a boom with prices doubling and nearly tripling within months (Salcedo, 2015). This development helped several Bolivian small-scale quinoa farmers to establish quinoa as their primary source of income. Moreover, they could invest money in small shops, workshops or bus services. This stimulated the regional development of poorest regions of the country. Until today, Bolivia, and recently also Peru, account for the lion's share of globally exported quinoa.[1] However, 103 countries globally are experimenting with quinoa cultivation and have sometimes even succeeded in successful commercialization.

In my thesis, I want to apply a systemic view on the quinoa value chain in Peru and Bolivia. This analysis might help to evaluate how the different involved parties have incorporated the understanding of reciprocal interdependence, which is necessary to generate maximum benefits for all and prepare the value chain for future competition.

What conditions are necessary to make the quinoa value chain in Peru and Bolivia more inclusive for small-scale quinoa farmers?

To answer this question, I structured my report into seven chapters.

1.1 Structure

- **Chapter 1 (Introduction)** introduced the reader to the field of research. In the introduction, main issues related to the research topic were evaluated, which ultimately led to the particular research question. To assess the necessity of the question, I will explain the academic, managerial and societal relevance of my research.
- **Chapter 2 (Theoretical framework):** Answering my research question demands a thorough understanding of existing theory. In this part, I will define the premise of the BoP that links with the idea of inclusive business and global agricultural value chains.
- **Chapter 3 (Contextual framework)** will give an overview of the thematic context of the thesis. By understanding the current status of the context, I will be able to understand where I can contribute scientifically. I will first explain the phenomenon of quinoa. Then I will dive into the context of the main producers Peru and Bolivia. Within the countries, I will identify the main interested parties and the broad background of the value chain.
- **Chapter 4 (Methodology)** sets the methodological approach of my thesis. In this part, I will use the overview from the two prior parts to establish a clear framework on how to assess my research question. This entails the definition of my research method, my research design, my elaborated research questions, the forms of data collection and finally, the exact research process.
- **Chapter 5 (Findings):** In this section, I systematically approach my thesis question in a multi-step approach: First, I will complete the overview of the context in which the value chain is placed. Next, I will identify the ambition, mission, impact and partnership network of each stakeholder. Based on this information I will be able to evaluate the parties in the value chain that are most critical for a thriving, inclusive value chain. As a next step, I will evaluate the currents status of inclusiveness, challenges and finally, options for increased

[1] Peru and Bolivia account for 85% of globally exported quinoa (Statista, 2016a).

inclusiveness. The section will be closed with an evaluation of how each primary stakeholder can contribute in a more inclusive value chain.

- **Chapter 6 (Discussion):** In this part, I will first discuss existing recommendations for a more inclusive value chain. Building on this discussion, I will provide my own recommendations. Finally, I will reflect on the transferability of thesis next to the usefulness of the applied concepts.
- **Chapter 7 (Conclusion)** will end my thesis by stating the key conclusion of my report. Next, I will define the limits of my research approach to understand to what extent my findings are valid in a wider context. Finally, I will describe possibilities of further research.

1.2 Research relevance

1.2.1 Academic relevance

Increase investment, including through enhanced international cooperation, in (…) agricultural research (…) to enhance agricultural productive capacity in developing countries, in particular least developed countries"
– SDG (Sustainable Development Goal) 2.a

Despite the lengthy academic discourse and continuous evolution of the BoP premise, Ansari, Munir and Gregg (2012) claim that BoP as a university field is still in a pre-paradigmatic state. Schrader, Freimann, and Seuring (2012) demand new solutions that show businesses how BoP 2.0 or even 3.0 can be applied. These solutions have to entail a transparent approach towards the alleviation of poverty (Khalid et al., 2015).

In my report, I want to apply the premise of the BoP to a value chain that has succesfully helped more than 20,000 farmers out of poverty. The research will evaluate which factors in the value chain might have led to this success. Moreover, the BoP- as well as the inclusive business-theory will provide guidance for evaluating inclusiveness-potential in a real-life case that has not been evaluated yet. Evaluating academic search engines for the application of inclusiveness and the BoP paradigm in the quinoa sector, no results could be found (see Appendix 1).

Despite the specificities of this area, I hope that the results of my report can be transferred to another agricultural value chain to foster transition towards inclusiveness also in other agricultural value chains.

1.2.2 Managerial relevance

Encourage companies, especially large and transnational companies, to adopt sustainable practices (…)."
– SDG 12.6

Smallholders dominate the international agricultural supply side. To secure worldwide food security, the private sector has to engage more proactively in collaboration with small-scale farmers, favorably in inclusive business models. Nevertheless, managers have not often not yet understood the necessity in collaborating with smallholders. Moreover, they might not know how to efficiently bridge existing distances between smallholder- and international value chains.

In this thesis, I want to crystallize why the different stakeholders in the value chain should invest in more inclusiveness. Finally, I will provide clear recommendations how more inclusiveness can be achieved in the case at hand.

1.2.3 Societal relevance

"By 2030, reduce at least by half the proportion of men, women, and children of all ages living in poverty in all its dimensions according to national definitions"
– SDG 1.2

Small-scale farmers are the backbone of rural economies. These regions are home to about two billion people, among them the majority of individuals living in poverty (Sjauw-Koen-Fa, 2012). The current Andean quinoa sector is placed exactly in this context. Approximately 130,000 farmers and their respective families (Salcedo, 2015) can generate their income from this business. Assuring long-term opportunities beyond poverty for these people means an immense developmental impact. Reducing poverty can also help to reduce income gaps in the most unequal region in the world (Lustig, 2015).

"By 2030, end hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round" – SDG 2.1

Quinoa is a highly nutritious food that has served local farmers in the Andean regions to nourish healthy food for millennia. My thesis uses current state-of-the-art theoretical and pragmatic concepts, such as the BoP-premise, inclusive business, and the recently published Sustainable Development Goals (SDGs) to analyze the sector and show opportunities how business models can secure income and help to obtain healthy food consumption.

1.3 Summary: Introduction

Global agricultural value chains are becoming more important to relief poverty and secure food supply. Academia provides solutions how to make these value chains more economically, socially and environmentally profitable. The grounding for these ideas can be found in inclusive business and the premise of the BoP.

Superfoods have been becoming more demanded on North American and European markets. Thus, the Latin American superfood could turn into a valuable economic export crop. To prepare the quinoa value chain of an unsure future and help to yield maximum benefits for all involved parties, I will evaluate the inclusiveness of the sector and identify future options for more inclusiveness.

The relevance of this research emerges from the academic need for advanced study in the realm of inclusive business, the managerial desire for concrete ideas how and why to approach the poor and the societal relevance of diminishing poverty and maintaining food security.

To approach this research I have segregated the thesis in seven chapters. The introduction served as a basis entry to the topic and my research. Next, the theoretical and contextual framework will introduce the reader to the given knowledge about the theory and context of my research. The subsequent part will transparently state my research approach and the theoretic approach I have taken. After that, the findings will display the current state and potential of inclusiveness in the sector. These results will be discussed to frame a conclusion to my research question eventually.

2. Theoretical framework

The conceptual framework serves as a basis to understand academic business solutions to alleviate poverty.

2.1 Bottom of the Pyramid

The Bottom of the Pyramid concept refers to business models that strive to include the 4 billion people, who live on less than $1,500 / year.

2.1.1 Defining the BoP

Companies in developed markets are increasingly facing saturated markets while developing countries show high rates of poor people, who are not included in the formal business. As a solution to this paradox Prahalad introduces his theory about the "bottom of the pyramid" (BoP).

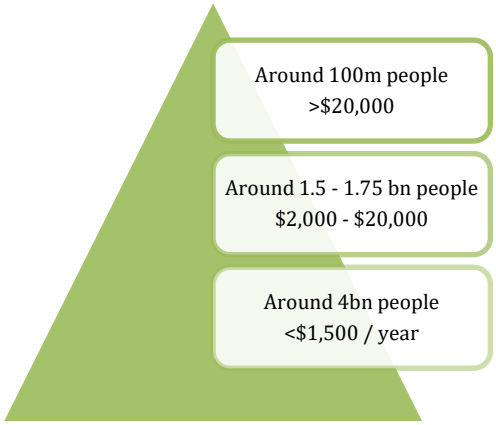

Figure 1 - Prahalad and Hammond (2002): The World Pyramid

To identify the BoP Prahalad divides the world population into four tiers. The first one consists of around 75 to 100 million people with an annual income of $20,000 and more. These people are middle- and upper-income people in developed countries and few wealthy elites from the developing world. The second and third tiers consist of around 1.5 to 1.75 billion individuals with an income between $2,000 and $20,000. Members of this group are a rising middle-class in developing countries and poor consumers in developed countries. The fourth tier is the by far largest layer with around 4 billion people earning less than $1,500 annually – this is the BoP (Prahalad & Hart, 2002).

Prahalad explains that people in the developed world have to shift their mindsets. The poor should not be considered as a burden or as victims, but rather as creative entrepreneurs. This change will help to open up a whole new world of business and CSR opportunities (Prahalad, 2006).

To include the BoP in the value chain, it is necessary to understand their social and economic context: First, the market structure of BoP differs immensely from its more developed counterparts as Webb, Kistruck, Ireland and Ketchen (2010) have evaluated. Physical and intangible infrastructure is often non-existent or inadequate, which leads to limited access and more hampered transferability of market knowledge (Reficco & Marquez, 2009). Furthermore, the government structures are often undeveloped, and property rights are only informally recognized.

Second, besides the market infrastructure the BoP population differs from its counterparts in more developed parts of the world (World Economic Forum and Boston Consulting Group, 2009). The BoP live under financial constraints as they often have low and fluctuating incomes, limited access to credit or assurance and are considered smart shoppers and risk-averse investors. Furthermore, BoP face severe life challenges, such as difficult living conditions and high prices for often substandard products or services. Confronted with only a small product variety, they often have to pay a premium compared to consumers in developed markets ("poverty penalty") (Mendoza, 2011). Finally, the BoP are often uneducated (Webb et al., 2010) and lack of information on commercial products and therefore rely more heavily on trusted sources or demonstrations to make a buying decision. Nevertheless, they demand quality, respect and dignified treatment from service providers.

Most literature focusses on a way how multinational enterprises (MNEs) can involve with the BoP. Nevertheless, organizations from the public and civic sector can also engage in BoP initiatives (Golja & Po 2012) or serve as valuable partners for MNEs, e.g. due to their network and know-how.

2.1.2 Opportunity and execution

The original logic of Prahalad and Hart (2002) is that MNEs engaging in the BoP should regard the purchasing power of the BoP market as a whole and not focus on the buying power of a single consumer. By doing so, MNEs have the potential to reach an immense untapped customer base. Including the BoP as employees helps to increase their purchasing power. MNEs can subsequently involve the BoP as consumers and exploit their augmented purchasing power.

To successfully engage in this self-enforcing cycle, the World Economic Forum and Boston Consulting Group (2009) propose to approach the BoP with tailor-made solutions.[2] Olsen and Boxenbaum (2009) and Halme, Lindemann and Linna (2012) stress organizations should not underestimate manifold internal barriers.[3]

2.1.3 Critique

Despite the positive contribution of the BoP-premise, Scientists attack the idea of lacking a developmental impact potential, an absence of business opportunities, causing negative externalities and missing a consistent outcome measurement.

- **Business intervention in BoP does not have a developmental impact:** Probably the most heavily disputed point of critique is the potential developmental impact. Literature has shown that MNE activities in developing countries often have no or negative impact on poverty alleviation (Stiglitz, 2003; Hertz, 2001). Garrette and Karnani (2010) even claim that pursuing CSR and profitability goals will eventually lead to achieving neither.
- **Lack of business opportunity:** As can be seen in different names for the BoP as base or bottom of the pyramid, the market size referred to is not clear. Karnani (2007) estimates a total BoP market value of $0.3 trillion. Although $0.3 trillion still appears as a huge market opportunity, the BoP are dispersed geographically (Pitta & Ireland, 2008) and thus, organizations cannot approach the BoP as one group. Thus, it is not easy to achieve economies of scale (Karnani, 2007). Furthermore, the BoP consist of a large variety of people with distinct needs (Pitta, Guesalaga & Marshall, 2008).
- **Negative externalities:** Business intervention in the BoP is also related to several unwanted consequences that companies should internalize to create sustainable,

[2] When approaching the BoP as customers, companies should reconfigure existing products or create new ones that cover the particular needs of the population. Next, organizations should focus on building trust and identity with the brand, since word-of-mouth propaganda and education are viable leverages in the target segment. Due to the limited access to the market, organizations should think of new ways to acquire needed information (Schuster & Holtbrügge, 2014). A close local integration, such as local sourcing or leveraging local supply chains, can help towards achieving that goal. Finally, the whole organization has to be aligned as senior level management commitment assures an approach towards the BoP from the core of the company.

[3] Focus on the BoP means a radical change of routines for most organizations. Employees often have different mindsets about the new premise, which makes it hard to implement it in the first place. Due to a lack of experience, organizations might apply standard approaches to evaluate the risks of involving in the business opportunity. A lack of comparative cases aggravates the evaluation of standard measures. This could make organizations refrain from involvement in the sector (Goyal, Sergi & Jaiswal, 2015; Rivera-Santos & Rufin, 2010).

inclusive solutions (Van Tulder & Pfisterer, 2008). Negative externalities can be manifold; examples include labor exploitation and land grabs (Banerjee, 2000) as well as the crowding out of local firms due to superior technology and efficiency (Van Tulder & da Rosa, 2014).

- **Scattered BoP measurement:** Outcome of BoP initiatives are measured scarcely. The available approaches often differ in their variables. Thus, it is complicated to compare and improve them.

As evaluated, the premise of the BoP has been facing the severe headwind. As a result, academics have been trying to build upon the points of critique to develop the theory further and make it more inclusive.

2.1.4 Transition to BoP 3.0

BoP 1.0

When the BoP idea was first released, BoP was mostly included as a consumer and scarcely as producers (Hart, 2015).[4] While the added value for companies was evident in BoP 1.0, scientists pose the question in how far these activities serve the poor.[5] In 2007, Karnani proposed that organizations should rather incorporate the BoP as producers than as consumers. Academics like Agnihotri (2013) and Reficco and Marquez (2009) followed Karnani's logic.

BoP 2.0

In the second phase, BoP 2.0, the poor were perceived as partners and entrepreneurs (Gold, Hahn & Seuring, 2013; Dolan & Scott, 2009).[6] The integration of producers helped to overcome institutional voids (Kolk, van Tulder & Kostwinder, 2008) and reduce organizational risks (De Boer et al., 2009).

BoP 3.0

Recently, scientists developed the idea further towards BoP 3.0 as "the BoP code was not yet cracked" (Caneque & Hart, 2015). Caneque and Hart (2015) claim that most BoP ventures have either failed or have achieved only modest success at enormous costs. Thus, most companies assign BoP initiatives to their CSR department or corporate foundation. As a possible solution, the Dutch development organization SNV and the World Business Council for Sustainable Development (WBCSD) introduced the idea of inclusive business in 2008. This approach bases upon more responsible relationships among its members. A moral grounding for this method provides the ethics of care (Chevrollier, Nijhof, van der Klein & Brandt, 2014).[7]

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[4] Major activities of companies in BoP 1.0 are an adaption of products, a redesign of packages and a reduction of price points. NGOs are mostly involved as partners to compensate for own experience (Simanis, Hart & Duke, 2008; Caneque & Hart, 2015).

[5] This form of business is often dismissed as a new form of corporate imperialism. Hart and Caneque (2015) depict organizations active in BoP 1.0 as a "child with a hammer", swinging their existing hammer (marketing approach) on every nail (market opportunity).

[6] Organizations engage in deep dialogue with the BoP, make innovations bottom up, leapfrog to sustainable technologies, expand imagination, share commitments and intertwine capabilities (Simanis, et al., 2008; Caneque & Hart, 2015).

[7] The ethics of care take the connectedness between individuals as the basis for moral responsibilities (Nijhof, Fischer & Looise, 2002). Building up a relationship over time brings with it the responsibility to be amendable for the true needs and desires of the partners. Thus, the ethics of care provide a sound basis for the identification of the powerless stakeholders at the BoP (Chevrollier et al., 2014).

Doing business under the premise of BoP 3.0 means that a BoP initiative grounds on a precise identification of potential impact opportunities as opposed to a more general CSR approach in which organizations "just" feel the responsibility to contribute to a better world. BoP 3.0 initiators take on a stakeholder approach rather than a relationship power approach meaning that fair relationships are crucial. Finally, a BoP initiative is only successful if the people at the BoP have a better life and not only if organizations meet certain economic goals. Thus, every action involves deep communication to understand the specific needs and desires that differ among different geographical context (Chevrollier et al., 2014).

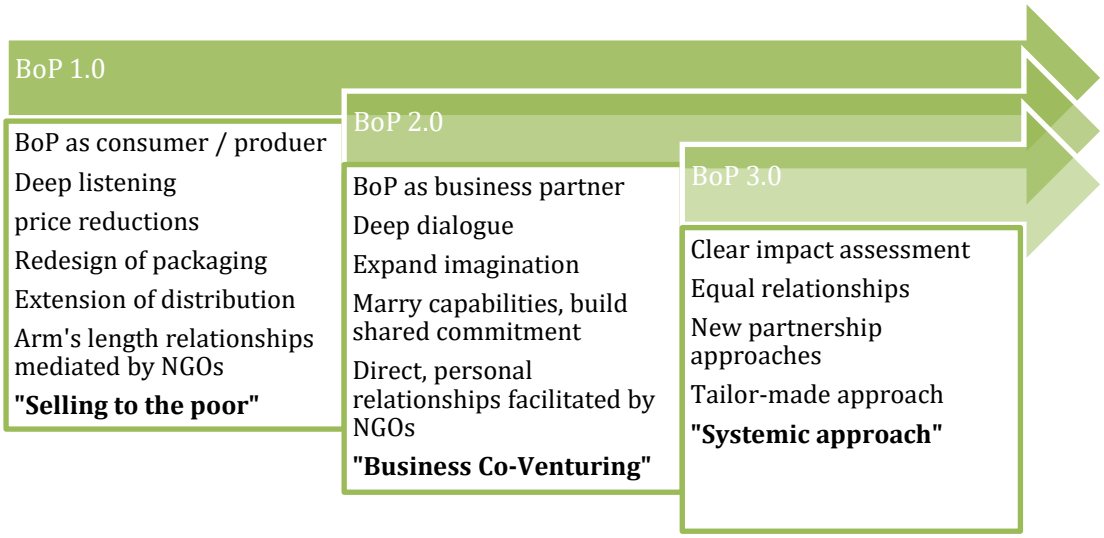

Figure 2 - Transition from BoP 1.0 to BoP 3.0 (Simanis, Hart & Duke, 2008)

2.1.5 Outlook

There is still need to create business and value chain solutions specially adapted to the BoP so that organizations can operate successfully in BoP markets and help to alleviate poverty (Khalid, Seuring, Beske, Land, Yawar & Wagner, 2015). Van Tulder (2010b) has identified the following weak points that need to be elaborated in the future:

1. The status of BoP is fragmented and sometimes too ideological. There is a need for robust models on how to approach the BoP successfully.
2. It has to be assessed how MNEs affect local companies. MNEs are the most suitable type of organization due to their global resource base, superior technology and capability to build markets, but they can outcompete local companies. This can eventually lead to even more poverty.
3. Businesses and nongovernmental organizations (NGOs) have shifted away from original BoP claims: Instead of targeting the BoP, organizations more and more approach the base of the pyramid, one layer above the lowest due to too high transaction costs and too low purchasing costs of the lowest layer. If the focus on the poorest is lost subsequently, the "bottom billion" theory by Collier (2007)[8] will be accepted then the hopes of a generation of ambitious sustainable leaders is lost.

[8] Collier (2007) states that the poorest 60 countries worldwide are failing despite international aid.

4. Therefore Van Tulder (2010b) claims that a shift from making sense to making more sense is needed. This calls for the application of the following models:
   - More sophisticated business models
   - More sophisticated partnership models
   - More market creation
   - A closer monitoring of externalities
   - A more comparative, more unbiased, systematic strategy development

Hart & Caneque (2015) add that it will be necessary to not only save protected space within organizations for the BoP premise but rather to consider BoP initiatives in the context of the larger body. Therefore, a BoP 3.0 ecosystem needs to be provided that entail new partners, including potential technology providers, capacity-builders, funders, on-the-ground partners and supply-chain players.

Inclusive business models build upon the theory of the BoP and can be seen as a logical continuation of the BoP trying to formulate clear implications for business models that include the poor.

Inclusive business is an umbrella term for commercially viable business models that include the poor in the value chain.

2.2 Inclusive business

2.2.1 Inclusive business as an umbrella term

Inclusive business is an umbrella term for business models that aim at including impoverished people in a value chain (Hahn, 2012). Precisely defining the term is difficult, nonetheless because of the challenge of addressing so many issues (Van Tulder, 2015). Nevertheless, many different authors have defined the term (UNDP, 2008; UNCTAD, 2014; Gradl & Knobloch, 2010; WBCSD and SNV, 2011; UNDP, 2008a; UNDP 2008b), and every author has a slightly different angle. Wach (2012) has attempted, to sum up the various aspects into one single definition. She describes inclusive business models as "economically viable business models that result in positive impacts for poor people and/ or the environment through the integration of poor people into value chains and/ or environmentally sustainable practices." With inclusive business models, all involved parties understand and acknowledge their mutual interdependence and aim at improving social, environmental and economic benefits for all.

Inclusive business models advance the BoP premise by not focusing on the lowest layer of the economic pyramid only. Although no clear agreed target segment of inclusive business exists, Teodósio and Comini (2012) try to describe characteristics of groups inclusive business is aimed at. As target groups, they identified people with poor or little education and local communities with strong ethnic ties, often living in areas with high social vulnerability.

2.2.2 Inclusive business in organizations

According to academic literature, the debate about private sector involvement in developmental issues has passed the point whether or not participation is needed and has reached the point on how to do so effectively (Kolk & van Tulder, 2006). MNEs can be suitable to help the poor leave poverty (Lodge & Wilson, 2006). [9] However, MNEs often lack proximity of the external

[9] Positive attributes of the private sector to approach poverty alleviation include their capabilities to manage international projects, conduct thorough risk management and develop KPIs (Van Tulder, Fortanier

environment in which the poor are located (Mousiolis, Zaridis, Karamanis & Rontogianni, 2015) and face the barriers described above.

Advancing Milton Friedman's premise stating that the "business of business is business" (Davis, 2005), companies have been shifting from shareholder-oriented models (Hart & Milstein, 2003; London & Hart, 2004) towards more sustainable business models. A significant milestone was the formulation of the triple bottom line by John Elkington (1998) whereby companies should consider economic, environmental and social goals in their operations. More recently Porter and Kramer (2011) created the idea of Creating Shared Value. They describe corporate social responsibility (CSR) activities as a potential source of competitive advantage. The central premise behind the idea is that companies can increase economic performance by aiming for environmental or social goals (ibid.).[10] Last year, the UN released the Sustainable Development Goals (SDGs), a set of 17 goals and 169 sub-targets. The SDGs cover a large set of sustainable goals and can serve companies and other sectors as a guideline for their actions.[11]

Figure 3 - Company transition from inactive to active (Van Tulder, Fortanier & da Rosa, 2011)

Companies undergo four phases in their transition towards sustainability. In the first step, the "inactive phase", companies try to "do things right". They mostly follow legal duties. In the second period, companies pursue a reactive approach towards sustainability motivated by moral obligation. Enterprises in the active phase choose for responsibility and virtue with a do-it-alone strategy. In the last stage, companies are engaged in sustainability-motivated partnerships. In this juncture, companies try to "do well by doing good" (See the complete continuum in Appendix 2).

The inclusive business frameworks by Mendoza and Thelen (2008) and van Tulder et al. (2011) cover the essence of the current discussion on the inclusive business model in the application. Below I will sum up the main aspects of the two frameworks:

- **Mission**: Companies should have a (pro-) active and identifiable approach towards poverty and income inequality. Taking into account the increase in greenwashing initiatives by corporations (Delmas & Burbano, 2011), it is crucial to put emphasis on the credibility and visibility of the mission.

& Da Rosa, 2011) as well as their availability of resources (Mousiolis, Zaridis, Karamanis & Rontogianni, 2015).

[10] Porter and Kramer (2011) describe three ways that companies can create shared value opportunities: 1. Reconceive markets and products, 2. Redefine productivity in the value chain, 3. Enable local cluster development

[11] All SDGs are interlinked and can hardly be approached individually. However, for my thesis the following SDGs are most relevant:

Goal 1: "End poverty in all forms everywhere"

Goal 2: "End hunger, achieve food security and improved nutrition and promote sustainable agriculture."

Goal 10: "Reduce inequalities within and among countries"

Goal 12: "Ensure sustainable consumption and production patterns"

- **Impact:** Companies should be accountable beyond the direct effects of the business model. As mentioned above, involvement in inclusive business can lead to several unwanted consequences, such as land grabbing or crowding out. Van Tulder (2010a) define two approaches companies can pursue facing these issues. They can apply a narrow strategy: Neglecting negative externalities and being purely motivated by market opportunities. The second opportunity is to implement a broad strategy: Companies can seek to create markets and thus, they have to understand the impact of their own business and strive for mitigating externalities.
- **Business case:** Inclusive business should have a clear link to core activities and competencies of the corporation. Van Tulder et al. (2011) stress that this connection can help to make economic and social objectives mutually reinforcing in the long run.
- **Stakeholder involvement:** Companies should engage in pro-active cross-sector partnerships to overcome challenges in inclusive business engagement (Arnould & Mohr, 2005; Seelos & Mair, 2007; Schuster & Holtbrügge, 2014). Partners in the host country can help to bridge the geographical distance (Reficco, 2006). I will elaborate on the importance of partnerships in the next part.

2.2.3 Inclusive partnerships

Van Tulder (2010a) explains that in the 1950s and 60s, after the process of European decolonization, mostly governments undertook development initiatives. In the next two decades, the role of civil society organizations (nongovernmental developmental organizations) increased and the idea of development "cooperation" was born.

At this point, companies were seen as being part of the development problem. With the release of the Washington consensus[12], a new stage of globalization started. Many countries liberalized their economies, which lead to an increase in foreign direct investment (FDI) spending and increased multinational business cooperation. Sustainable development was related to sustainable markets and competitive advantage.

With the beginning of the 21st century, it was clear that most approaches by governments, NGOs, and companies had failed. Governments failed in achieving their official goals in developmental aid, especially in sub-Saharan Africa; civic organizations could not reach the poorest parts of populations in an efficient manner (inefficiency of good intentions); and the private sector failed to have sustainable business models and provide public goods for impoverished people. This implies that the challenge of sustainable development laid and still lays somewhere in the middle in between public and private sector and in between the profit and the non-profit sector.

The 21st century has shown that partnerships, in particular, cross-sector partnerships are crucial for sustainable development. The addition of the eighth Millenium Development Goal "partnering for development" and the SDG 17 "Partnerships for the goals" show the importance of partnering to fill the institutional void that has become apparent due to the failure of the private, public and non-profit sector. Hart & Caneque (2015) lament that often enough BoP ideas have failed due to a lack of partnerships. Only through extensive stakeholder dialogue, MNEs can be aware of the responsibilities assigned to them as the three societal spheres state, market and civil society and their intertwining borders make it hard to assign responsibilities democratically to explicit actors

[12] The Washington Consensus is a set of 10 policies to help crisis-shaken developing countries. The policies were released by Washington, D.C.-based organizations.

(Van Tulder & Van der Zwart, 2006). The idea of partnering relates closely to applying a macro perspective on inclusive business as players from all spheres of society have to be involved.

2.2.4 Inclusive growth

Solely focusing on inclusive business misses economic growth of the entire economy. Thus, combining the micro and the macro perspective is a precondition for the inclusive development of poor regions. The concept is sometimes interchangeably used with the terms "pro-poor growth". Nevertheless, The World Bank Group (2009) stresses that growth has to be broad-based across sectors and inclusive for a large part of the workforce (and thus not only focus on the poor) to be sustainable in the long run. This definition implies that inclusive growth puts emphasis on the alleviation of absolute and not relative poverty. Absolute poverty is insofar more important for the private sector as relative poverty can be relieved by the public sector due to redistribution.

The Organisation for Economic Co-operation and Development (OECD) stresses in its definition that inclusive growth aims at decreasing multidimensional aspects of inequality in the global society. These factors include education, life expectancy, job prospects, income or discrimination because of wealth, assets, sex, age or places where people live (OECD, 2016).

In poor regions, agriculture often plays a micro- and macroeconomic factor in the economy. As I focus on a particular agricultural value chain in my thesis, I will provide the theoretical framework in the subsequent part.

2.3 Inclusive Agriculture

Global trends and events, including increased population growth, the world food commodity crisis of 2007-2008 and volatile food commodity prices have renewed interest in agricultural investments (UNCTAD, 2009). Agricultural investments are often large-scale acquisitions of farmland in lower- and middle-income countries connoted as "land grabbing" in the media. Growing opposition against these investments, environmental concerns and local land right management systems aggravate the establishment of new large-scale operations. Thus, slowly alternative ways of agricultural cooperation between large investors and local smallholders and communities are evolving. These relationships are based on a fair distribution of value (Godfray et al., 2010).[13]

2.3.1 Small-scale agribusiness

In developing countries, smallholders play a significant role as can be seen in the total farm households and their sizeable share of agricultural production.[14] As the world is facing resource scarcity regarding new arable land, smallholders will be indispensable as a food source and driver of the rural economy. Additionally, smallholders often fulfill the following crucial functions in

[13] Shared value can be measured in the following way (Vermeulen & Cotula, 2010): 1. How is ownership of the business and key project assets, such as land and processing facilities divided? 2. How much voice, meaning the ability to influence business decisions, does each partner have? 3. How are different kinds of risks (e.g. commercial, political and reputational) divided among the partners? 4. Is the economic reward equally shared? These components are closely interlinked. Ownership can influence voice as possessing more shares of company can lead to more influence in the decision-making process. However, owning more shares in a joint venture does not necessarily lead to more influence. Unfair distribution of voice in financial matters can influence an unfair distribution of benefit sharing.

[14] Approximately two billion people worldwide are small-scale farmers and about 85% of all farms worldwide have less than two hectares, 97% have less than 10 hectares (Sjauw-Koen-Fa, 2012).

their respective regions: food producers, employees, "eco-service"-providers and food security guardians in poor and remote areas (Sjauw-Koen-Fa, 2012).

Many farmers are caught in a vicious circle working the same way as they did centuries ago. These farmers have low incomes, which leaves little space to improve farm inputs and technology. Above that, these farmers often lack education and market information. Furthermore, smallholders face severe disadvantages towards accessing modern value chains.[15] Solutions for them could be scaling up their production land, modernize their equipment to increase efficiency, shifting towards high-value production or diversifying into non-farm sources of income (Sjauw-Koen-Fa, 2012). Almost invariably external support is necessary to leave this poverty trap (ibid.). The value chain model helps to understand external and internal collaboration.

2.3.2 Inclusive agricultural value chains:

A value chain is defined as "a system of interdependent activities, which are connected by linkages." (Porter & Millar, 1985). Different value chain models exist for specific sectors. The agricultural value chain consists of three parts (SER, n.d.; Kaplinsky and Morris, 2001). Within these value chains, smallholders can be linked to their private sector partners in different ways.[16]

- **Core processes** comprising of the primary means of a value chain (Farming, processing, wholesaling, retailing and consuming).
- **Partner Network** consisting of secondary stakeholders, such as governments, knowledge institutes, NGOs or market support services. They help to leverage opportunities, build capacities and provide resources in the value chain network.
- **External influences:** Value chains are embedded in a wider context consisting of political, economic, social, technological, environmental and legal factors.

[15] Smallholders often produce low volumes with variable quality, which limits their ability to meet standards and results in high transaction costs. Moreover, smallholders often face a poor market infrastructure and lack access to credits and technology. Finally, they face agro-technical issues, such as insufficient inputs (seeds and fertilizers) and insufficient irrigation (Sjauw-Koen-Fa, 2012).

[16] The FAO (2001) has identified five different contract farming models:

The **centralized model**: A company supports small-scale farmer production, buys the crop and then processes it, strictly controlling its quality.

In the **nucleus estate model**, the company manages the processing facility as well. Thus, the company can assure a minimum throughput.

The **multipartite model** means that government, private companies, and farmers engage in a cross-sector partnership.

Under the **intermediary model** companies subcontract intermediaries, who have their arrangements with farmers

Finally, the **informal model** involves small- and medium-sized enterprises. They make simple contracts with farmers often on a seasonal basis. These contracts are often repeated annually.

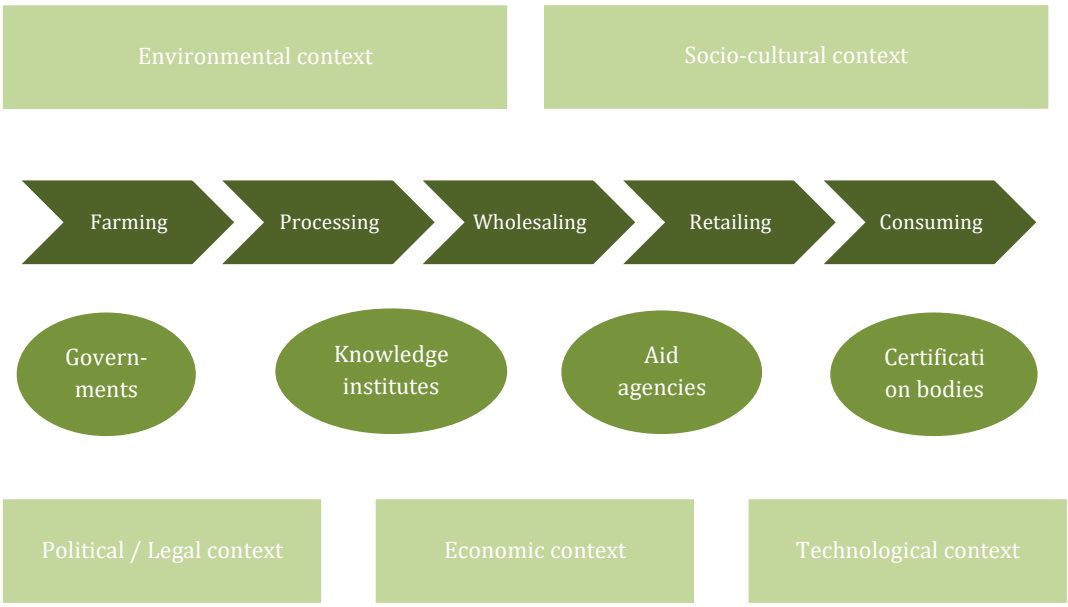

Figure 4 - Model of a global agricultural value chain (SER, n.d.; Kapplinsky & Morris, 2001)

A successful value chain approach should entail the following characteristics according to Sjauw-Koen-Fa (2012):

- Demand-driven production, consumer or market preferences are known to producers, and production is organized accordingly.
- Origin and characteristics are known throughout the supply chain and consumers can obtain this information via certification or traceability systems.
- Consumers are willing to pay a premium for products of particular origin based upon credible product information.

These characteristics allow small-scale farmers to benefit from better terms of trade, as seen in the array of fair trade markets. Nevertheless, the existence of all three components is very rare.

2.3.3 Transform an existing value chain

The International Center for Tropical Agriculture (CIAT) has developed a four-step model to measure current and stimulate future inclusiveness of an agricultural value chain, called "LINK."

1. The first tool foresees an evaluation of the value chain to understand the macro context of markets. Primary questions are: Who are the actors and what role do they play? How do products, service, and information flow through the chain? CIAT proposes to use the PESTEL analysis (an analysis of the political, economic, social, technological, environmental and legal influences) and an evaluation of the value chain similar to SER (n.d.) and Kaplinsky & Morris, 2001).
2. If LINK is applied to transform a particular company, the business model canvas can help to understand in more detail that links rural producers with buyers. Key questions can be: How does your organization work? Does it have a viable business model?

3. Third, the newly created "New Business Model principles" help to access the inclusiveness of the different actors in the supply chain. The analyst asks: How inclusive is the trading relationship? How can you identify areas for improvement?[17]
4. Finally, the prototype cycle is used continuously to improve the inclusiveness of every business (Lundy et al., 2014). The two leading questions are: How do you move from theory to action? How can you incorporate your ideas into a work plan?

2.3 Summary: Theoretical framework

Since the emergence of the premise of the BoP in 1998, scientists have been involved in lively debates about proper ways to use business-management tools to alleviate poverty. The first

[17] The "New Business Principles" can be subdivided into six sub-headings:

Chain-wide collaboration: Resolution of social and commercial problems with the "New Business Model" means that the key actors of the chain share the same ambitions. This systemic view identifies and appreciates the interdependence of all actors. Reaching an agreement often needs the identification of one or more champions. Main questions are: Do actors share the same goals? Do actors exchange information regularly? Are there structure in place to motivate collaboration or shared problem solving? Is there one or more "champions" who will lead the process of co-innovation? Do all actors understand and acknowledge the interdependence of the trading relationship?

Effective market linkages: Farmers and other organizations need to be linked to a stable market that provides access to key services and clear pre-arranged volumes, quality and prices. These linkages should contribute to better lives of smallholders. For buyers, these linkages should provide a stable delivery of safe, high-quality products at competitive prices. Accomplishing these goals creates social and economic value along the value chain. Primary questions are: Are trading relations stable and profitable? Do actors take advantage of market opportunities? Do actors respond quickly to the changing needs of clients?

Fair and transparent governance: The value chain should be supplied with fair and consistent quality standards, clear purchase and sell commitments of products of a certain quality at pre-arranged times. Mutually recognized dependency in the chain is a key factor. The cement of successful partnerships are shared commercial risks and insurances. Key questions are: Are sale /purchase volumes and prices communicated clearly? Are quality standards clear and consistent across the chain? Are risks understood and shared proportionately along the chain? Are trading relationships based on formal contracts or clear informal agreements?

Equitable access to services: The most crucial challenges by smallholders often are access to services, including finance, market information, and best agronomic practices that improve yield, food safety or quality. Successful solutions incentivize producers to invest in their own production based on market needs. Main questions are: Do producers have access to technical support services provided by a buyer or an indirect actor? Do producers have timely access to market information provided by the buyer or an indirect actor? Do producers have access to financial services provided by the buyer or an indirect actor?

Inclusive innovation: New Business Models promote innovation of products, services and processes together with smallholders. This way, the value chain can remain competitive against global competitors and improve the commercial value of goods and service. Key questions are: Are innovation processes carried out collaboratively? Who participates and why? If innovation is evident, who gains from the results? Are there profit-sharing mechanisms in place? Are small-scale producers encouraged to participate in inclusive innovation?

Measurement of outcomes: This business principle indicates that you cannot manage what you cannot measure. Thus, tailored indicators and monitoring plans should be set up to assess the health of the trading relationship towards community development and economic benefits. Constant monitoring can help to diminish the risk that minor problems destroy the business. Main questions are: Have indicators been established that will measure the success of the business relationship? Are the results of the business relationship measured frequently? Are there feedback loops in place to guarantee effective chain-wide management and decision-making?

The "Seas of Change"-workshop has identified a set of further questions that can be asked in the research to analyze the current status of inclusiveness in the chain and identify room for improvement. These additional questions include

How are women or other marginalized groups participating in the supply chain?

What would stakeholders like to do if they were able to?

approach of the BoP, including the lowest layers of the world as consumers, is heavily criticized. Thus, scientists developed the idea towards including the poor in other stages of the value chain. In the idea BoP 2.0, the poor are incorporated as co-producers. The most recent development stage of the premise (BoP 3.0) envisages a transformation of the whole system in which the BoP operate. However, van Tulder (2010b) claims that there is still need for further elaboration of the idea.

Within the realm of BoP 3.0, the idea of inclusive business models has emerged. The idea is that the whole value chain acknowledges and understands mutual interdependence. With cross-sector partnerships, all parties are able to maximize their social, environmental and economic benefits. Van Tulder et al. (2012) and Mendoza and Thelen (2008) sum up which characteristics inclusive business models should entail:

1. Mission: Organizations should have a clear approach towards poverty alleviation and income inequality
2. Impact: The goal of organizations should be to mitigate own negative externalities.
3. Business model: The business case should be clearly linked to the core activities and competencies of the organization.
4. Partnerships: Cross-sector partnerships can be a crucial factor to face challenges at the BoP.

This micro perspective of inclusive business should be linked to the macro-perspective of inclusive growth. The economic development of the economy has to be broad-based to lead to an alleviation of absolute poverty and help the entire society to prosper.

Each sector has different specificities that need to be taken into account when evolving towards more inclusiveness. With around two billion small-scale farmers worldwide the agricultural sector plays a significant role in the realm of poverty alleviation and food security. Investments in the industry have soared in the last years due to increased global food issues. Slowly, interest in collaboration with small-scale farmers in opposition to large-scale land acquisition is rising.

An agricultural value chain consists of core processes, a partner network and external influences. The LINK methodology (Lundy et al., 2014) serves as a framework to analyze and foster inclusiveness of this kind of value chain. It consists of the following steps:

1. The value chain map
2. The business model canvas
3. The New Business Model principles
4. The prototype cycle

3. Contextual framework: Quinoa in Peru and Bolivia

In this part, I will describe the context of the master thesis: quinoa and its cultivation in its traditional sources of origin, Bolivia and Peru. This information reflected in the light of the theoretical framework will help to identify the room for my personal scientific contribution.

Quinoa is a superfood with high nutritious value that is traditionally grown in the Andes by smallholder farmers. The plant has transformed into a successful export crop in the last years.

3.1 Introduction

3.1.1 Definition of quinoa

Quinoa is a superfood[18] that biologically belongs to the class of goosefoot genus (Chenopodium quinoa). The crop is mostly used for consumption[19] as it is highly valued for its high nutritious attributes. It contains all essential amino acids, trace elements, vitamins (FAO, 2011), is rich in minerals (Friedman-Rudovsky, 2012), it is gluten-free and does not cause allergies (Casma, 2014; Friedman-Rudovsky, 2012) (further information in Appendix 3). Due to these attributes quinoa is sometimes referred to as the "grain of the gods." The high nutritious values are even recognized by the National Aeronautics and Space Administration (NASA) that provides quinoa to astronauts on space missions.

Quinoa species can be divided into five main ecotypes (Bazile, Fuentes & Mujica, 2013).[20] Each ecotype is highly adapted to specific environments (Bazile, Jacobsen & Verniau, 2016; Risi & Galwey, 1984). According to Jacobsen (1997), the ecotype from southern Chile is most adjusted to temperate environments and thus, most useful to develop new varieties for northern latitudes.

As European and North American consumers tend to eat healthier and more ethical food (Gautier, 2011), superfoods, like quinoa, have been booming recently. Quinoa exports have grown over the last two decades from US$ 0.7 million in 1992 to US$ 131 million in 2013 (Salcedo, 2015). The biggest boom took place from 2008 to 2013 with exports increasing more than tenfold (Gandarillas, 2015). The UN acknowledged this success and dedicated the year 2013 to quinoa.

The plant was originally cultivated in the Andean regions of South America. Especially in Bolivia, it is traditionally grown by small farmers since it has an extraordinary ability to adapt to different climatic conditions and agro-ecological zones.[21] Till today the Andean states Bolivia and Peru account for around 85% of global quinoa exports (Salcedo, 2015).

3.1.2 History of quinoa

Quinoa is traditionally grown in the region of Altiplano where the Andes are at their widest. Altiplano is the most extensive area of high plateau on Earth outside Tibet. The by far largest parts

[18]Superfood is a marketing name (Cancer Research UK, 2016) that serves as an umbrella term for different kinds of nutrient-rich foods (The Oxford Dictionary, 2016). Superfoods can be considered "very good for your health" (Macmillan Dictionary, 2016). Demand for superfood has been increasing in the last decades (Salcedo, 2015). The increase can be explained with shifting food demand of citizens in Europe and North America (Gautier, 2011). Superfood has been confronted with negative press by scientists and health experts reporting that this food is rarely as healthy as claimed (EUFIC, 2012).

[19] Quinoa offers wide opportunities of usage ranging from food processing to cosmetic and medicinal products (please find an overview of application opportunities in Appendix 4).

[20] Bazile et al. (2013) have identified the following quinoa ecotypes: Highlands in Peru and Bolivia; Inter-Andean valleys in Colombia, Ecuador and Peru; Salares in Bolivia, Chile and Argentina; Yungas in Bolivia; Sea level in Chile

[21] Quinoa can grow in humidity levels varying from 40 to 88 percent. It can grow on altitudes of up to 400 meters above sea level and withstand temperatures between -4°C and +35°C. Furthermore, the plant is able to cope with as little rainfall as 100-200mm per year (FAO, 2012).

of the plateau lie in Bolivia. In the north, it touches Peruvian territory and in the south the Chilean and Argentinian.

The Altiplano is known as a region with lack of economic development as little agriculture can be cultivated due to drought, salinity, wind, hail, frost, low rainfall and poor soils. Nevertheless, the quinoa plant grows especially well in these areas. Indigenous People from the Altiplano region started cultivating the plant 7,000 years ago for human consumption (Winkel et al., 2016). Due to the lack of other nutritious food, these people traded with people from other altitudes to obtain a balanced diet.

Throughout all the time, quinoa farmers, indigenous people from the Altiplano, were either ignored or oppressed by the outside world. Even after the white minority established an independent government, these people remained an underclass in their country. Indigenous foods were connoted as "dirty" food. Traditional habits, like quinoa production, were seen as roadblocks in the way of national development (Fifer, 1972).

The introduction of tractors was an important factor in agricultural development in the Altiplano. On the one hand, tractors increased productivity, but on the other hand, their introduction loosened the soil and provided ground for pests and other diseases. Furthermore, tractors could not operate on the hill terraces and thus, the Altiplano farmers moved the production of quinoa from the ground with more clay, nutrients and organic matter to the flat grasslands with poor soil, where the llamas used to grass. At the same time, food aid imports from the United States started to change national diets from traditional Andean food to cheaper, processed wheat products (Richardson, 2014).

In the second half of the 20th century, the Bolivian government imposed a severe economic austerity under the influence of the United States of America, which stimulated many people in the Altiplano to leave the region. Nevertheless, some quinoa farmers started to export their product to its neighbor Peru and later to the United States. In the beginning, quinoa processing was intensive manual labor. With no external support, Bolivian quinoa cooperatives went abroad to Peru and Brazil to learn about processing machinery for other commodities to copy it and build their equipment (ibid.).

In 2005, the United States of America and Denmark helped to develop new technologies to improve efficiency. At this time, quinoa had been turned into a successful export product. Shipping prices for Quinoa skyrocketed from US$ 1.11/ kg in the 1990s to US$ 3/ kg in 2012 (Salcedo, 2015).

Summarizing, quinoa farmers have been able to sell a crop, considered being of little economic value until recently, first to the neighbor market Peru and later to the international market as a high-quality specialty food (Giuliani, Hintermann, Padulosa & Rosi, 2012). The recent development of quinoa has meant a big success for families of the Altiplano. According to Gandarillas (2015), 20,000 Bolivian families left financial poverty within 15 years. Besides lifting families out of economic destitution, quinoa cultivation has helped farmers to be more accepted in their societies.

3.1.3 Future of quinoa

Countries have recognized the potential of the quinoa business all over the world, and experimentation of growing quinoa outside the Andes started in 1935 in Kenya (Elmer, 1942). The number of quinoa cultivating countries has risen from 8 in 1980 to at least 103 countries today experimenting or growing quinoa according to a leading biologist in the field. 20 countries entered the field alone in 2015 (Bazile, Baudron & Green, 2015) (also see Appendix 5). Biggest

producers remain Bolivia and Peru. Nevertheless, Colombia, Ecuador, India, and China have gained the status of primary producers as well. After that, Argentina, Chile, France, Spain, the United States of America and Canada have become medium-sized cultivators. Many countries see quinoa as an appropriate opportunity to tackle issues of malnutrition and food security rather than as an economic opportunity.

The appearance of new quinoa cultivators has a yet uncertain effect on the Andean quinoa sector. Based on current trends in the quinoa market the Centre for the Promotion of Imports from developing countries (CBI) has developed four possible scenarios of quinoa from a total collapse due to excessive expansion of cropland over the establishment of Andean quinoa as a highly demanded niche product to quinoa as a mainstream product. Experts mostly believe in a moderate increase in consumption of quinoa and the establishment of Andean quinoa as a premium niche product (Please refer to Appendix 6 to a more elaborated evaluation of the possible future scenarios of quinoa).

3.1.4 Quinoa in Latin America

The described case of quinoa, the integration of local value chains into the global context with positive socio-economic benefits is not an isolated phenomenon in Latin America, but it is part of a predominantly positive development of the region.

Latin America has undergone severe economic, social, cultural and political changes since the 1980s. The most important changes include the liberalization of the economy, a dramatic expansion of basic health services, education and telecommunication infrastructure, an enforcement of democracy and an increased consciousness for sustainability (Berdegué & Fuentealba, 2011). The Human Development Index released by the United Nations Development Programme (UNDP, 2015) confirms the overall positive social-economical changes. From 1980 to 2014 nearly all Latin American states have continuously improved. However, Latin America has only experienced a slight reduction in poverty and a marginal shift towards fairer income distribution[22] (Lustig, 2015). Analyzing the decrease of poverty in rural areas from the 1980s to 2010, the result is disappointing[23] (Berdegué & Fuentealba, 2011). In fact, Latin America remains the most unequal region in the world (Lustig, 2015).

Although all countries of the Andes have traditionally cultivated quinoa, only Bolivia and Peru have used the socio-economic developmental potential of the crop. In my further analysis, I will focus on the two mentioned countries.

[22] The shift towards a fairer income distribution in Latin American can mainly be explained by government transfers (Lustig, 2015).

[23] In 1980, out of 124 million rural habitants, 74 million were poor and 41 million could not even meet their food needs. In 2010, the numbers were 119 million, 62 million and 35 million respectively while GDP per capita increased by over 25% in real terms (Berdegué & Fuentealba, 2011).

3.2 Quinoa in Bolivia and Peru

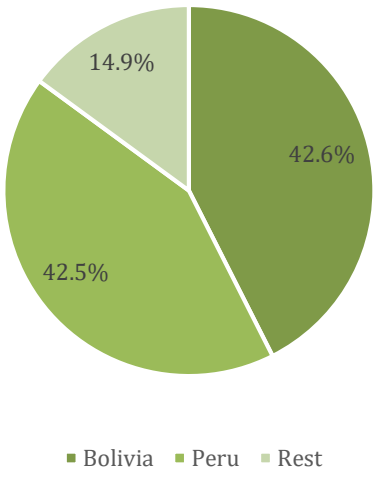

Figure 5 - Share of quinoa exports (Statista, 2016a)

3.2.1 Bolivia

In 2014, Bolivia was the biggest producer of quinoa and exported a share of 42.6% of total quinoa exports. Production has skyrocketed in the last ten years from 25,201 tons of production in 2005 to 77,354 tons in 2014. (FAO Stats, 2016).

Most quinoa production takes place in Oruro and Potosi; each region produces 40% of the national quinoa output. La Paz provides the remaining 20% (FAO, 2013) (Appendix 7 gives an overview of the location of quinoa production in Peru, Bolivia, and Ecuador).

The variety with the biggest demand is quinoa real. This plant can only be grown in the Altiplano Sur of Bolivia since it is perfectly adapted to its extreme climatic and terrestrial characteristics.[24]

New ways of income generation are crucial for Bolivia since it remains South America's poorest country in which most inhabitants live on substance farming. 45% of the population lives below the global poverty line. Most poor people live in the Andean regions. Moreover, Bolivia is the third worst country in Latin America to do business with (global rank 157) (The World Bank Group, 2016a).[25] However, recent economic trends show an improvement of socio-economic factors, e.g. the gross domestic product is on the rise (IFAD, 2016a).

3.2.2 Peru

Peru surpassed Bolivia as the biggest producer of quinoa in 2015 and is now the largest quinoa producer in the world. Production steadily increased between 1990 and 2013. 2013 production more than doubled within one year from 52,130 to 114,343 tons and continues to grow steadily. Yields of Peruvian quinoa producers, who mainly produce in the southern highlands, have traditionally been higher than yields of their Bolivian counterparts. (FAO Stats, 2016).

Peru is a middle-income country with a growing gross domestic product. Peru was able to relief enormous proportions out of poverty in the last decade. Whereas around 50% of its population lived in poverty in 2000, this number has decreased to 30% by today. Most poor people live in the Andean regions with poverty rates over 50% (IFAD, 2016b). After Mexico and Chile, Peru is the

[24] The Altiplano Sur has between 200 and 400 mm rainfall per year, saline soil and high altitudes (between 3,700 and 4,200 meters above sea level). These circumstances allow to grow a plant of major height, with organoleptic characteristics and a major nutritional value (CABOLQUI, 2016).

[25] To start a business, 15 procedures are necessary that take around 50 days and cost around 57.9% of income per capita. It takes 12 days to obtain a municipal business license and a municipal registration card (Padrón Municipal) from the municipality, where the business is located. It takes 9 days to register the company deed with the Registry of Commerce to obtain legal capacity (Matricula de Comercio) (The World Bank Group, 2016a).

third best country to do business with (global rank: 50) according to The World Bank Group (2016a).[26]

3.2.3 The value chain

"Mapping the value chain is one possible starting point for the inclusion of smallholder producers" (SER, n.d.). I will apply the value chain model by Kaplinsky and Morris (2001) and SER (n.d.) to the quinoa sector in Peru and Bolivia to understand the environment and the specific stakeholders.

A value chain can be divided into three parts: core processes, partner network, and external influences. In a first step, I will identify the different stakeholders in the value chain (primary processes and partner network). In a second phase, I will determine the wider context (external influences) of the value chain to understand the context in which the value chain is placed.

3.2.3.1 Core processes

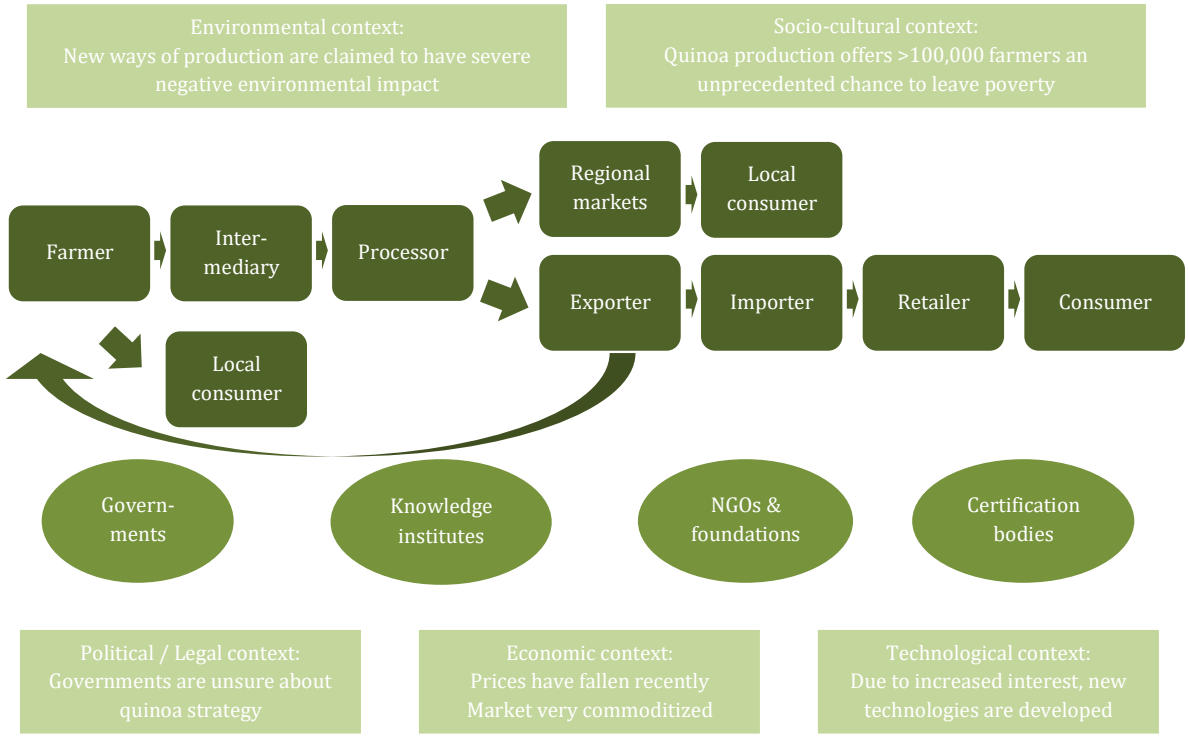

Figure 6 - Overview of the quinoa value chain in Peru and Bolivia (based on the model by: SER, n.d.; Kaplinsky & Morris, 2008)

3.2.3.1.1 Primary producers

Smallholders with one hectare of field per farmer on average dominate primary production. The Food and Agriculture Organization of the United Nations (FAO, 2014) estimates that 70,000 and 60,000 farmers are active in the quinoa value chain in Bolivia and Peru respectively. Most farmers have only access to small pieces of land.

[26] Six procedures are needed to set up a business. This takes around 26 days and costs around 9.8% of the income per capita.

Primary producers

The International Labour Organization (ILO, 2015) divides farmers into three groups:

1. **Medium-sized producers**, which count for the smallest share. They own more than 5 hectare of land. More than one hectare is occupied with certified quinoa. Quinoa is the primary income, and they have access to major agricultural technology. They have initiated the commercialization of quinoa on a larger scale.
2. **Small-scale farmers** represent about 30% of all producers with two to five hectares of land. One to two hectares of land is dedicated to quinoa. About half of their incomes derive from agricultural activities. Most producers are shifting towards increased quinoa cultivation. Around 20% of the produced quinoa is for autoconsumption. Small-scale farmers often have no basic infrastructure for storage, drying and dehulling. Family income varies mostly between US$ 1,000/ year and US$ 15,000/ year (Salcedo, 2015).
3. The largest groups are **smallest-scale farmers** with less than one ha of agricultural land and less than ¼ ha dedicated to quinoa cultivation. Quinoa counts for 10 – 20 % of their income. They devote the rest of their land to the production of potatoes or other Andean foods. Most quinoa is produced for autoconsumption. They can be considered subsistence farmers and use quinoa often to trade for other crops. For small-scale and smallest-scale farmers quinoa also serves as a saving account to be sold in times of needs for health costs, education costs, etc. Slowly, small-scale and smallest-scale farmers see quinoa as a business opportunity. In the following, I will refer to small-scale and smallest-scale farmers as small-scale farmers or smallholders.
4. Besides, these three producer classifications, **other community members** are often involved in the production process of quinoa. According to ILO (2015), especially women play a significant role in the harvesting and pre-harvesting process. In very traditional communities, these processes are done without financial compensation. Help is reciprocated in a later point of time (ibid.). In other communities, paid peons assist in the harvesting and post-harvesting process.

Producer Organizations (POs)

Organization of small producers in informal and formal cooperatives is not standard.[27] Especially in Bolivia, primary producers are grouped in POs[28], which help to exploit economies of scale, reduce transaction costs (Ton & Bijman, 2006) and increase their relative power by creating a common voice. POs in Bolivia and Peru often focus on securing a good life for producers. In Bolivia, they especially foster production of organic quinoa. Since quinoa production in Peru has developed only recently, smallholders are not organized in comparable ways as in Bolivia. Whereas POs in Peru are often supported and created by the government, their counterparts in Bolivia have mostly developed with international help. The most important Bolivian POs are the following:

[27] POs play an important role in inclusive agriculture. A PO can be defined as a membership-based collective organization with elected leaders that is accountable to their constituents. Ownership as well as control are collective. The motto is: United we stand, divided we lose (The World Bank, 2008). A PO serves collective interest of its members, e.g. farm input, technical assistance, marketing, finance or processing (Grotaert & Narayan, 2004; Bebbington, 1999). Were (2003) has evaluated the following roles of co-operatives: Reducing transaction costs and raising gross margins, strengthening product marketing and reducing marketing risk, increasing social capital, enabling collective action and facilitating access to finance.

[28] Ramos (2002) counted 635 POs in Bolivia.

- **The National Association of Quinoa Producers (ANAPQUI)** groups about 1,500 families. It tries to sell its quinoa directly to exporters crossing out intermediaries. Its mission is to preserve the traditional system of quinoa cultivation and improve the living quality of farmers in the Altiplano.
- **The Center of agricultural cooperatives "Operación Tierra" (CECAOT)** unites 14 unions and around 360 members. The objective of the organization is to improve the life conditions of its members and foster the economic development of its province (Comerciojusto, 2016).
- **The Producer Association of Quinoa Salinas (APQUISA)** consists of 350 associates uniting 1,800 producers and is aiming at fostering ecological cultivation with basic principles of sustainable agriculture respecting the environment (Pacha mama) and the rights of nature (Suma Q'amaña) (APQUISA, 2016).

APQUISA, ANAPQUI, and CECAOT are united in "La Alianza" and together they are leading a "Consejo Regulador" (advisory council) to implement a denomination of origin for quinoa real.

3.2.3.1.2 Middlemen

Today, middlemen are often negatively connoted by farmer associations, for example, ANAPQUI highlights that their aim is to cross out intermediaries to keep increased amounts of profits. The FAO and CIRAD (2015) have identified the following middle stages in the quinoa business:

Storage and processing: Micro- and small-sized firms and individuals mostly carry out storage and processing (Salcedo 2015). Many of these companies have recently joined forces as producer cooperatives and associations and established small-scale facilities to improve their processes: drying, winnowing and removing saponin. They often posess storage centers on a local level (FAO and ALADI, 2014).

Industrialization: Mainly small- and medium-sized companies, but also a few cooperatives and producer associations at regional level or in urban centers are involved in this stage of the process. Their operations include collecting, extracting, industrializing and grinding of the grain (Salcedo, 2015; FAO and ALADI, 2014).

A study by Soriano, Soliz, Mamani, Gutiérrez and Aguilar (2006) has identified the following buyers or transporters (also called "acopiadores"):

Communal middlemen regularly go to the fields of small-scale farmers with their vehicles and buy quinoa to sell it to bigger intermediaries on the Challapata market.[29]

Transporters or "acopiadores" have a similar role as communal intermediaries, only they do not have the financial means to buy the quinoa from the producers. Instead, they just offer their transport services and sell the farmers the direct price received at the Challapata market.

[29] Until the 1970s, the Challapta market was the only commercial path for farmers to sell their quinoa. Till today, prices for conventional quinoa are set on a weekly basis (Raynolds, Murray & Wilkinson, 2007). Increased demand has brought new players into the sector, each one with different incentives and paying structures (Effel, 2012). On the Challapata market farmers are usually paid on spot. The prices are normally lower than the prices set by POs or private firms. The Challapata price is determined by supply and demand and it is still used as a benchmark for most Bolivian exporting companies and associations (Mercadero, 2016).

Challapata middlemen[30] refer to different kind of local quinoa traders that receive their name from the Challapata market although their origin might be unequal.[31] Some Challapata middlemen are involved in quinoa contraband to Peru.

Traditionally, transporters and processors are middlemen in the quinoa value chain. I focus on carriers as the most important intermediaries, because processing is often executed by exporters or producer organizations.

3.2.3.1.3 Local consumers

Specifically in the Andes, quinoa is an essential part of local peoples' diet. Nevertheless, quinoa is only consumed in small amounts (Winkel et al., 2012). Increasing interest by well-known chefs has made quinoa also attractive for higher-class people turning quinoa from "comida de los indios" ("food of the indigenous") into "comida de los reyes" ("food of the kings").

3.2.3.1.4 Exporters

Quinoa intended for international export must meet higher standards regarding presentation, uniformity, and safety. Exporters are in charge of making sure that quinoa meets international standards. Thus, medium or large-sized companies are in charge of quinoa imports. In some exceptions, peasant organizations have direct dealings with foreign markets (Salcedo, 2015). Quinoa is a specialty product, and thus, volumes are still often too small for direct imports via big retailers.

Several small organizations have just emerged with the quinoa boom and to that effect lack of business experience. In Bolivia, the export companies that take charge of 70% of all trading volume are united in CABOLQUI, the Bolivian Chamber of Exporters of Quinoa and Organic Products. A comparable organization does not exist in Peru.

Exporters usually take care of pre-cleaning quinoa to purify it from little stones and wooden sticks to assure export quality. Moreover, in laboratories exporters control for compliance with quality standards and divide quinoa according to size, weight, form, and color (Salcedo, 2015).

3.2.3.1.5 Importers

Most Importers are of small or medium size, like Davert GmbH in Germany. The numbers are steadily increasing as big multinationals like Aldi Nord have only entered the market this year. Thus, it is difficult to capture the exact amount of importers.

Quinoa importers are usually involved in processing and selling quinoa wholesale to retailers or wholesalers, or they sell quinoa under private or own labels.

3.2.3.1.6 Retailers

In its beginnings quinoa was retailed in specialty health shops and fair trade shops to a very specific customer target group. As consumer preferences have changed and more clients strive

[30] Small buyers: Around 50 middlemen who buy and sell around 20 to 100 quintales per week

Medium-size buyers: Around 30 middlemen who often work in unions buying and selling around one truck per week

Wholesalers: Three main middlemen that buy and sell from one to four trucks per week.

Invisible national industries: Several artisanal and micro-enterprises exist that produce special niche products. The amount absorbed by these stakeholders is marginal

Peruvian wholesalers: Around 15 to 20 organizations that buy quinoa in all forms and ship it to Peru without registration. According to estimations, these Peruvian traders bought around 5,000,000 tons in 2006.

for healthy and ethical consumption (Gautier, 2011), it has become increasingly attractive for different kinds of retailers to offer quinoa. Wholefood- and fair trade shops traditionally offer quinoa. However, quinoa can already be found in mainstream supermarkets, like Albert Heijn and Aldi Nord in the Netherlands. New retailers are emerging. Quinoa can also be found in many internet stores. Some shops are even only focused on selling quinoa and similar Andean products. The produce is currently sold under various labels. Retailers often use the marketing strength of their brands to market quinoa.

3.2.3.1.7 International Consumers

As quinoa can also be bought in large-scale supermarkets today, an apparent target market for quinoa is hard to identify. Culinary public media connotation and use of quinoa by internationally known chefs make quinoa increasingly attractive for the mainstream markets. Nevertheless, due to comparably high quinoa prices and insecurity about the proper use, quinoa can still be considered a niche product. Consumers interested in health-related product attributes and ethical-related attributes can most probably be considered the largest consumer market of quinoa.

Excursion: Perception of quinoa in the media:

To understand how media influences investment decisions and buying behavior of people in Europe, I conducted a media analysis of major newspapers in Germany (Focus, Stern, Der Spiegel, Rheinische Post, Die Welt) and the United Kingdom (Financial Times, The Guardian, The International Herald Tribune). The media analysis only provides a biased image of the reporting in Europe due to the inclusion of only a few newspapers and the focus of only several countries. I did not include other countries due to language barriers.

I conducted the analysis for the period from the beginning of the quinoa boom, 2008, till today (2016). I counted the number of times "quinoa" was used in the articles and examined the context. Finally, I constructed two word clouds that demonstrate the context in which quinoa was described. The analysis revealed several interesting insights:

- In general, quinoa is portrayed very positively in the media. In most newspaper articles, quinoa is referred to in the context of meal preparations or new restaurants (69 in Germany, 48 in the United Kingdom). After food preparation, quinoa is often mentioned for its high nutritious value (25 in Germany, 17 in the United Kingdom). Additionally, newspapers often refer to quinoa in the realm of alternative ways of living (8 in Germany, 7 in the United Kingdom).
- Rarely newspapers relate negatively to quinoa: In five cases it was referred to as expensive, and one time, quinoa was linked to low domestic consumption due to high export prices.

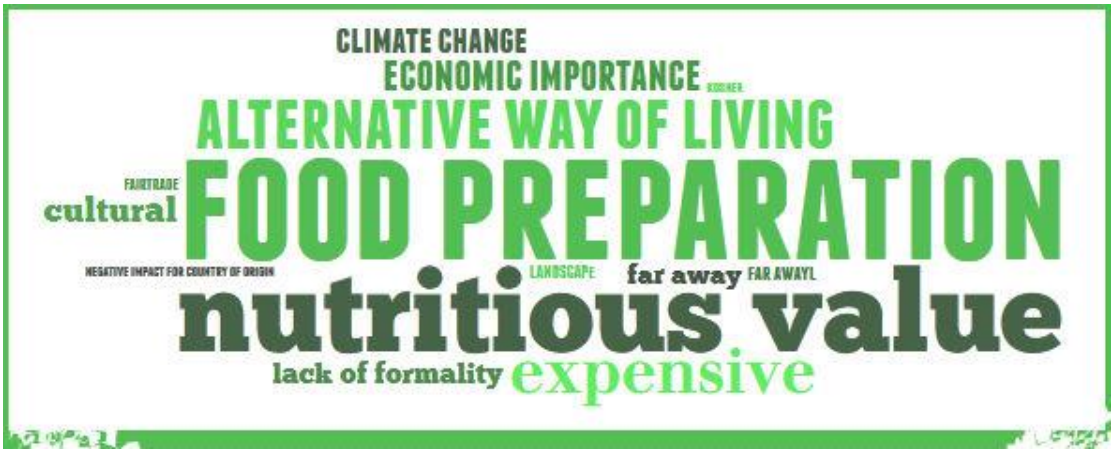

Figure 7 - The British media perspective (Lexis Nexis research)

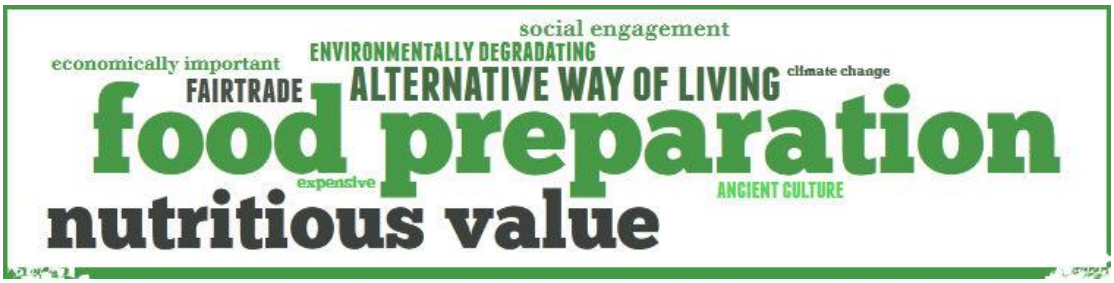

Figure 8 - The German media perspective (Lexis Nexis research)

Summing up, the primary value chain consists of producers, intermediaries, exporters, importers, retailers, and consumers. Intermediaries can be transporters, buyers or processors.

In Bolivia as well as Peru, most quinoa production takes place in the Southern and Western part (Appendix 7). The different primary producers are widely dispersed and poorly connected to the processing regions. Processing often takes place in the major economic areas of the respective countries, e.g. La Paz (Bolivia) and Lima (Peru). Slowly, associations are setting up their processing facilities in their respective regions. Exporters are located in major economic areas of their country or in the ports of Peru. The international part of the value chain is widely dispersed globally.

3.2.3.2 Secondary stakeholders

The wider partner network serves to support, assist or intervene the different links of the chain and facilitate business development. Partners are external actors, who are not included in the core stages of the value chain, but occupy a critical role in the functioning of the business and help the chain to work efficiently (Kaplinsky & Morris, 2001)

3.2.3.2.1 Certification bodies

In Bolivia and Peru, three companies are involved in the certification of organic quinoa. All certification bodies certify according to European, United States, Canadian and Japanese organic standards:[32]

- **BOLICERT** was created in cooperation with ANAPQUI. It is active in the sector since the beginning and was founded as an independent, national body.
- **CERES S.A.C.** has its central office in Happurg, Germany and works in the Bolivian quinoa sector with five inspectors.
- **IMOCert Latinoamérica Ltda.** is a Swiss Institute for Market Ecology and part of the non-profit organization Swiss Bio-Foundation.

Bolivia and Peru implemented national standards for organic quinoa in 2006 (Law 3525/06 and Supreme Decree 044-2006-AG respectively). Whereas current prices for conventional quinoa are US$ 2,200/ ton, organic quinoa costs US$ 2,600/ ton (Salcedo, 2015). Lately, prices for organic and convenient quinoa have converged (ILO, 2015).

The decision for one certifier can be based on a variety of reasons, including reputation, costs and auditing scheme. BIOLATINA offers individual or group certification of producers, processors or exporters for $520 and $680 respectively. Additionally, fees have to be paid for the inspectors. Most often exporters pay for the expenses of certification.

Certification of fair trade[33] quinoa, which is sold in fewer quantities than organic quinoa, is mostly certified by FLOCERT (Salcedo, 2015). Quinoa labeled FAIR TRADE guarantees a minimum price for small-scale farmer. In 2014, the FAIR TRADE certification was adapted to quinoa.

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[32] Additionally, a range of other certification companies are active in Peru and Bolivia respectively: BIOLATINA (Bolivia) and KIWA BCS Ökogarantie Peru S.A.C, Control Union Perú S.A.C., OCIA Internacional Perú S.A.C (Peru).

[33] Fair trade is an alternative path in which smallholders are included via co-operatives. In the 1960s, this approach was born when developing countries were dissatisfied with the terms of trade. In this idea, producer and consumer contract terms of production and price directly. Studies, like Hiscox, Broukhim, Litwin (2011) researched consumer behavior when buying fair trade coffee on eBay and found out that people are willing to pay a 23% price premium. Nevertheless, Hanish (2009) argues that fair trade cannot solve all problems in global food trade. Although only 0.01% of global trade is fair trade, the label also

3.2.3.2.2 Aid agencies

3.2.3.2.2.1 Market services

Market services, who offer free services, e.g. developmental agencies or consultants that provide paid services, support the primary producers.

- **The Centre for the Promotion of Imports from developing countries (CBI)** is a Dutch governmental organization focused on intellectual support for small- and medium-sized companies in developing countries to stimulate exports from these countries especially to the European market to foster sustainable development (CBI, 2016). In the quinoa sector, CBI is collaboratively establishing the brand "quinoa real."
- **Mercadero** is a marketing and business consulting company in the food business. Their specific know-how is sustainable labeling. Currently, Mercadero is strongly involved in the quinoa sector collaborating with CBI (Mercadero, 2016).
- **The Bolivian Chamber of Exporters of Quinoa and Organic Products (CABOLQUI)** is an umbrella organization of Bolivian quinoa exporters and processors (CABOLQUI, 2016). Together, they account for 70% of Bolivian exported quinoa.

Next to the mentioned market service organizations, a range of other national and international organizations exist. With their system and budget, they aim at having a developmental impact for small-scale farmers.

3.2.3.2.2.2 Civic Society

Foreign NGOs have backed up local producers, especially associations, since the 1980s with the aim to improve their living conditions and increase product awareness abroad. Involvement of nongovernmental organizations in quinoa business is still growing (Carimentrand, 2015). In Bolivia, international NGOs helped small producers to gain access to global market and provide technical service and education. The most prominent donors and other civil society organizations in the sector are the following:

- **The Food and Agriculture Organization of the United Nations (FAO)** promotes the quinoa industry and informs about it. Its main contributions were the establishment of the "International Year of the Quinoa" in 2013 (FAO, 2016), the co-establishment of a quinoa information center and the release of the main informative documents in the sector.
- **Inter-American Development Bank (IADB)** works towards improving lives in Latin America and the Caribbean via technical and financial support (IADB, 2016). The IADB has been functioning as a promoter of quinoa.
- **Hivos** is a Dutch NGO active in the fight against discrimination, inequality, abuse of power and the unsustainable use of resources (Hivos, 2016). Its work in the quinoa sector is directed at improving lives of small-scale farmers via collaboration and promotion.

3.2.3.2.3 Governments

The Bolivian government is investing in several programs to promote quinoa production. They offer low-interest loans to farmers (Friedman-Rudovsky, 2012) or buy quinoa to incorporate it

contributes to awareness raising. Agribusinesses recognize the loss of reputation linked with unfair treatment of producers.

into a packet of foods to supply thousands of pregnant and nursing women each month (Romero & Shahriari, 2011).

The Peruvian government stimulates quinoa consumption with the "law to promote healthy alimentation for children and adults". This bill initiates the introduction of "Quioscos Saludables" (healthy kiosks) in educational institutions. These kiosks only offer healthy food. Quinoa is supposed to play a significant role. At the same time, the "National Program for scholar Alimentation" (Qali Warma) has the objective to include quinoa in the diet of children of three years and older.

In a secondary source (Gandarillas, 2015), I could find information about future governmental involvement in the respective quinoa sectors. For the future, the Bolivian government is planning significant investments to promote the production, processing, export and domestic consumption of quinoa to reach an annual cultivation area of one million ha by 2025. Calculating with conservative estimates of 300,000 hectares production capacity and moderate prices, quinoa exports could total US$ 500 million in Bolivia and thus, quinoa could become the country's leading agricultural export. The Peru Ministry of Agriculture launched a strategic plan for quinoa production for the period 2013-2021 and projects to cultivate quinoa on 64,000 hectares by 2016 (Gandarillas, 2015). Part of the strategy is to keep some quinoa production for domestic consumption. They help the farmers with seeds, fertilizers, and other workshops.

The following agencies are responsible for the quinoa sector in Bolivia:

- **Ministerio de Desarrollo Productivo y Economía Plural (MDPyEP)** is a ministry of the Bolivian government in charge of the promotion and development of the Bolivian economy respecting nature, generating productive capacities and democratizing access to the internal and external market (MDPyEP, 2016).
- **Ministerio de Desarrollo Rural y Tierras (MDRyT)** is in charge of defining and implementing policies to promote and facilitate rural agricultural, forestry and water management development (MDRyT, 2016).
- **The National Intellectual Property Service (SENAPI)** is a decentralized public institution under the Ministry of Productive Development and Plural Economy and administers comprehensive regime Intellectual Property in all its components (SENAPI, 2016).

In Peru, the **Ministerio de Agricultura y Riego** is in charge of the quinoa sector. This department is responsible for the agricultural development and improvement of irrigation systems. The ministry cooperates with governmental programs responsible for stimulating associativity, and with other programs directed at developing small-scale farmers.

3.2.3.2.4 Knowledge institutes

Academics are concerned with the biological, agricultural and socio-economic issues around quinoa. A range of relevant knowledge and research institutes exist in the field.

- **FAUTAPO** is a Bolivian foundation founded in 2005 by the Dutch and Bolivian private sector to stimulate production and employment via education. The first project of FAUTAPO was the "Program of Productive Complex South Altiplano" (COMPASUR) aiming at implementing cultivation of quinoa real as the primary economic activity in the southern Altiplano (FAUTAPO, 2016).

- **Promotion and Investigation of Andean Products (PROINPA)** is a research institution based in Bolivia. It is financed by international governments and contributes to agricultural development. Its main contributions in the field of quinoa are relevant studies, the creation of a seed bank to protect the existing varieties, development of a line of organic fertilizer and pesticides and the invention of a sustainable farming system (PROINPA, 2016).
- **Centro Internacional de la Quinoa (CIQ)** is an institution based in Bolivia and supported by Ecuador, Bolivia, Peru, and Argentina that promotes the cultivation and consumption of quinoa as a strategic resource for humanity in the fight against poverty, hunger, and malnutrition. The center is seen as the first step towards international consolidation to develop cultivation and consumption of the plant in a solidary way by offering the following services: investigation, innovation, information and technical assistance (CIQ, 2016).
- **The Centre for the promotion of sustainable technologies (CPTS)** is investigating and developing in the field of "clean" technology and technical guidance. In Bolivia, CPTS has developed machinery to facilitate land preparation, harvesting and post-harvesting (CPTS, 2016).
- **Local universities** and other knowledge institutes investigate unorganized, spontaneous and unsystematically.
- **International institutes:** Internationally biologists and socio-economic academics are working on the adaption of quinoa seeds to new environments and scientific background to include small-scale farmers.

3.2.3.3 Prices and payments

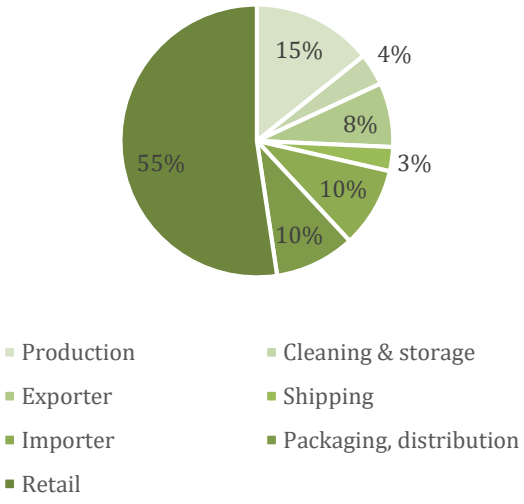

Figure 9 - Breakdown of consumer price (CBI, 2014)

Retailers retain more than 50% of the consumer price. Importers, packagers, shippers and exporters keep an additional 21%. Only 19% of the consumer price goes to producers and local cleaning and storage companies. Exceptions exist such as CABOLQUI, the Bolivian Chamber of Exporters of Quinoa and Organic Products, who can capture as much as 85% of export prices.

Prices appear to be constant throughout the different seasons (Hudson, 2015). However, prices have significantly altered through speculation and an atrocious harvest.

The time of payment differs along the value chain. Buyers and transporters often pay on the spot whereas traders and importers pay only up to six months after product delivery. Due to the small volumes of quinoa, pre-financing is often used with other crops and businesses.

3.2.3.4 Volume

Small-scale farmers sell quinoa in minuscule amounts to transporters. One hectare yields about 400 to 1,200 kg per year. A part of this yield is kept for autoconsumption. Carriers drive to as many farmers as needed to fill one truckload.

3.2.3.5 Returns

Quinoa is a very labor-intensive plant, meaning that the biggest price component is manual labor. Prices in supermarkets of the United States of America in 2013 were US$ 14-25/ kg for pearl quinoa (Salcedo, 2015). The export price was about US$ 3/ kg at the same time. While retailers absorb the largest part of the price, the gross margin is considerably high.

Summing up, most support in the value chain is given to small-scale farmers by aid agencies, governments and indirectly the knowledge institutes. Governments also support other small- and medium-scale enterprises at the local level, e.g. processors. Certification bodies mostly collaborate with exporters directly; sometimes they work with producer organizations. Importers and retailers engage with service providers.

3.2.3.6 The length of the value chain

With the integration of the local quinoa value chain into the international market, the value chain has expanded not only in geographical distance but also in other distances. Understanding the different aspects of distance can help to bridge differences that occur in the collaboration among business partners.

Distances can be segregated into cultural, administrative, geographical, economic, colonial and CSR distance. I calculated the values for different leading indices for Peru, Bolivia and the five biggest importers that together account for more than ¾ of registered quinoa imports (see figure 10). (Please find a complete overview of the values in Appendix 8. I highlighted the areas of crucial discrepancy in red.).

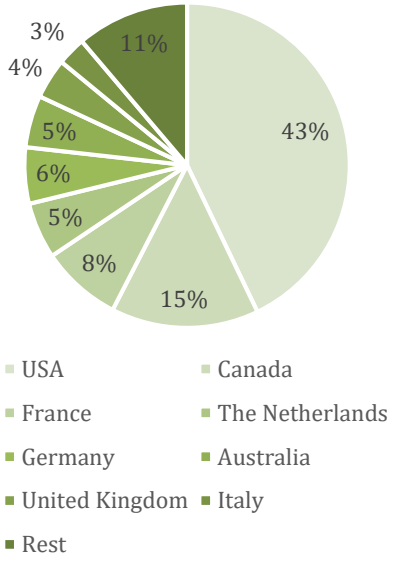

Figure 10 - Quinoa import per country in US$ 2014 (Statista, 2016b)

3.2.3.6.1 Cultural distance

Checking the cultural distances with the GLOBE framework and the Geert Hofstede dimensions, in most cases, no clear trend of discrepancy between importing countries and Latin American countries is visible.

Power distance

Peru and Bolivia both have a higher power distance than its international counterparts meaning that societies are more unequal, and subordinates are not content with this segregation (Hofstede, 2016).

Uncertainty avoidance

Peru and Bolivia also score significantly higher on the measure of uncertainty avoidance. Thus, they both have clear structures to deal with the future. Nevertheless, they have found ways to circumvent these rules, e.g. corruption (ibid.).

Individualism

Finally, the society in Peru is more collectively than individually organized. This is in line with most Latin American countries, which explains a tendency to conformity and an endorsement with more traditional points of views (Virkus, 2009; Hofstede, 2016).

3.2.3.6.2 Administrative distance

To measure the administrative distance between the respective countries, I used a range of five different indicators (economic freedom, governance, perception of corruption, political and civil freedom and the ease of doing business). The overall conclusion is that Bolivia and Peru, with few exceptions, always score significantly lower than its international counterparts. Bolivia scores nearly always even worse than Peru.[34]

3.2.3.6.3 Economic distance

I measured the economic distance between the import countries and Peru and Bolivia respectively by analyzing three indices (gross domestic product per capita, Competitiveness Rankings, and the Human Development Index). The picture is similar to the administrative distance. The importing nations, in general, score significantly higher than Peru and Bolivia. Moreover, I observed a severe difference between Peruvian and Bolivian scores.

3.2.3.6.4 Political and colonial distance

Political distance can be measured comparing political systems and evaluating scores on the AON political risks map and imperial distance. Political systems are similar: all countries have some form of parliamentary democracy. The political risks could only be evaluated for Peru and Bolivia. They show that Peru is a country of medium and Bolivia is a country of medium-high risks. The colonial distance analysis evaluated that most countries had some foreign occupation: In the case of Peru and Bolivia, the relics of the Spanish occupation are still clearly visible (e.g. the Spanish language). A marginal discrepancy between several cultural scores could be explained by a single European influence in the past. All countries are in majority Christian countries. This similarity could be a cultural competitive advantage.

3.2.3.6.5 CSR distance

Finally, the MVO risk checker analyses CSR distance in the following dimensions: fair business practice, human rights and ethics, labor rights, and the environment.

Most striking is that Peru and Bolivia have a lot more issues with corruption and governmental influence as well as with several labor rights, such as freedom of association, child labor, and remuneration than its international trading partners. Moreover, Peru and Bolivia seem to care less about biodiversity and deforestation.

A lack of governmental assertiveness could already be evaluated in the administrative distance. Issues with labor rights, e.g. child labor, could be explained by cultural differences. From my background knowledge, I know that it is often a necessity and a culturally accepted practice if

[34] Exceptions: According to the Economic Freedom Index 2015, Peru is freer than France. Moreover, Peru scores higher than its international counterparts in several subscores measuring the ease of doing business.

children help their parents on the farms after school. This would be considered child labor from a North American or European perspective. Issues with environmental sustainability could be explained by the status of Peru and Bolivia as emerging industrial nations that emphasize economic development over sustainable development and only slowly combine both approaches.

Concluding, the distance analysis helps to understand discrepancies and obstacles in integrating the local quinoa value chain into the global context. A shared European influenced background might explain small differences in cultural measures. However, Latin American countries and North American/ European nations are widely dispersed in economic measures.

3.2.3.7 External influences

Value chains and their partner network do not exist in a vacuum. In fact, they are part of larger socio-economic systems and institutions. These institutions can be formal (e.g. legislation) or informal (cultural practices) and facilitate, inhibit or be neutral to the value chain. (SER, n.d.).

"When you transform a food into a commodity, there's inevitable breakdown in social relations and high environmental cost," Tanya Kerssen a Bolivia-based quinoa researcher sums it up (Friedman-Rudovsky, 2012). Jacobsen (2011) adds "The development of an export market can have an adverse effect on the environment (…)". In the following, I want to give an overview of external influences on the quinoa value chain. These are subdivided into economic, political, socio-cultural, environmental and technological externalities. A literature analysis of the provided a scattered overview. I used my interviews to clarify my knowledge about the respective topics.

3.2.3.7.1 Economic influences

In my analysis of existing secondary data, I found out that quinoa contraband to Peru and price volatility economically shape the quinoa sector.

Quinoa contraband

Quinoa production on a large scale was initially a response to the demand from Peru, which had a larger population than Bolivia with a significant number of city dwellers eating quinoa (Winkel et al., 2014). Until the beginning of the 2000s, quinoa exports from Bolivia to Peru made up more than 50% of the total exports (Laguna, 2008). Till recently, half of Bolivian quinoa exports were headed towards Peru mainly via informal markets (Aroni, Cayoja & Laime, 2009).

Price volatility

The price in the quinoa sector has been very volatile since 2008. Prices first soared in 2008 to due a bad harvest while demand increased. After a price stagnation till around 2014, prices skyrocketed and reached its all-time peak. The reason for this increase is not sure; experts assume that it was due to increased speculation. Shortly after the peak prices plummeted and are now projected to remain steady.

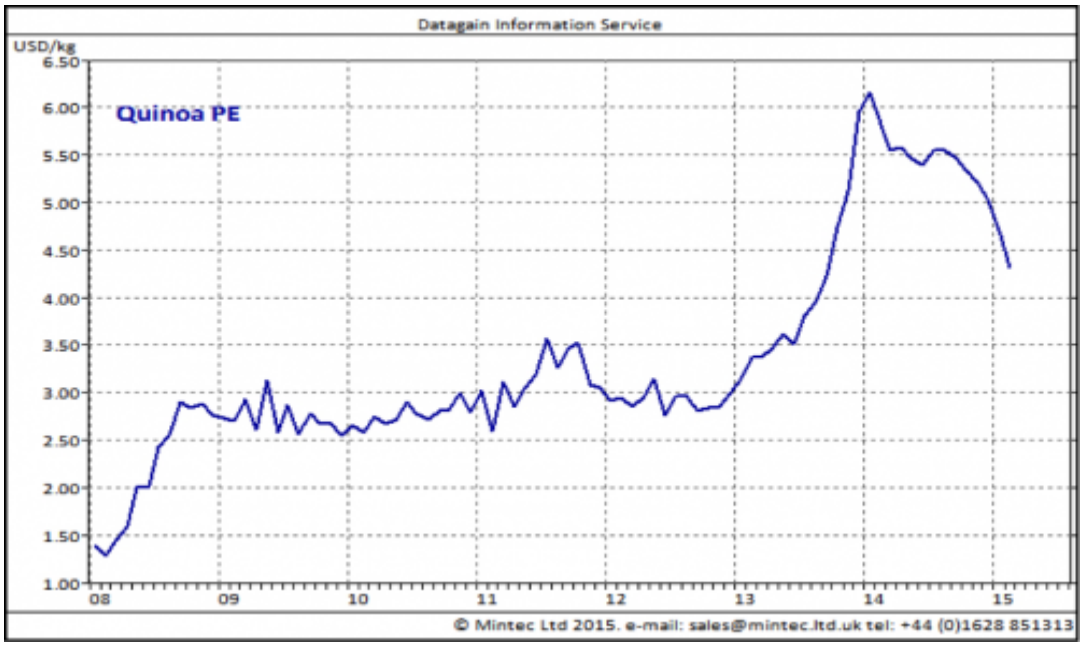

Figure 11 - Quinoa price development (Hudson, 2015)

3.2.3.7.2 Political / legal influences

The sector is shaped by an unclear environmental attitude towards small-scale farmers. On the one hand, governments are supporting smallholders, on the other hand, upscaling plans might mean a shift away from smallholders or possibly detrimental effects on the soil.

3.2.3.7.3 Socio-cultural influences

Few media reports (e.g. Friedman-Rudovsky, 2012) draw a positive correlation between community disruption and the quinoa boom. Small-scale farmers who had left the Altiplano due to a lack of perspective are returning to their old land and claim ownership of the land. Today, these farmers rarely live in the communities, but only come back to their fields for harvest or to execute other agricultural activities.

3.2.3.7.4 Environmental influences

To improve productivity quinoa some farmers in Peru and Bolivia have been shifting towards new agricultural methods:

3.2.3.7.4.1 Agricultural systems

The traditional method is still applied mainly by subsistence farmers in the Altiplano and Inter-Andean valleys of Peru (Mujica et al., 2007). This system is primarily characterized by intensive use of manual labor from soil preparation to harvest. Crops are rotated in a two- or three-year circle. Traditionally, quinoa is grown together with other plants, such as maize and beans (Mujica et al., 2007).

Farmers mostly cultivate quinoa without fertilizer, weeding or tilling. Furthermore, tall plants of two meters help to compete against grass and other crops. Long growth periods of six to seven months help nutrients to develop in sufficient time. These production circumstances lead to harvests of about 200-500 g/ m^2. Nevertheless, following interventions by governments, NGOs, and the private sector, many farmers have been applying a new agriculture system.

The modern system of quinoa cultivation in the Altiplano region can include planting quinoa as monocultures, use of newer technologies, mechanized soil preparation, adoption of irrigation techniques, high use of inputs (Mujica et al., 2007) and application of unregistered genetically modified plants (FAO, 2011). Furthermore, quinoa farmers have shifted from cultivation on hill terraces to farming on former llama grasslands. Finally, they often do not leave fields fallow anymore (Richardson, 2014).[35]

3.2.3.7.4.2 Negative environmental consequences

The shift in agricultural cultivation has raised concerns about environmental degradation in academic (e.g. Jacobsen, 2011) and public discussion (e.g. Friedman-Rudovsky, 2012). Building upon an analysis by Bosque (2008) and Chura (2004), I will give an overview of the most urgent issues involved in the claims about negative environmental degradation:

Depletion of the soil

According to PIEB, the Program of Strategic Investigation in Bolivia (2009), the increased use of tractors, especially the use of disc plow and the sewing machine have led to degradation of soil fertility. With the application of these technologies, protective natural vegetation is destroyed. This leads to a looser subsoil and the creation of adequate habitat for various pests. Eventually, the complete sandy soil can be lost entirely (Jacobsen, 2011).

Loss of biodiversity

Quinoa farmers have expanded the cultivation area of quinoa immensely. This is drastically reducing natural vegetation and with that the availability of pasture (Félix & Vilca, 2009). Jacobsen (2011) adds that since llamas have been moved to areas with no quinoa cultivation, there is a lack of organic manure and where llamas can still be found, the mulch is rarely used.

Climate change

The south of the Altiplano is an arid area with little rainfall. Predictions foresee higher temperatures, less precipitation and more extreme weather for the Bolivian highlands. This might accelerate a possible desertification process.

The application of the good agricultural practices (GAP) are sometimes applied to diminish negative environmental impacts.[36]

3.2.3.7.5 Technological influences

Knowledge institutes are developing more suitable technological approaches. Moreover, all sectors are involved in the provision of technology to smallholders.

3.3 Summary: Contextual framework

Quinoa is a so-called superfood traditionally produced in the Andes. Most cultivation takes still place two Andean countries: Peru and Bolivia. In line with most of the Latin American continent, these countries have undergone a positive socio-economic development in the last decades.

[35] An example for the appliance of the modern agriculture system is Yungas: To fertilize the soil, farmers apply 300kg/ha of nitrogen, 120kg/ha of phosphorous pentoxide, 300kg/ha of potassium oxide, 40kg/ha of calcium, 20kg/ha of magnesium and 1.5kg/ha of zinc. To control root rot and mildew, fungicides are applied in a 10-day interval. Insects are controlled using other chemicals (AUTODEMA, 2013).

[36] Good agricultural practice (GAP) is a method applied in agriculture. The application leads to safe and wholesome food for consumers. There exists large numbers of distinct definitions. The mostly used definitions are by the FAO and the United States Department of Agriculture GAP / GHP Program. The specific methods prescribe measures on how to deal with soil, water, animal production, health and welfare.

However, both countries still show high rates of poverty, especially in the rural Andes. The crop has helped these countries to develop socio-economically with the inclusion of poor small-scale farmers in international value chains. Globally emerging producers can turn into a threat for the sector.

Stakeholders:

- Core processes: The primary stakeholders in the value chain are major producers, intermediaries, exporters, importers, retailers, and consumers. Stakeholders are often only in direct contact with partners from prior or subsequent steps of the value chain.
- Primary stakeholders are supported by a range of secondary stakeholders: Certification bodies, aid agencies, governments and knowledge institutes. Governments and aid agencies are most involved in support of small-scale farmers.

External forces:

- Economically, the industry is formed by price volatility and contraband to Peru.
- Governments are supporting the inclusion of small-scale farmers, but they might be lured by the macroeconomic benefits of a large-scale expansion.
- Small-scale farmers are involved in cultural practices that are very distant from those of international companies, such as managing land ownership communally and migrating temporarily.
- Environmentally, the adaption of new agricultural techniques and climate change can have yet unclear negative consequences for the quality of the soil and biodiversity.
- Farmers have unequal access to newly developed technologies.

4. Methodology

4.1 Research method and design

The evaluation of the theoretical and contextual background evaluated that quinoa offers a viable business and developmental opportunity. Nevertheless, it remains unsure in how far the parties in the value chain have understood their mutual interdependence necessary to yield the maximum benefits for all. Thus, in the following section, I want to explain how I will contribute to the sector by identifying the current status and room for more inclusiveness in the sector.

For my research, I chose an exploratory case study as no entries could be found when searching the Web of Science for an inclusive business approach to the quinoa sector.

"An exploratory study is undertaken when not much is known about the situation at hand, or no information is available on how similar problems or research issues have been solved in the past" (Sekaran, 2003). Van Tulder (2007) specifies that exploratory research can be used to "obtain background information when you know nothing about a research area", or "to define a problem more specifically to use for further research." In my thesis, I have obtained background knowledge of the quinoa value chain in Peru and Bolivia. This information showed me that there is a need to further investigate inclusiveness in the field.

Conducting case studies, or investigating real life means aiming to find answers to questions such as "What is happening?" and "Why is that happening?" and as a next step "How can that situation be improved?" (Schwandt, 2007; Lee, Mitchell & Sablinsky, 1999). I aim to understand what is happening in terms of inclusiveness in the sector and why is that happening? With this knowledge, I can then identify challenges and room for further investigation about inclusiveness.

Generalizability is limited when examining only one case study (Yin, 2009), thus my research focusses on two case studies embedded in a similar context: The quinoa value chain in Bolivia compared with the quinoa value chain in Bolivia. Embedded in these value chains are a range of various stakeholders as evaluated above. Summarizing, an embedded multiple-case study is research that focusses on two or more cases in a given context and analyses the perspective of the different embedded units of analysis (see Appendix 9).

4.2 Research question

My research question is stated as follows:

What conditions are necessary to make the quinoa value chain in Peru and Bolivia more inclusive for small-scale quinoa farmers?

The quinoa value chain cannot be seen as one unity, but a conglomerate of a set of stakeholders the individual stakeholders. In my research, I will analyze the position of every single unit. The contextual background provided a first identification of existing stakeholders and external influences based on the agricultural value chain model by SER (n.d.) and Kaplinsky and Morris (2014). In this part, I will build upon my interviews and further research to provide a thorough analysis of the context in which the value chain is placed. The LINK methodology (Lundy et al., 2014) provides the grounding for my analysis.

1. *What are the political, economic, social, technological, environmental and legal influences in the value chain?*

As a second step, I will identify the position of each stakeholder in the value chain. Therefore, I will use the combined inclusive business model framework by van Tulder et al. (2012) and Mendoza and Thelen (2008).

2. *What is the ambition, mission, impact and partnership network of each stakeholder?*

To crystallize the most important stakeholders in the value chain, I will build upon the model by Mendelow cited in Scholes (2001). He proposed to group stakeholders according to their power and level of interest to understand which stakeholders are essential for an individual project. Thus, applying the power-interest map by Mendelow will help me to identify the primary stakeholders in the sector. This information is relevant to prioritize on which parties I should focus in my subsequent research.

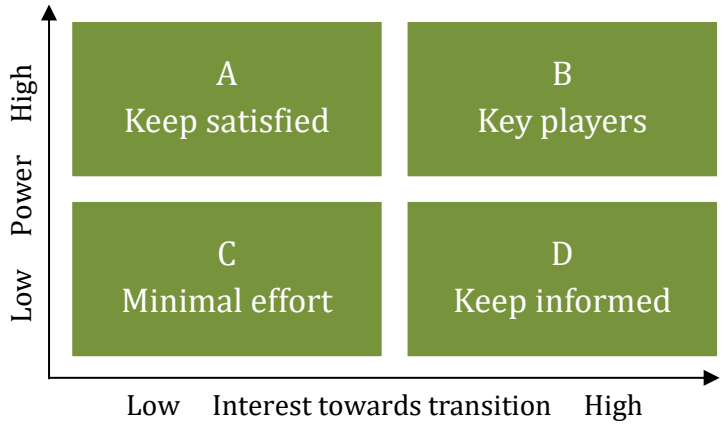

Figure 12 - Stakeholder classification according to power-interest (Scholes, 2001)

3. *Who are the key stakeholders in the value chain?*

After having identified the key stakeholders and their positions, I can apply the "New Business Principles" to focus on the core of my research: How inclusive is the interaction between the stakeholders and potentially, where is room for even more inclusiveness? Following Sopov, Saavedra, Vellema, Sertse and Verjans (2014), I structured this analysis in three steps:

4. *How inclusive is the current quinoa value chain?*

5. *What are challenges towards more inclusiveness?*

6. *What are possibilities to increase inclusiveness of the sector?*

Finally, I want to reflect these findings in the light of the identified key players. The analysis of strengths, weaknesses, opportunities and threats of key stakeholders will help to understand the possible position of each stakeholder in a more inclusive value chain.

7. What are the strengths, weaknesses, opportunities and threats of each key stakeholder towards more inclusiveness?

4.3 Data collection

"In most studies, multiple methods and multiple research approaches are needed to do justice to the problem at hand" (Van Tulder, 2007). Thus, to ensure triangulation of my research (Eisenhardt & Graebner, 2007; Yin; 2009) and overcome subjectivity of the researcher (Scholz & Tietje, 2002) I used internal and external documents, interviews and a survey-based experiment.

4.3.3 Desk research

The primary source of data collection was desk research. This is a very tempting way to obtain data because information can be easily accessed in the library or via the internet (Van Tulder, 2007). Moreover, this data collection technique is very time-saving (Sekaran, 2003). To control reliability of the obtained information, critical reading and researching skills are needed (Van Tulder, 2007).

Approaching research problems in an international business setting with qualitative data is a marginalized approach (Marschan-Piekkari & Welch, 2004) as it diminishes generalizability. However, qualitative data collection is more appropriate than quantitative data when there is a lack of information in the field of research under scrutiny (Strauss & Corbin, 1990).

In my desk research, I used internal documents, like reports or overviews I obtained from interview partners or my coaches. I also used and external data, such as books, journals or papers on internet sites. With this data, I first created a systematic literature review.

Systematic literature review

A systematic literature review helps to understand the crucial concepts and current academic discourse. According to Petticrew and Roberts (2006) a systematic literature review "strives to identify comprehensively, appraise, and synthesize all the relevant studies on a given topic."

I conducted a systematic literature review for my theoretical framework. For this, I used the online database Web of Science and restricted my search to academic journals and articles and book chapters from the field of business, management, economics and development literature in the time frame of 1995 to 2016 given that Prahalad released his theory of Prahalad in 1998. The list of keywords can be found in Appendix 1. Besides using Web of Science, I looked for publications of the Partnership Resource Centre. In my review, I read all titles of the articles and selected the most suitable. I used the Web of Science because it is one of the leading human-created multidisciplinary databanks. Since my search for "quinoa" only revealed ten hits I used the snowball method to find further relevant articles in my contextual framework.

"Secondary data as the sole source of information has the drawback of becoming obsolete, and not meeting the specific needs of the particular situation or setting" (Sekaran, 2003). Thus, I used further sources of information gathering.

4.3.2 Interviews

Interviews are mean to gather rich and empirical evidence (Eisenhardt & Graebner, 2007). In this thesis, I used interviews to identify relevant information and fill knowledge gaps that literature study could not close.

Basing research on interviews is particularly pertinent in the realm of exploratory research because the researcher can explore new concepts and relationships that have not been considered before (Tull & Hawkins, 1990). Moreover, qualitative data, like interviews, help to understand the opinions of stakeholders (Lee et al., 1999).

Skype interviews

The vast majority of my interviews were conducted as individual interviews to become in-depth answers and to try to mitigate the risk of socially and politically correct answers. The interviews were conducted face to face when possible, nonetheless the great majority was executed via Skype. Talking via Skype had the advantage that I could quickly reach people in the far distance, such as Latin American. Moreover, respondents maybe were more likely to disclose personal information in Skype rather than face-to-face interviews. Nevertheless, in Skype interviews I was not able to understand non-verbal communication (Sekaran, 2003).

Email answers

Hart (2006) acknowledges emails as a technique that is becoming increasingly popular as respondents have the opportunity to give "well-thought-out answers" instead of "top-of-the-head responses". This data collection method is very useful to obtain information from geographically distant respondents, whose time constraints prohibit other forms of interviews. Nevertheless, this approach prevents a natural dialogue. I only conducted E-mail interviews when respondents neglected any other form of interview or when I wanted to ask additional questions to former interview partners.

Semi-structured interviews

Due to the exploratory nature of my research, I conducted the interviews in a semi-structured way (Fylan, 2005). With this method, I was able to explore relevant topics for my research area and understand the distinct opinions of the interviewees. Furthermore, the flexibility of this approach helped me to further evaluate particular areas of interests.

To assure conformity of my approach, I stuck to my interview protocol (Appendix 10). The protocol contained a set of topics that I strived to explore in the interview. I asked different questions from the protocol depending on the field of knowledge of my partner. When a partner had compelling experience in one field, I further dived into that topic. Due to the semi-structured form of the interviews, I was able to adapt my questions to the interviewee and ask back questions to get a deeper understanding of certain topics. I always asked interview partners about their particular role and mission in the quinoa sector and then dived into matters that touched upon their field of knowledge. In the interviews, I cross-checked information I got in other interviews to ensure validity. Above that, I gave the interviewees freedom to let them express everything that might be relevant for me, for example by asking elaboration questions or changing my questions. This way I got a lot of information I would not have gathered if I would have moved on directly. Furthermore, on the end of nearly each interview, I asked the respondent whether he or she had anything else to add to our conversation.

Conducting an interview

Literature provides different guidelines on how to properly prepare, conduct and analyze an interview. For this reason, I looked into different interview approaches (Fylan, 2005; Laasonen & Abdelnour, 2016). This helped me to keep the information as free of biases as possible, e.g. establishing trust, maintaining the interview free of external interruption and avoiding encouraging particular answers. In chapter "7.1 Research limitations" I will further elaborate on possible biases in my research process.

Field research

I conducted 22 interviews in the first stage. Additionally, I got two answers to questions via email. The interviews took between 15 to 70 minutes. I did not record all interviews as I made spontaneous calls to some private companies. In the last stage of my research process, I conducted two interviews ranging from 30 to 35 minutes. Additionally, I got feedback via email from two former respondents.

Data analysis

After finishing the interviews, I tried to transcribe them as soon as possible. I asked all participants for permission to do so. This way I made sure that no observations and contextual data were lost. On my computer, I created a database, where I saved all transcripts. In these transcripts, I also noted down observations when possible. This way I tried to ensure an as genuine as possible reproduction of the respective interviewee's opinion.

As a next step, I used my coding scheme that I had developed in its basics before the research. When new codes emerged in this process, I also included them in my coding scheme (please find an overview in Appendix 11). First, I read through all my data to get an overview. Then, I did the actual coding of my data using the software Atlas.ti. In a third step, I cleaned up and clustered the data. I first removed redundant statements and then grouped matching statements per category.

Finally, I compared the aggregated data to the findings of my literature to be able to draw reliable conclusions.

4.3.4 Experiment

To test the influence of different market attributes to purchase intention, I decided to create a survey-based experiment. Survey-based experiments are used to dig below the surface of traditional survey response. This way the respondent's beliefs and attitudes can be interpreted (Gilligan, 2002).

If I would have only asked consumers if they were willing to pay a premium for ethical products, the response could have been biased as respondents could have felt pressured to give socially desired answers. Showing them products that have clear sustainability labeling or not and are marked with transparent prices made the situation closer to a real-life situation. Thus, the results help to better understand the consumers' deep beliefs and values. I created an own label ("Andean Gold") to control for the effect of branding, created own product packaging with all relevant product indications and filled it with the exact weighted amount of content.

The biggest labeling differentiation is currently made between labeled organic and conventional quinoa. Furthermore, in the future quinoa might be promoted with the following characteristics amongst others: high-quality, produced by small-scale farmers and sourced in a certain geographic location. Thus, I designed my labelling according to these relevant research demand.

I created a three-page survey with an introduction to the topic and a set of different questions about value added quinoa products, the fair trade label and the organic certification label of the European Union (EU). After that, I showed the respondents my three different quinoa packages with various product designs (distinct certification and description) and different prices. The non-labelled package was the cheapest. The labeled boxes had the same higher price. I asked, which product they would be most likely to buy in a supermarket. Finally, I asked the respondents some general questions about themselves, quinoa and their sustainable buying behavior (Find an overview of the survey and the evaluation of the experiment in Appendix 12).

Data collection took place in July 2016 with mostly German people from different backgrounds and age groups to understand the various attitudes towards quinoa.

Due to a few respondents, the results of the experiment are not statistically valid, but rather present a basis to discuss marketing approaches in my interviews and create a starting point for further consumer analysis in the field. I discuss further limitations of the experiment in the final part of my thesis "7.1 Research limitations."

4.4 Process of my research

I conducted my research in the context of a study group with the aim of creating a report about "Doing business in Latin America" headed by Professor Rob van Tulder. First, I analyzed existing scientific literature in the realm of business approaches to poverty alleviation by myself. Next, I dived into contextual knowledge gathering together with my project group. We created a systematic overview of the social, economic and political status quo of Latin American countries. Over the time, every researcher started to select his direction of research. We used the study gathering rather as a control group to compare our findings. In the later process, we examined our primary research again and put our results in a wider context.

Figure 13 - Funnel of my research process

I started off with making a literature review about the core concepts of my thesis: inclusive business and the BoP concept. Based on this knowledge, I evaluated the topic of quinoa placed in the Latin American context. When I felt I had a gained a sufficient understanding of the context, I started conducting semi-structured interviews with experts and practitioners in the field.

In the first interview phase, I tried to extend my general knowledge about the sector and understand the general role of the involved stakeholders. Therefore, I asked a similar set of questions to each respondent. When I felt that responses were only reapproved by subsequent interview partners, I stopped asking this specific question.

Role interview partners (phase 1)
Representative of German Corporation for International Cooperation (GIZ) (2)
Representative of Centre for the Promotion of Imports from developing countries (CBI) (1)
Exporters (2)
Importers / Traders (3)
Retailer (1)
Academic quinoa experts (3)
Local consultants (3)
Experts from other countries (3)
Peruvian government representative (1)
Expert from Colombia (1)
Biologist (2)

Table 1 - Role interview partners phase 1

With the increased knowledge gained from desk research and the exploratory interviews, I redefined my thesis question and my theoretical approach. Due to the shifted approach, new issues arose that I needed to evaluate in new interviews, emails, and a little survey-based experiment. Moreover, I got the offer to send a set of questions to hardly reachable PO representatives via an on-site researcher. However, I never received the responses to my questions.

In the last stage, I was able to check my results in two interviews and two emails with academic experts and practitioners. This way, I could verify my findings and test the feasibility of my recommendations. This step helped me to gain confidence in the derived solutions and understand which initiatives are already in place.

Role interview partners (phase 2)
Government representative (1)
Representative of CBI (1)
Academic quinoa expert (1)
Importer (1)

Table 2 - Role interview partners phase 2

The reflective cycle of good research

In my research process, I underwent the reflective cycle of good research as developed by Rob van Tulder (see figure 14). In the process of my research, I took several loops in the cycle.

I started my master thesis with a general interest in business solutions to decrease injustice among countries and help alleviate poverty. In a next step, I tried to define a particular problem in that realm to extend academic knowledge elaborating on different topics that interfere with poverty and inequality alleviation in the international context.

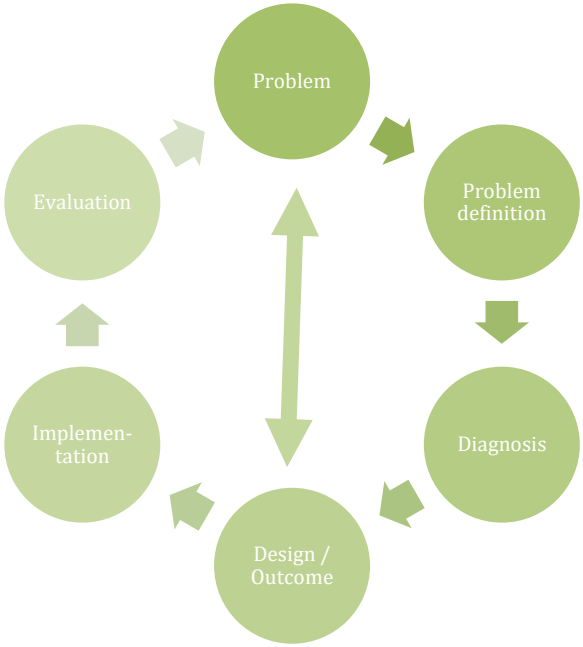

Figure 14 - The reflective cycle of good research (Van Tulder, 2007)

I often underwent the first three steps till I found out in the step "diagnosis" that it was hard to make a scientifically meaningful contribution in the field. In a stakeholder meeting of the "Doing business in Latin America" group, I was introduced to the newly emerging superfood markets from Latin America, and I identified quinoa as the sector with the most potential. Diving into literature, I found out that quinoa farmers have already experienced poverty alleviation on a large scale, but the prospects of the sector are unsure. Thus, I followed the problem of how a long-term perspective for small-scale farmers could be created in the value chain.

In the course "Sustainable business models" by Professor Rob van Tulder I was introduced to the concept of the BoP and inclusive business. Subsequently, I reframed my problem and included inclusive business as part of my research question. When I tried to design my theoretical framework I understood that I had already posed the answer within my question. Thus, I reframed my question towards how the quinoa value chain has to be advanced to be prepared for possible threats. I defined a theoretical framework to approach the question with literature research and interviews. With new insights from these interviews, I understood that certain topics I intended to assess were already covered. Subsequently, I reframed my question and underwent a new loop till I was finally able to have a scientifically relevant question for the sector under scrutiny.

4.5 Summary: Methodology of my research

The status of the investigation about inclusive business models in the quinoa value chain in Peru and Bolivia is in a pre-developed stage. Thus, in my thesis, I have opted for an exploratory research approach (Sekaran, 2003).

To ensure triangulation of my research I involved in different mediums of data collection: desk research, interviews, and an experiment. Desk research was used to help me get a systematic overview of the topics at hand and to answer questions that evolved in a later stage of my process. The interviews helped me to get a deeper understanding of the value chain and to close gaps I encountered in literature. Finally, the experiment was a small supplement that offered me a first glance at a consumer perspective on quinoa that is lacking in the sector so far.

The research was undertaken in the frame of the "Doing business in Latin America" research group headed by Professor Rob van Tulder. Within this frame we started with a general analysis of Latin American countries and its intra- and international relationships. From this general knowledge gathering, we focused on separate topics and used the research group as a control group.

The research question will be answered following the subsequent steps:

1. What are the political, economic, social, technological, environmental and legal influences in the value chain?

2. What is the ambition, mission, impact and partnership network of each stakeholder?

3. Who are the key stakeholders in the value chain?

4. How inclusive is the current quinoa value chain?

5. What are challenges towards more inclusiveness?

6. What are possibilities to increase inclusiveness?

7. What are the strengths, weaknesses, opportunities and threats of key stakeholders towards more inclusiveness?

5. Findings

In the following part, I will use the insights from my interviews connected with the literature presented in the prior parts to evaluate options for a thriving, inclusive value chain:

5.1 External influences

The PESTEL analysis in the contextual framework shows a very scattered overview of the impacts in the sector. Based on my interviews and further studies of literature, I will present a more elaborated PESTEL analysis. Please find an overview of the relevant topics in my analysis below:

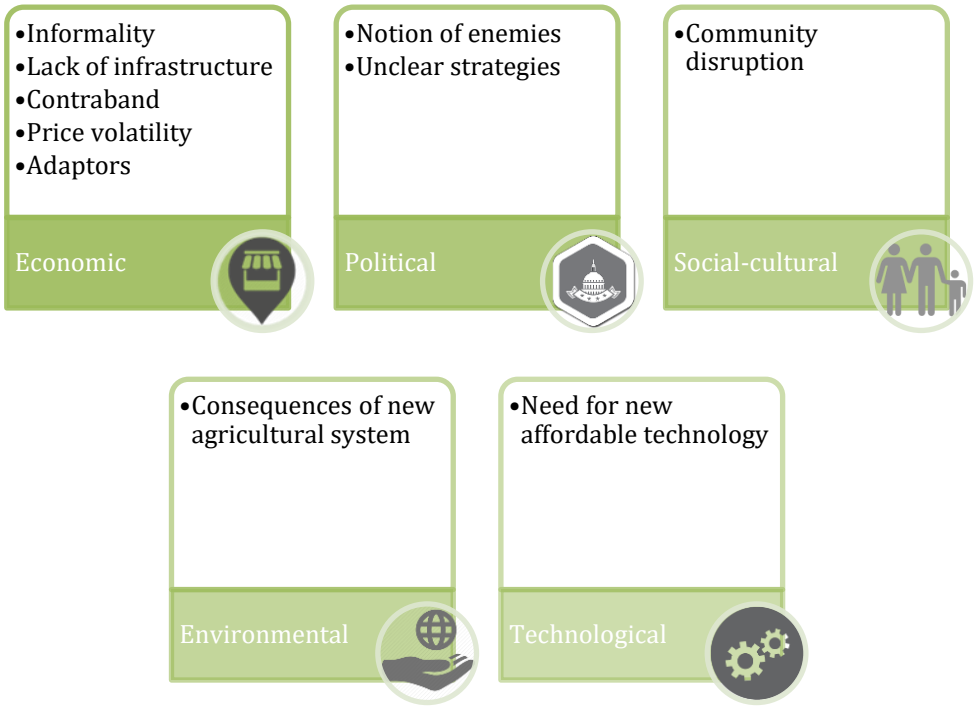

Figure 15 – External influences on the quinoa sector in Peru and Bolivia

5.1.1 Economic influences

The transformation of quinoa into an export crop has created a new international value chain which is still in a pre-mature state (Friedman-Rudovsky, 2012). In my interviews, I found out that many market participants act very informally, and the infrastructure has not kept pace with the economic development. Moreover, a steady income for producers is insecure as prices have been volatile and countries have been experimenting with quinoa cultivation on a global scale.

Unprofessional behavior of market participants

As described above, Bolivia scores very poorly on the "Doing Business" index by The World Bank Group (2016a). Traders, importers, and experts also observe this lack of professionalism in the quinoa value chain: producers do not fulfill contracts[37] and sometimes do not speak any international language. Exporters are sometimes impossible to reach or do not comply with the promised quality. Whereas the characteristics of Bolivian farmers might also apply to their Peruvian counterparts, the features of the Bolivian private sector do not apply to Peru. Peruvian companies are much more organized and reliable than their Bolivian counterparts as experts

[37] A trader told me that in recent history, exporters would default on contracts as local producers decided to sell their products to other exporters than pre-arranged.

explained to me. The tensions between international trading partners, such as exporters or retailers from other continents and Peruvian or Bolivian partners can partly be explained by economic, administrative and cultural distances.

Quality monitoring of quinoa along the value chain also lacks professionalism. According to importers, the exporter has the responsibility to fulfill international quality standards. Nevertheless, the dispersed geographic locations of the farmers make it hard to track all quinoa. Farmers and "acopiadores" sometimes mix different quinoa varieties and certification bodies sometimes work unprofessionally in their certification awarding. These properties have resulted in cases were importers refused full containers in international ports.

The lack of commitment make it hard for importers and retailers to build up long-term relationships with Andean farmers. Identifying this issue is easier than coping with it, since working with contracts is not in the culture of people in the Andes an importer told me. However, in the coastal regions, social structures are completely different.

A lack of integration between national and international parts of the value chain can be an absolute obstacle that might impede a more inclusive strategy to thrive in the future. Importers and retailers might refrain from doing business with Latin American and switch to more trained and experienced countries as it happened in the case of Amaranth.[38]

Infrastructure

Local experts explained to me that farmers need up to two days to reach La Paz due to lack of transportation infrastructure. Furthermore, people in rural areas are not always supplied with electricity. Another expert told me that two or three days without light are not unusual. Telecommunication and internet coverage is rarely guaranteed.

As elaborated in chapter "3.1.4 Quinoa in Latin America" governments are currently building the necessary infrastructure. However, farmers are often very hard to reach, and thus, it will take a long time till all necessary support will be available. Sometimes, exporters invest in infrastructure. I think that the traded volumes of quinoa are too small to make these investments profitable on a large scale.

Contraband to Peru

A local quinoa consultant explained to me that smuggling is most often happening in the Andes in areas difficult to control. According to him, it is only possible to put a stop to the bootlegging by making it economically unattractive to sell quinoa in Peru and build the economic infrastructure in Bolivia.

Price volatility

"(…) Facilitate timely access to market information, including on food reserves, in order to help limit extreme food price volatility."
– SDG 2.2c

Even though the "Dirección Regional Agraria" publishes weekly quinoa prices, the information does not necessary diffuse towards small-scale farmers in rural regions. Price information is distributed via "acopiadores" or transporters. This way of distribution creates a severe

[38] Amaranth is a typical Andean produce, which is now cultivated and exported in major parts from India as the value chain was able to integrate with global supply chain in a better way than Latin American supply chains.

information asymmetry along the value chain. Stakeholders can easily misuse this factor against farmers. Information asymmetries due to the lack of infrastructure of small-scale farmers can be crucial impediments on the way towards a more inclusive value chain as farmers might not be informed about new opportunities as information might be withheld or farmers might be impossible to reach.

New worldwide quinoa adaptors

Peru and Bolivia have several competitive advantages that are hard or impossible to copy: They are the traditional source of origin and they currently produce the highest quality quinoa. The quality of the quinoa is connected to its location of production (ILO, 2015). Furthermore, experts explained to me that quinoa is a crop that involves severe manual labor, which is comparatively cheap in Bolivia and Peru. Thus, the state of worldwide quinoa cultivation and commercialization is multifaceted, which makes it hard to predict the further development. Some countries, e.g. Mali do not cultivate quinoa to compete with Bolivia or Peru, but rather to tackle the issue of malnutrition and hunger. Other countries as France and Netherlands[39] can develop into a severe threat and crowd out Peru and Bolivia eventually. Investments in infrastructure undertaken by local quinoa farmers could backfire and leave the farmers off worse than before. A similar case happened when Vietnam started to invest in coffee, thus crowding out Latin American coffee producers (Greenfield, 2002).

Besides oversea competition, Bolivia has lost its position as first worldwide quinoa exporter in 2014 to its neighbor Peru. Peru has been able to boost its quinoa production in the last years. In my interviews, local experts told me that this quick boost is related to the organization and mentality of Peruvians. They realize market opportunities and turn them into success. Furthermore, an employee of the CBI told me that Peru is a fundamental threat to Bolivia as they are known for products of sound quality and service-orientation. Cooperative approaches between the two neighbor countries remain scarce. Concluding, the intracontinental relation between Peru and Bolivia is tense. This rivalry absorbs resources that might be used more efficiently in a collaborative manner. Experts claim that the loss of the bilateral oligopoly can resolve the intracontinental tensions. In this case, the countries might drop their mutual perception of enemies and create a united strategy.

5.1.2 Political influences

The political situation of the sector is unsure. No distinct governmental dedication is visible, and the government lacks coordination of the yet scattered and selective initiatives in the value chain. Even though the installation of the Centro Internacional de Quinua (CIQ) is a first intra-continental collaboration, the notion of rivalries between Peru and Bolivia currently seems to impede better collaboration.

Although I could find no clear governmental strategy as first-hand information, secondary sources provided evidence that the Bolivian and Peruvian governments aim at scaling up the production of the quinoa sector (Salcedo, 2015). Upscaling of quinoa yields of small-scale farmers might be achieved by improved yield management either sustainably, which might call for considerable financial investments or unsustainably with unforeseeable consequences for the soil quality. Another option is to focus more heavily on middle- or large-scale farmers. Concluding, scalability plans by the government might be to the disadvantage of small-scale farmers.

[39] Both countries have successfully cultivated and commercialized quinoa.

5.1.3 Socio-cultural influences

As described above, some media reports (e.g. Friedman-Rudovsky, 2012) show a negative correlation between the expanding quinoa market and community disruption. Indeed, small-scale farmers who had left the Altiplano due to a lack of perspective are now returning to their old land claiming ownership of the land. It is also true that these farmers do not live next to their cultivated fields, but migrate temporarily to other places.

These incidents mainly refer to the southern Altiplano, the traditional cultivation zone of quinoa, but can also be transferred to other Peruvian and Bolivian regions where quinoa is predominantly produced in indigenous communities as local experts confirmed. The traditional system of informally managed land ownership rights (a typical phenomenon of the BoP) and Andean small-scale farmers' necessity to engage in pluriactivity and migration can help to explain the phenomenon.

Informally managed land ownership rights

The ground in the high mountain areas in Peru and Bolivia has traditionally been managed communally and informally according to quinoa experts. Thus, claiming ownership of ground even after a period of abstinence is a legitimate act. Nevertheless, the system has led to violence within and between communities (Winkel et al., 2014). Experts claim that the system might have also severely contributed to a stability of communities against outside interests. Local experts assured me that the incidents of violence are outliers presented in the media. Despite attempts by NGOs and POs to implement clear rules as experts explained, a consultant told me that the Bolivian government has recently confirmed the continuation of this local rights system.

Migration and pluriactivity

A geographical separation between residence and farming activities, which is often connoted negatively in the media (Richardson, 2014), is in fact a necessary precondition for survival for many farmers. Quinoa farmers have traditionally migrated temporarily to adjust to environmental and economic risks. In nearby cities, they are involved in trading activities. In larger cities or even countries, family members supplement the insufficient incomes from agricultural production with non-agricultural activities as an expert explained to me.[40]

Due to increasing quinoa prices, the share of earnings generated by quinoa is growing and has sometimes even become the predominant share. In the area of Uyuni earnings from quinoa makes up to 70% of the family income (Acosta-Alba, 2007). In fact, quinoa cultivation has surpassed animal husbandry in its traditional function of providing savings and insurance. These new possibilities lead to an increased socio-economic development of the wider region. According to Laguna (2008), the money is often placed in education, artisan activities, construction of businesses and purchase of vehicles. However, money is not always invested long-term, but rather spent on short term on pleasures. Besides grain sales, revenues from industrial processing, reinvestments into the region as well as taxes further stimulate regional development.

Despite regional development, occasionally local communities remain abandoned (Friedman-Rudovsky, 2012). Local communities have found own ways of grasping the potential development impact and making sure profits from locally sourced crops help the development of their communities. Tanya Kersse observed several communities, where locals force those urban citizens to make a contribution to the community, for example by donating for the local school to

[40] These activities include urban business or artisan jobs, civil service, mining and tourism (Winkel et al., 2014).

equalize their local absence (ibid.). Moreover, traditional cultures involve regular festival activities in which the whole community returns to their origins to bond.

Concluding, it is a legitimate act within the current regional right system if people claim ownership of their family's land even after a period of abstinence. This system is a cultural property of the region and business involvement in the sector has to take this specification into account. Migration and pluriactivity are necessary preconditions for local farmers to secure sufficient family income. In fact, the quinoa boom has helped in many cases to reduce the need to leave communities and stimulated regional development.

5.1.4 Environmental influences

"By 2030, ensure sustainable food production systems and implement resilient agricultural practices (…) that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, (…) and that progressively improve land and soil quality"
- SDG 2.4

In this part, I want to discuss the findings concerning environmental influences:

Depletion of the soil

PIEB (2009) arguments that the use of new agricultural techniques reduces soil fertility and protective natural vegetation. They argue that as a result, the sandy subsoil is loosened and provides an adequate habitat for pests. So far, only studies have been applied over a time span of two to three years (e.g. FAUTAPO, 2008). However, to understand the impact of new agricultural techniques, studies need to be expanded to ten years to take into account traditional cultivation.[41]

Loss of biodiversity

A loss of biodiversity in the quinoa sector refers to a loss of natural landscapes on the one hand and a loss of quinoa varieties on the other hand as a biologist explained to me.

Indeed, the expansion of the agricultural frontier diminishes room for livestock grassland and thus, reduces available llama manure. Nevertheless, pasture is highly altered cultivation and thus no natural landscape. Moreover, an expert explained to me that llama manure is not a traditional fertilizer, and its effects might even be detrimental for the soil.

Second, in Bolivia, there are more than 100 varieties of quinoa with different characteristics (e.g. color, nutritional value, form), alone quinoa real sub-divides into 50 local varieties. International clients often do not know these particularities and only distinguish between different the colors white, black and red.[42] Despite disinterest by the oversea market, quinoa varieties are conserved by small-scale farmers in production for autoconsumption or in seed banks.

Climate change

"By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events (…)."
– SDG 1.5

[41] In the traditional cropping system, farmers cultivate their fields for two to three years and then leave their fields fallow for up to ten years.

[42] Whereas black quinoa was discarded until recently, it is now requested on the international market.

The south of the Altiplano is an arid area with little rain. This year, rainfall was so marginal that some farmers fear their harvest will not even cover autoconsumption. Predictions foresee higher temperatures, less precipitation and more extreme weather for the Bolivian highlands. Higher temperatures might lead to increasing pests, mildew, and other illnesses even in higher altitudes as biologists explained. Knowledge institutes are currently working on seeds that are adapted to the new circumstances.

5.1.5 Technological influences

Today, there are big differences in technological development among farmers: Small subsistence farmers still produce in traditional ways whereas other small-scale farmers use modern agricultural technology. Nevertheless, farmers using modern technology do not always know how to use it properly. Knowledge institutes are developing more suitable technological approaches.

5.2 Stakeholders: Ambition, mission, impact and partner network

Van Tulder et al. (2011) evaluate the inclusiveness of stakeholders with the following criteria: A precise inclusive position, a mission towards poverty and income inequality, accountability beyond the direct effects of one's actions and involvement in stakeholder partnerships. I will apply this framework to the analysis of all players in the sector to evaluate commonalities and differences in the sector.

5.2.1 Core processes

5.2.1.1 Primary producers

Ambition

For many Andean small-scale farmers, quinoa plays an essential part of their diet. Increasingly, producers perceive quinoa as a business opportunity.

Mission

The mission of stakeholders in the value chain should strive towards improving the life of small-scale farmers. Thus, I will provide an overview of the needs of the smallholders under scrutiny at this point.

A BoP initiative is successful if the people at the BoP have a better life and not only if the interested organizations meet certain economic goals. Therefore, every initiative should be tailor-made and based on the understanding that needs and desires differ among different geographical context (Chevrollier et al., 2014). In the sector under scrutiny, I will focus on the following needs of small-scale farmers: their relative position in the value chain, their financial constraints and their need for improved productivity.

Marginal bargaining position: Small-scale farmers are often the most geographical secluded stakeholders and have sometimes only contact with transporters. Information asymmetries and dependency on local prices make them the value chain member with the smallest bargaining position. Furthermore, as quinoa is sometimes only a complementary income for small-scale farmers, they do not always put a lot effort in developing better agricultural practices. Furthermore, they are highly discouraged by high prices for organic certification (ILO, 2015).

Financial constraints: Low-income from agricultural and non-agricultural activities of quinoa farmers impede severe investments in technology and make it hard to bridge payment gap of up to six months between delivery of the produce and payment by importers (Diaz, 2015). As the quinoa sector remains too fragmented, artisanal, volatile (Diaz, 2015) and opportunistic (Winkel

et al., 2016), mainstream financial institutions refrain from making significant investments (Diaz, 2015).

Credit service offerings remain weak, insufficient, little diversified and too expensive (ibid.), which is a huge disadvantage for smallholders, who are in need of pre-harvest financing for yields and quality. Moreover, small-scale farmers rarely obtain financial services due to disinformation, analphabetism or cultural reasons (ILO, 2015). All sectors have started scattered initiatives to provide finance opportunities, e.g. the company Irupana Andean Organic Food S.A. collaborates with responsAbility to provide farmers with credits. Nevertheless, organizations only reach the minority of small-scale farmers with these initiatives. Thus, an immense credit gap remains.

"By 2020, maintain the genetic diversity of seeds, cultivated plants (…) and their related wild species, including through soundly managed and diversified seed and plant banks at the national, regional and international levels, and promote access to and fair and equitable sharing of benefits arising from the utilization of genetic resources and associated traditional knowledge, as internationally agreed"
– SDG 2.5

Lack of productivity: As new competitors enter the market, their superior technology and productivity can lead to a crowding-out effect (Van Tulder, 2010a) of regional quinoa farmers. Access to better seeds, better technology (e.g. to impede post-harvest losses), technical assistance and consultancy to teach right uses of new technologies (ILO, 2015) can help to counter steer this development.

Seeds: New varieties of quinoa registered are not always available for small-scale farmers or too expensive (ILO, 2015). Nevertheless, biologists, such as Rick Jellen[43], have been working on new varieties of quinoa especially adapted to changing agro-climatic conditions. Moreover, the organization "CAPRO Semillas Puno" gives away cheap certified quinoa to small-scale producers.

Better technology: Several stakeholders, including POs, international donors, the NGO Centro de Promoción de Tecnologías Sostenibles (CPTS) and private companies have been researching on technologies to improve the sector's efficiency and reduce its environmental impact (Diaz, 2015).

Technical assistance and consultancy: To educate farmers about new technological developments and help farmers to avoid the erroneous use of manure or agricultural techniques (Jacobsen, 2011), private companies such as Irupana Andean Organic Food S.A. give seminars to quinoa producers (Diaz, 2015).

Winkel et al. (2012) question the need of these agro-technical solutions as some solutions are doubtful.[44] Moreover, imposing changes top-down can lead to socio-cultural resistance (Holling & Meffe, 1996). The International Society of Ethnobiology (ISE) code of ethics gives guidelines to avoid this cultural clash that may come with a top-down approach.[45]

[43] Associate Dean at the College of Life Sciences and Professor of Plant Genetics at Brigham Young University, Rick Jellen. has given away adapted seeds for free to small-scale farmers in Latin America.

[44] For example: Applying high beds, as proposed by Jacobsen (2011), in an arid area as the southern Altiplano of Bolivia, is not very logical from an agricultural perspective (Winkel, et al., 2012)

[45] Basics of the ISE code of ethics (2006) are: Focusing on the needs and realities of locals, continuously cooperating in problem posing, building knowledge and taking decisions jointly.

A more collectively organized approach could help education and coverage of technology on a larger scale. The current inequality of access to technology can lead to envy among farmers and impede a sense of approaching the sector united.

Impact

Traditionally, Andean quinoa farmers produce quinoa in an organic and sustainable way.

Partnerships

Some POs own processing and storage facilities and directly link with exporters, or they link with processing facilities. Moreover, quinoa farmers often connect with external transporters or "acopiadores" to bridge geographical distances towards subsequent steps in the value chain.

Exporters and experts also explained that many organizations gained support by international organizations, e.g. the FAO, to develop. Nevertheless, when these aid agencies left, the POs often failed to continue successfully.

5.2.1.2 Transporters and "acopiadores"

Ambition

Carriers and acopiadores are interested in an expansion of the quinoa market, but the intervention of vertically integrated firms that might overtake their business remains a fundamental threat. Smugglers might be additionally scared by increased governmental interference that controls contraband at the borders.

Mission

Transporters have a crucial role in the functioning of the value chain as they provide a sourcing network in scattered markets. Smugglers help farmers by paying on the spot. Although these prices might be lower than prices paid by international market chain members, paying on the spot can be a decisive argument for small-scale farmers as the gap between delivery of the produce can take up to six months when collaborating with importers, traders or retailers (Diaz, 2015).

Partnerships

Transporters and smugglers often are an important link between producers and processing facilities. Lacking infrastructure in rural areas makes it hard for producers to supply processors with their produce by themselves. Thus, logistics is a critical issue in the sector that could be better executed in associated structures.

5.2.1.3 Local consumers

Ambition

Consumption of quinoa is increasing again after a small dip due to high export prices as an expert explained me. Mostly, people living in rural regions eat quinoa. However, higher social classes are becoming interested in the product due to quinoa preparation by high-class chefs.

A claim repeatedly found in academic as well as non-academic newspapers is that due to high export prices, domestic consumption has decreased and remains low. As a substitute for quinoa Bolivians and Peruvians have supposedly been switching to other staples such as rice or pasta, which have less nutritional value (e.g. Jacobsen (2011)).

This line of argumentation contains four statements that I will discuss in the following part: First, quinoa consumption has decreased. Second, the exportation of quinoa is positively correlated with a descent in consumption. Third, quinoa is a staple product comparable to pasta or rice. Fourth, the exportation of quinoa is positively related to an increase of pasta and rice consumption.

Did quinoa consumption decrease recently and is this possible reduction correlated with the exportation of the crop?

Winkel et al. (2012) claim that no scientific evidence exist that quinoa consumption has declined with increasing quinoa exportation. The International Trade Center (ITC, 2016) surveyed 150 households in Peru and found out that as prices for quinoa spiked, quinoa consumption did not change significantly. 30% of the surveyed households consumed quinoa in a nearly constant amount since 2005. Between 2010 and 2013 quinoa consumption fell by 5% decoupled from price developments. I did not find a comparable study for the case of Bolivia. As quinoa requires intensive cleaning and washing before consumption, [46] the marginal decrease of quinoa consumption can partly be explained by comfort reasons.

Is quinoa a staple product and does quinoa export stimulate consumption of rice and pasta?

Although promoted as the "rice of the Incas", Andean populations have never consumed quinoa as a staple cereal comparable to wheat in the Middle East or rice in Asia (Winkel et al., 2012). Quinoa is traditionally used to thicken soups or drinks, produce small cookies or very rarely as a main dish (Tapia, 2000). Andean people find it even harmful to consume quinoa for dinner (Winkel et al., 2012). Moreover, quinoa has always been a minor part of Peruvian as well as Bolivian diet with 0.5% to 0.6% of the total share of household expenditure (International Trade Center, 2016).

Hellin and Higman (2005) found out that Latin American countries had started to import subsidized wheat products as early as the 1950s and thus, long before quinoa entered the export market. Moreover, quinoa is also a classic example of a subsistence product: Especially Andean farmers relied on that product for most of their life. When being pulled out of subsistence mode, they tend to switch to higher-status foods, e.g. produces from the "Western" world even though they might be less healthy (Richardson, 2014).

Concluding, scientific papers and interviews do neither confirm that quinoa consumption is decreasing nor that quinoa exportation is the reason for an increased shift towards staples, like pasta or rice. In fact, quinoa was never consumed as a staple food in the region. A fortiori, quinoa consumption is on the rise and new social classes are becoming interested in the product.

Mission

Local consumers involve in direct trade with Andean farmers, which shortens the supply chain immensely. Furthermore, an expert explained to me that local consumers often also help small-scale farmers as they might be members of the same community.

Partnerships

Local Andean smallholders are in direct collaboration with local customers when they engage in direct trade.

5.2.1.4 Exporters

Ambition

Exporters' business model is the collection and processing of quinoa so that it complies with the standards of the subsequent part in the value chain, international importers. A major German exporter explained to me that more than 200 exporters exist in Peru. 15 exporters account for 80% of the export volume. He told me he would only consider collaborating with five to ten of

[46] A biologist explained me that locally sourced quinoa often contains small stones.

these exporters. In Bolivia around 30 to 50 exporters exist, whereas around ten exporters trade 80% of all quinoa. The German importer would consider a maximum of five of these exporters as safe partners

To guarantee the requested standards, exporters have to assure the compliance with these standards in prior steps of the value chain. Thus, a close collaboration with producers or producer organizations, transporters or processing facilities is crucial. To control for these information asymmetries and coordination inefficiencies, some exporters aim for partial vertical integration and start to install own processing plants.

Moreover, due to their geographic immobility exporters are locked in operating in their respective countries. This fact makes exporters particularly interested in a prospering national market.

Mission

Technical assistance and business education are in many cases necessary prerequisites to assure international quality and beneficial partnerships. Moreover, several exporters have CSR initiatives aimed at improving formation and life quality of small-holders, e.g. the Bolivian exporter Irupana Andean Organic S.A. offers financial services and technical assistance and the Peruvian exporter Wiraccocha del Peru S.A.C invests in building kitchens for the poor, providing technical assistance and formal business education.

Impact

Exporters' services offered to small-scale farmers (new technology, education, financing of organic certification) can help to mitigate negative environmental externalities in the sector, such as depletion of the soil and a loss of biodiversity. Most important is the service of access to new technologies combined with advice to explain proper use.

Experts have observed several cases when producer organizations prospered with the involvement of external stakeholders. As soon as they had left farmers without technical companionship, the success of these agencies plummeted again. Thus, experts have concluded that it is crucial to dedicate a significant amount of time in supervision and explanation of new information to producers. Financial support by exporters to subsidize the labeling process of producers is a standard service by some exporters (e.g. Irupana Andean Organic S.A.) and can lead to mutual benefit. Moreover, with the aim for increased vertical integration, exporters aggravate quinoa contraband to Peru.

Partnerships

Exporters present a strategic link in the value chain. They partner with producer organizations or processing facilities on the one hand and wholesalers, retailers or importers on the other hand. Moreover, they are often in direct contact with certification bodies.

5.2.1.5 Importers

Ambition

Quinoa importers are highly interested in a quinoa business based on consistent high quality, compliance with international standards and professional business relations. Close collaboration with exporters is a crucial prerequisite. As quinoa is a product with small quantities for most importers, it is not worthwhile to make severe investments in the country of origin, e.g. in joint ventures as a trader explained to me.

Mission

CSR activities are often indirectly executed by exporters, mostly due to the far geographical distance and the small volumes of the business. These are impediments the private sector often faces in the realm of the BoP. Importers often have no direct contact to POs, and thus, information asymmetries between exporters and importers about the treatment of small-scale farmers exist. Non-certified marketing of CSR initiatives is based on trust of exporters.

Impact

Currently, foremost small- and medium-sized importers are involved in the quinoa market. Larger companies seem to enter the market slowly. As most importers are not vertically integrated, local firms are not threatened to be crowded out. However, increasing consumer demand might rise involvement of large agro-businesses, which are traditionally operating in vertically integrated supply chains. Moreover, the demand for organically certified quinoa might reduce environmental degradation.

Partnerships

Importers have a certain geographical distance from the value chain in Peru and Bolivia. They are rarely in face-to-face contact with exporters or other members of the value chain in the respective sourcing country as an expert explained to me.

5.2.1.6 Retailers

Ambition

In general, retailers search for consistently high quality for low prices. Large retailers are looking for business opportunities worldwide (e.g. Aldi Nord sells Dutch quinoa). However, small-scale shops such as whole food- or fair trade shops will probably always be interested in offering quinoa with ethical characteristics.

Mission & Impact

CSR involvement is rarely directed at the quinoa sector specifically. However, retailers have other measures to secure a positive impact for farmers. Van Tulder et al. (2014) have found out that companies can make it easy for customers to choose a sustainable brand. Some companies opt not to give customers a choice, e.g. Plus only offers fair-trade bananas. As a result, sales of bananas at Plus went up. Thus, by selling products as fair trade, organic or under other private sustainable labels, retailers can support small-scale farmers directly.

Partnerships

Retailers are the furthest away from smallholders, and they mostly have no direct contact. For retailers, it is rarely a decisive buying criterion whether quinoa is produced in Peru or Bolivia.

5.2.1.7 International consumers

Ambition

Dreibus (2014) calls quinoa the "perfect collision of trends" as it combines the recent trends towards "gluten-free," "vegan" products and "superfood." Nevertheless, quinoa is still a very new product for most customers. In a little quinoa experiment coupled with a survey, I found out that the vast majority of respondents has never bought quinoa (Appendix 12). Nevertheless, most respondents were intere**st**ed in trying quinoa.

Consumers can be decisive in the question whether large-scale farmers from new countries can turn into a threat for small-scale producers in Peru and Bolivia. The following questions can

become relevant: Will the consumer be rather interested in buying locally-sourced quinoa or quinoa from its traditional origin? Will the consumer be willing to pay a premium for small-scale farmer production, high quality or organic production?

The challenge for marketing and sales is to examine which markets conditions offer opportunities for sustainability profiling. Two methods are possible: 1. Investigate behavior of your competitor: regular and niche providers. 2. Conduct customer research: Figure out demands of clients and then ask customers directly via surveys, interviews or quantitative research. Sustainability usually takes a stronger hold among products that are "close to the consumer" as well as "soft products" such as food, toiletries, and clothing. This effect might be explained by an assumed relationship between sustainability and health (Van Tulder, et al., 2014; Luchs, Naylor, Irwin & Raghunathan, 2010).

I have undertaken the two-step approach by van Tulder et al. (2014) and first, evaluated 30 online and stationary retailers on their quinoa marketing (Appendix 13). Second, I made a small experiment with 25 people to understand their purchase intention. I offered them either lower priced non-labelled quinoa or two versions of higher priced quinoa. The first option was quinoa certified as organic[47] with the official EU organic seal and the second option was quinoa labeled as "Organically produced in the Andes by small- scale farmers as it has been done for 6,000 years." Most participants "bought" organic quinoa. Second most often, they bought the non-certified, but labeled quinoa. This experiment approves the finding that consumers tend to trust known sustainability brands (McEachern, Seaman, Padel, & Foster, 2005).

Trudel and Cotte (2009) have found evidence to support the assumption that consumers are willing to pay premium. Nevertheless, it is important to consider that the number of customers ready to pay for sustainability is notably smaller than the number of people who claim that sustainability is important. I also found out this correlation in my survey. Even though most people put a high importance to sustainable sourcing or farming traits, they were not always willing to pay a premium for that characteristic. Van Tulder et al. (2014) explain that there is a difference between citizens claiming that sustainability is a collectively modern trend and as consumers choosing the lowest price.

Recently, several parties in the sector have started to establish a new quality seal for a particular kind of quinoa, a brand called "quinoa real." "Quinoa real" is a high-quality quinoa variety from southern Bolivia that can only grow in certain geographic areas. The label does not yet exist. Nevertheless, I was able to talk with persons in the process of creating the brand. The involved parties want to establish "quinoa real" as a seal that is linked to the following characteristics (among others): superior quality and produced by small-scale farmers in certain geographic regions. The added value of such a brand is not apparent and might fail to comply with customer desires. I will discuss this tension in a later section of the thesis.

[47] Organic can be defined as refraining "from using synthetic chemicals like pesticides and fertilizers. Also, livestock is not treated preventively with medication to avoid diseases. Therefore, organic end products are unlikely to contain residues of those chemicals" (Council Regulation (EC), 2007). Several researches have been conducted that found out that clients are willing to pay a price premium of 10 – 30 % for organic products (Van Loo, Caputo, Meullenet & Ricke, 2011; Ureña, Bernabéu & Olmeda, 2008). Consumers seem confused by the term organic and interpret it in different ways, such as "green", "sustainable", or "natural" (Aarset et al., 2004).

Concluding, international customers cannot be clearly segregated. In the past, the target group were mostly people interested in ethical product characteristics. As quinoa is available in mainstream supermarkets today, the target group has widened.

Mission & Impact

Traditionally, quinoa was sold in specialty shops, wholefood- or fair trade shops. People buying in this kind of stores are conscious consumers caring for ethical product characteristics, such as organic farming. As described above these customers are often willing to pay a premium for ethical products. Thus, if these consumers pay a premium for a fair treatment of farmers either by acknowledging fair trade-labeling or private label campaigns, they have a clear mission towards poverty alleviation of small-scale farmers.

Partnerships

International customers directly link to the retailers from which they source their products. Moreover, they can be indirectly involved in the value chain by donating for an NGO, spending taxes that is used for developmental aid in the sector, or work for one of the members of the value chain.

5.2.2 Secondary stakeholders

5.2.2.1 Certification bodies

Ambition

The objective of these companies is to have demand for certification, so that they have a viable business model.

Mission & Impact

Certification bodies strive for a segregation of different product characteristics confirmed by a third party. Consumers tend to trust known brands, and thus, certification can help quinoa farmers to receive a premium (fair trade) or support sustainable treatment of the soil (organic).

Partnerships

As exporters have the obligation to assure labeling of their exported quinoa, they are the most relevant partner of certification bodies as importers explained to me. Sometimes certification bodies are in contact with producer organizations or processing facilities.

5.2.2.2 Aid agencies

Ambition & Mission

Aid agencies strive for a positive developmental impact as their license to operate. The specific developmental impact can be of social or environmental nature. To achieve their mission, aid agencies often cooperate with other value chain partners.

Impact

If aid agencies take over jobs of another stakeholder (e.g. currently CBI is taking over the coordination role of the government), this might weaken the plausibility and perception of the other stakeholder. However, taking over this role can have a positive developmental impact as it uses opportunities that otherwise would be left unused (e.g. the currently CBI program to bundle stakeholders towards a common marketing approach). A local consultant explained to me that various NGOs in Bolivia and Peru exist. Nevertheless, their work is not coordinated so that some work is done double whereas help is missing in other parts.

Moreover, several NGOs are investing in new agricultural technologies and provide guidance on proper usage. These measures help to prevent negative environmental externalities.

Partnerships

Aid agencies and NGOs are service providers for different members of the value chain. They collaborate primarily with the respective governments and exporters to help smallholders as I understood from my interviews.

5.2.2.3 Governments

"By 2030, empower and promote the social, economic and political inclusion of all, irrespective of (…) race, ethnicity, origin, religion or economic or other status."
– SDG 10.2

Ambition

The purpose of the Peruvian and Bolivian government is not clear. Quinoa can serve as an important microeconomic driver stimulating job opportunities. As a macroeconomic driver, it can stimulate economic growth, reduce poverty and diminish income disparities. As a nutritious source of food, it can help to national food security. Especially in the local and regional context, quinoa can be a big driver of socio-economic development as farmers invest their income from quinoa in local bus services, small shops or workshops as experts explained to me. However, quinoa business opportunities can illusion the governments and lead to an upscaling of the sector. This upscaling might be to the disadvantage of small-scale farmers as new agricultural technologies might destroy the soil of smallholders (CBI, 2014) or government might shift their focus on medium-sized farmers.

Mission

Experts told me that governments are involved in uncoordinated initiatives towards small-scale farmers. A Peruvian government representative mentioned involvement in programs to support associativity and other programs to help smallholders. Nevertheless, in my interviews non-governmental respondents were often unsure about the position of the government and their steps in the future. Thus, it is difficult to define governments' attitude towards small-scale farmers decisively.

Impact

As evaluated above upscaling of the sector might lead to soil depletion and a further loss of biodiversity or a negligence of smallholders in the focus of governments. Moreover, a local expert explained to me that the Bolivian government has decided to accept the system of communally managed land ownership rights in indigenous communities. This decision might lead to increased violence in communities. However, the system is deeply rooted in the culture of Andean communities, and experts do not expect an abandonment of this scheme in any way.

Partnerships

Governments have key contacts with small-scale producers as evaluated above. Moreover, they partner with NGOs and development aid agencies. Nevertheless, government mostly executes activities in an uncoordinated way. Thus, services are not as efficient as they could be.

5.2.2.4 Knowledge institutes

Ambition

Biological knowledge institutes are interested in researching on the adaptability of seeds to new geographical environments and new agro-climatic conditions. Agricultural researchers are working on new technologies and ways to minimize negative environmental externalities. Socio-economic researchers are interested in evaluating chances for the inclusion of small-scale farmers and understanding their cultural habits.

Mission & Impact

The invention of newly adapted seeds and new technology can help small-scale farmers to prosper in a sustainable way if they can access those fair and easily. However, these inventions can also be to the disadvantage of small-scale farmers as they can stimulate worldwide quinoa cultivation and commercialization. New socio-economic knowledge can provide a theoretical framework for stakeholders in the value chain, who are interested in having a sustainable impact.

Partnerships

Most stakeholders of the value chain make use of new knowledge gathered by researchers by reading and evaluating the reports. Moreover, knowledge institutes are in several cases directly connected with exporters and governments.

5.3 Identification of the most relevant stakeholders

I have classified the key players in the quinoa value chain according to their relative power in the sector and their interest in a strategy towards more inclusiveness of the value chain. In this framework, I define power as "the ability to influence the functioning of the value chain". Interest

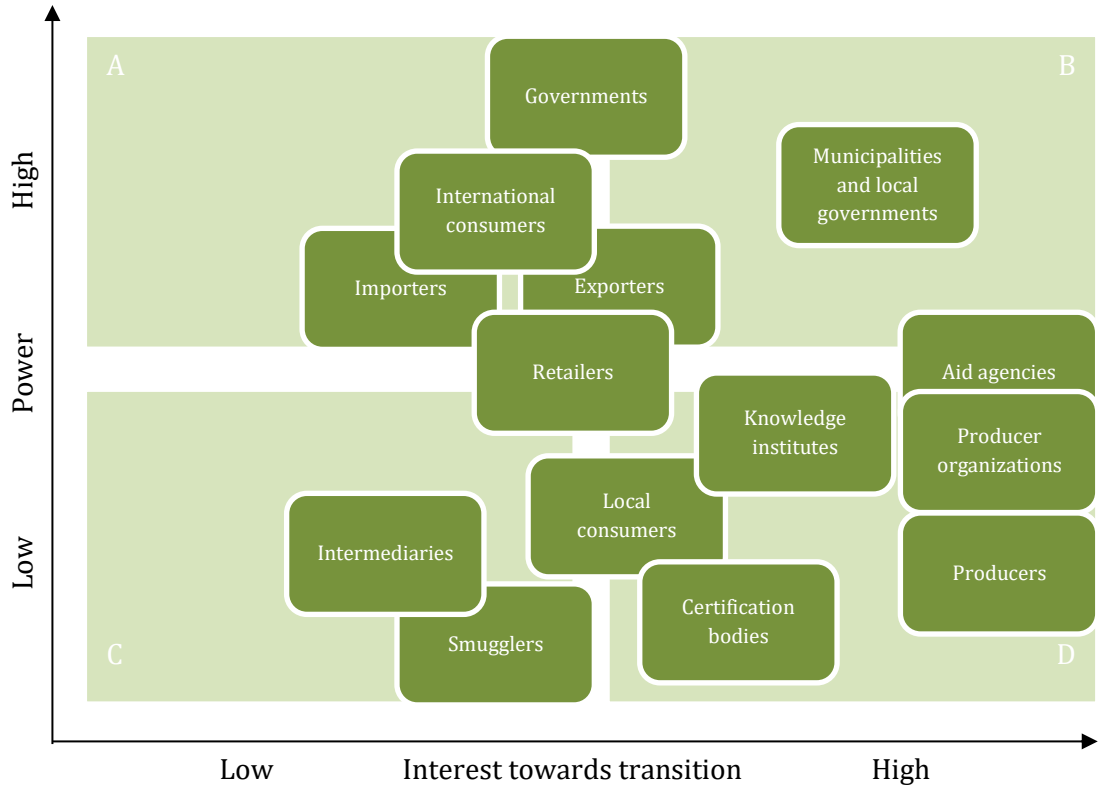

Figure 16 – Power-Interest matrix of the stakeholders in the quinoa value chain in Peru and Bolivia (Scholes, 2001)

towards transition can be defined as the "desire to collaborate more closely with producers to improve benefits for them".

The map can be seen as a generalized overview of the sector. There exist big differences between the different cultivating regions. For example, an expert explained to me that for years, ANAPQUI was more active and influential than the Bolivian government in the Salar region when negotiating norms and prices with importers, or when deciding where to install new quinoa processing plants. In the case of Peru, the power of producer organizations is often rather small, nonetheless due to their small number. Due to the significant differences within the countries, I decided not to make different maps for each respective country.

I conducted the classification based upon the input gained from academic literature and personal interviews. When the map was done, I contacted my prior interview partners to ask for a confirmation of the validity of the grouping. I got responses from two previous interview partners, which I incorporated in my analysis.

Quadrant A (Keep satisfied)

The goal is to keep stakeholders of this quadrant satisfied by reassuring them of the likely outcomes of the strategy in advance (Scholes, 1998).

International consumers: Quinoa is currently mostly sold to the segment of "conscious" consumers that are willing to pay a premium for organic and fair trade products. These kind of customers are also often interested in the trend of "locally produced" food and thus, if high-quality quinoa is cultivated in the respective regions of the consumers, they might shift away from Latin American quinoa. Their relative power stems from having a combined critical amount of financial means and from being the end of the value chains, whose desires decide over the existence, the scale of traded volumes, and the specific product characteristics.

In my interviews, I found out that many **importers** are most interested in keeping up their business opportunity and thus, they need reliable partnerships and exporters that deliver high quality for a good price. If new business opportunities in other geographical regions arose, they might be likely to change geographic business involvement. Thus, their interest in a transition is medium. Their power derives from the crucial link to the final consumer market, valuable know-how from engagement in comparable sectors and geographical flexibility.

Quadrant B (Key players)

Scholes (1998) claims that the stakeholders in this quadrant can be the major drivers of change, but also the largest opponents of the strategy if they are not satisfied. Thus, it is necessary to collaborate closely with stakeholders of this quadrant.

Exporters are often more interlinked with small-scale producers and involve in education, not at least since smallholders produce the highest quality quinoa, and their current economic education is detrimental for international business standards. A shortening of the value chain could mean financial savings. Furthermore, they are geographically immobile and thus sharply interested in a long-term perspective of the Peruvian and Bolivian quinoa market. Their power derives from an international network and their strategic position in the chain.

Retailers are interested in serving customer needs and to have a viable business model. The relative power of individual retailers is small due to atomistic competition. Large retailers possess significant levels of authority due to their buying quantities.

Aid agencies are highly interested in a developmental impact for small-scale farmers. Locally embedded NGOs can help to bridge geographical distances for multinationals and global NGOs often have a big network with strategic partners, such as governments. Nevertheless, NGOs often have relatively little power, which stems from an international network, and financial means dedicated to social services.

Governments in Peru and Bolivia see quinoa as an important crop, but they have not yet completely decided on a clear strategy. Bolivia has announced to expand quinoa production in the country immensely, which could have detrimental effects on smallholders and soil quality. However, the inclusion of small-scale farmers can mean substantial macroeconomic progress. Rural municipalities and governments are even closer interlinked with smallholders, but possess less power compared to their national counterparts. The relative power stems from the constitutional obligation to help smallholders, their financial power, their significant network and their experience in the field. The perception of corruption and slow bureaucracy, as local experts explained to me, diminish their power.

Quadrant C (Minimal effort)

The lack of interest and ability of stakeholders in this quadrant make them malleable. They often do not counter the proposed strategy (Botten, 2007).

Intermediaries are often small- or medium-sized organizations or individuals actively interested in a long-term perspective of the sector. Nevertheless, a closer inclusion of small-scale farmers could mean fewer business opportunities for them. Due to their small size, they often have marginal power. Currently, they serve as an important information provider for small-scale farmers. **Smugglers'** little power stems from their possibility to offer relatively higher prices to producers.

Quadrant D (Keep informed)

The positively disposed group from this quadrant is likely to foster others to join forces towards the proposed strategy. If the plan is presented as rational, it might stop dissenters to join resources with dissenters from quadrant A and B (Botten, 2007).

Knowledge institutes advance the sector with economic and agricultural insights. The findings of these institutes can often be used for Latin American as well as for other producers. Thus, biologists are often not only interested in inclusive business models for Andean small-scale farmers. However, they can be a crucial partner to find solutions to shortcomings of the industry. Nevertheless, apart from their academic input, they lack further power.

Small-scale producers themselves are actively interested in a change towards more inclusiveness. Nevertheless, due to atomistic competition, missing infrastructure and inputs as well as information asymmetries they are the weakest link in the value chain and lack power. United in POs they can enforce their needs better.

Certification bodies: A more inclusive strategy could entail more certified quinoa (e.g. fair trade or organic), which could again benefit the business model of certification bodies. The power of certification bodies is quite marginal. Stakeholders interested in certification can choose from a range of different interchangeable bodies.

Local consumers are interested in a transformation towards inclusiveness due to macroeconomic effects (e.g. inclusive growth) and microeconomic aspects (e.g. employment as local consumers can be producers at the same time). The low quantities of their consumed quinoa translate into relative insignificant power in the value chain.

Concluding, governments, international consumers, exporters, retailers and aid agencies are the key partners in the quinoa value chain. Despite their little power, knowledge institutes should be perceived as crucial partners in a new strategy. Importers and governments provide vital resources (know-how, network) and should be convinced of the mutual benefits of the policy. This can lead to a changed "Power-Interest matrix" as shown below.

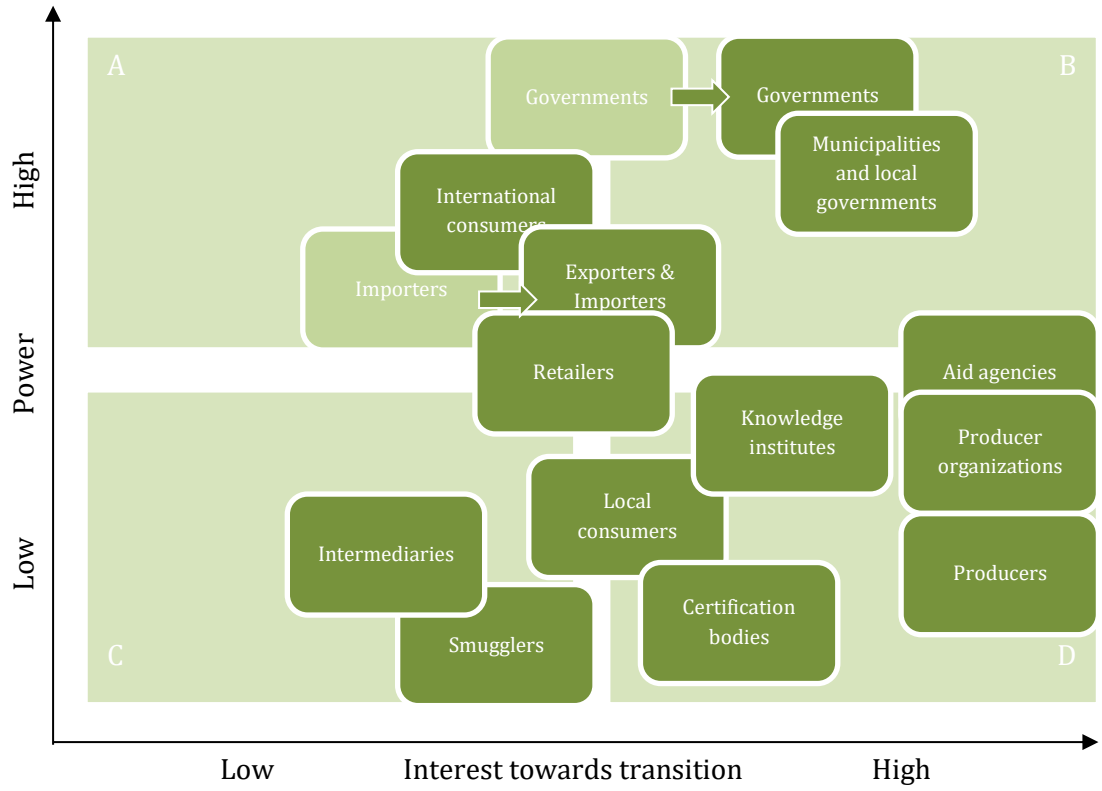

Figure 17 - New Power-Interest matrix of the stakeholders in the quinoa value chain in Peru and Bolivia (Scholes, 2001)

5.4. Current status of inclusiveness

In the following three parts, I used the "New Business Principles" to first, identify the current state of inclusiveness. Second, I encountered challenges that refrain the value chain from becoming more inclusive and finally, I evaluated ways to foster inclusiveness.

5.4.1 Chain-wide collaboration

Most actors in the quinoa value chain share the same goal of creating a profitable business model. However, besides this common goal, the ambitions of stakeholders differ widely. Most Bolivian and Peruvian stakeholders are interested in a long-term survival of the sector, nonetheless due to being locked in geographically. International players could switch to other sourcing regions if the characteristics become more favorably. Furthermore, the stakeholders do not exchange information on a regular basis. In fact, communication in an integrative manner is not existent. Most direct stakeholders only have direct contact with their direct partners.

To counter steer this lack of mutual exchange, producers and exporters, especially in Bolivia, have started to build up associative structures. The leading exporters in Bolivia have created the organization CABOLQUI to share information and bundle efforts with mutual benefits, such as a

combined marketing strategy of high-quality "quinoa real." The group has also started to become more vertically integrated as processing companies have also joined the platform. Producers in Bolivia have been traditionally involved in associative structures. Moreover, ILO (2015) claims that technical roundtables exist that connect exporters. However, to my knowledge no chain-wide platform exists that unites all stakeholder with a common goal.

In every country, I identified some "champions," who lead the process of increased inclusiveness: In Bolivia, these are the two export companies Irupana Andean Food S.A. and Andean Natural Products Export Import S.A.C. and in Bolivia the two exporters Villa Andina S.A.C. and Wiraccocha Peru S.A.C. They directly collaborate with smallholders or producer organizations and provide crucial services, such as pre-finance, know-how and technology transfer. Moreover, they possess own processing facilities. This shortens the supply chain and increases control. The approach can be described as the nucleus model. A CBI employee explained that a satisfactory collaboration with small-scale farmers takes time, and some farmers leave the relationship. However, most smallholders remain partners and supply the exporters with high-quality quinoa that complies with requested standards.

5.4.2 Effective market linkages

Derived from the high number of emerging value chain members and the currently considerably high price for quinoa, I assume that quinoa is a very profitable product for all participants. The comparably actual wage level of Peru and Bolivia drive down the cost of the intensive manual labor and complex logistic due to high geographical dispersity.

To better exploit market chances, a range of international and national a group marketing label called "quinoa real." "Quinoa real" is a certain ecotype of quinoa that can only be cultivated in some geographical regions, such as the Altiplano Sur. However, the organizations do not only focus on the biological classification in their marketing, but also on other ethical aspects, such as traditional and organic production by small-scale farmers.

5.4.3 Fair and transparent governance

Traceability and transparency of the quinoa value chain is an apparent shortcoming. To counter steer this, a CBI employee told me that he is working on an integrated traceability model. Moreover, increased association of POs and more vertical integration by exporters have also helped to gain better control over the supply chain and facilitate communication by crowding out third-party processors or transporters.

5.4.4 Equitable access to services

As already discussed, producers often lack access to technical support, relevant market information, and financial services. NGOs, like the CPTS and knowledge institutes, are creating new technological solutions. Several exporters, e.g. the mentioned "champions" help to spread these technologies. Aid agencies and governments also provide necessary services and engage in direct partnerships with farmers to bridge information gaps. However, these measurements are executed independently and thus, lack a large-scale coverage of the whole sector.

In my studies, I have found the case of the responsAbility fund dedicated to sustainable smallholder agriculture. This fund has financed more than 90 organizations that are committed to sustainable practices along the agricultural value chain (Diaz, 2015). One organization is Irupana Andean Food S.A. They provide their producers with necessary pre-harvest finance. This is the only source of funding for these farmers as large banks and credit providers refrain from this small size and risky sector.

5.4.5 Inclusive innovation

Several retailers sell value-added products, such as ready meals, canned food, cereals, pops, flakes, drinks, powders, flour or pasta. Locally, quinoa has been traditionally processed into juices, flour, jam, ice cream and desserts (ILO, 2015). Value-added products offer a severe business opportunity for local small businesses to exploit the quinoa boom and add to inclusive growth. The ILO (2015) estimates that micro-enterprise need to pay a minimum of € 550 for sanitary registration and further certificates that will permit them to process products for the international market. Exporters, e.g. Wiraccocha Peru S.A.C. and Andean Natural Products Export Import S.A.C., operate their own processing plants. Besides transforming grain quinoa into quinoa with export quality, they process quinoa into flour and flakes. In the innovation process, Andean Natural Products Export Import S.A.C. includes food experts, nutritionists, bakers, chefs, customers and farmers of the Altiplano. However, since I was not able to directly interact with the company, I cannot display how the collaboration works in detail. In other cases, I have not found ways direct initiatives by the private sector to stimulate an integrative innovation process.

5.4.6 Measurement of outcomes

Collaboration by "champion" exporters, CBI or national governments involves significant supervision and collaboration with small-scale farmers over an extended period. The longitudinal integrative collaboration and face-to-face contact make room for feedback loops that guarantee joint decision-making and effective joint management. In my interviews with the coordinators of the respective programs, I was not able to identify the factors that these organizations have set up to measure the success of the different initiatives and how frequently business relationships are measured.

5.4.7 Additional questions

The LINK methodology can be supplemented by the following three questions (Sopov et al. 2014):

- How are women or other marginalized groups participating in the supply chain?
- What would stakeholders like to do if they were able to?

The Andean quinoa value chain offers extensive possibilities to include marginalized groups in business and provide income and social acknowledgment opportunities. As described in part "3.1.2 History of quinoa", quinoa is mostly produced by indigenous people living in the Andean highlands. These people are a traditionally marginalized group in the Bolivian society. Quinoa was considered to be "comida de los indios" ("food of the indigenous"). Today, quinoa is sometimes referred to as "comida de los reyes" ("food of the kings") as this food is consumed by upper generations in Bolivia, Peru and around the world. Besides stimulating inclusion of neglected indigenous people, quinoa also traditionally involves severe work by women, especially in the post-harvesting process (ILO, 2015).

The second additional question of the "Seas of Change"-workshop includes the question what stakeholders would like to do if they were able to. I think that especially the identified "champions," governments, aid agencies, such as CBI, and knowledge institutes would like to scale their services for the poor to prepare the sector for future threats and increase the business opportunities along the value chain. However, small traded volumes and the widely dispersed sector aggravate scalability.

Concluding, due to their only little interaction with value chain members and their perception primarily as producers and not as co-producers, Andean quinoa smallholders are in between the

state of BoP 1.0 and BoP 2.0. New market linkages, more stakeholders, and a shift in perception of most operators are necessary for a more inclusive strategy.

5.5 Challenges

5.5.1 Lack of chain-wide collaboration

Selling to international markets remains the best option for Andean farmers to receive high prices for their quinoa. However, the context in which the poor operate widely differs from those of more developed regions (Webb, Kistruck, Ireland and Ketchen, 2010; also see chapter "3.2.3.6 The length of the value chain").

I encountered several examples that describe the different business environment confirming the identified large distances between importing and exporting nations:

- Small-scale farmers sometimes drop out of pre-arranged contracts.
- Farmers are often unaware of the requirements of international markets, or it is culturally and traditionally not inherited to comply with international rules.
- The chain lacks consistent communication and tracking of quality standards.
- Transporters and "acopiadores" collaborate with multiple farmers to fill one truckload. In this process, they sometimes mix different kinds of quinoa.
- Illegally traded quinoa is also often not clearly segregated.
- Finally, some exporters only emerged with the boom of the quinoa sector and lack experience.

All these issues make it hard for companies to engage in long-term collaboration. Thus, many foreign parties are not interested in investing more money in the sector. This shows the lack of acknowledgment of the interdependence of the trading relationship.

In general, I think that only several national exporters have understood the risks of unqualified and not supported producers. The international companies I have encountered often put petite interest in the quinoa sector. This translates into little support for smallholders. The risks are shared very unequally. On the one hand, smallholders face danger of losing a predominant share of income in case of a bad harvest. On the other hand, importers, wholesalers, retailers and traders often deal with a large variety of products and thus, they can more easily compensate for lost quinoa provision. A dealer explained to me that produced volumes need to increase, or competition among sourcing companies has to be fiercer, so that international companies involve in fairer risk-sharing models.

The low level of risk sharing is also expressed in the dominating appliance of the informal model. I understood that often contracts between exporters and producers and exporters and retailers are casual or only made on a seasonal basis. Due to their lack of experience about long-term contracts, smallholders also often break formal contracts and sell to the highest-bidding buyer or the purchaser who pays the quickest. However, new models of the identified "champions" flanked with support by the government and aid agencies help to develop long-lasting integrative partnerships due to intense supervision and communication at eye-level.

5.5.2 Missing market linkages

The current approach to market South Bolivian quinoa as "quinoa real" impedes the inclusion of other geographical sourcing reasons with similar production characteristics, such as the Andean region of Peru. Furthermore, this approach might miss real consumer needs, since quinoa customers do not necessarily seem interested in the precise origin of quinoa.

Peru and Bolivia perceive each other as rivals in the sector (as can be seen in the establishment of the brand "quinoa real"). This rivalry means that possible combined efforts are not taken and thus, economies of scales are not carried out at all or not as efficient as they could be.

5.5.3 Inequitable access to services

With the emergence of medium-sized farmers, smallholders face the threat of being crowded out. As discussed above small-scale farmers have agro-climatic advantages over other production sites to produce the highly demanded organic quinoa. Nevertheless, ILO (2015) argues that not all farmers will be able to reach the market of certified quinoa.

5.5.4 Missing inclusive innovation

Not all products can be further processed[48] and high-quality quinoa produced in the Altiplano regions should not be processed due to the relatively high logistic and production costs. I think that local small- and medium-sized firms can participate in inclusive growth, but for a successful execution, they should collaborate with importers or retailers to secure that they address the right customer needs. As elaborated above, the currently locally processed products differ significantly from the offerings of international retailers. I am unsure about the opportunities of including local processors in the value chain, nonetheless due to the difficulty of these people to break through established global processing networks.

5.6 Possibilities to increase inclusiveness

5.6.1 Better chain-wide collaboration

Parties in the sector have to understand that collaboration with small-scale farmers is unavoidable as they are the leading sourcing partners worldwide. Furthermore, they are the only providers of high-quality quinoa. Thus, the only way to assure supply of quinoa with reliable high quality is to provide small-scale farmers with better inputs (seeds, technologies, and know-how).

Expectations are usually high when companies or NGOs involve about the provision of inputs. Companies should understand the socio-cultural background and communicate clearly what they can and cannot provide (Sopov et al., 2014). As producers rely rather on informal than formal agreements, collaborating stakeholders should build on strong social ties and attend social events, like the mentioned harvesting parties, weddings or funerals. Furthermore, investments in education and health might be heart-winning factors (ibid.).

Companies working directly with farmers should clearly communicate the earning of the different parties throughout the value chain. This can help to build up trust and prevent negative rumors. Furthermore, companies can agree on prices with farmers and promise to raise those, if final prices increase. This can lead to less interaction with smugglers and unknown transporters and thus, increases control over the value chain.

A lever to facilitate the supply of inputs to farmers can be a collaboration with associations to reach better scales. Furthermore, higher amounts of associated farmers reduce costs per unit in processing facilities and logistics due to more efficient use of machines and closer logistical chains. Increased association can also lead to reduced information asymmetries and better control over the value chain. Moreover, associativity can encourage the sense to comply out of group pressure. Finally, associated farmers can also use their increased bargaining position and purchase relevant

[48] For example: Quinoa bread is a perishable good that would be hard to withstand oversea transportation.

inputs for their farmers themselves. Latin American countries are in general more collaboratively organized (Hofsteede, 2016). However, especially Peru lacks structures of small-scale association.

Finally, the case of africaJUICE shows how a chain-wide multi-stakeholder-platform can simulate acknowledgment of the interdependence of all stakeholders towards a successful business operation. Employees of africaJUICE have implemented a council with representatives of different parties of the value chain. PO representatives were also part of the board. The members were elected for three years by the farmers (Sopov et al., 2014). This structure has helped to build up mutual trust and understand each other more easily and could be transferred to the quinoa sector.

ILO (2015) claims that technology roundtables exist in the sector. However, I could only discover the platform of CABOLQUI, which consists of exporters. The platform could serve as a starting point for a chain-wide platform. However, recent examples show that similar organizations can be misused for promotion activities (Sopov et al., 2014). Thus, a clear common goal should be established to ensure effectivity.

5.6.2 More effective market linkages

The success of the value chain is firmly dependent on the desires of retailers and consumers. Retailers most strongly demand third-party certified quinoa as organic. Quinoa certified as fair trade does not have large trading volumes. Other private non-third party certifications claims exist (e.g. Davert promises that their quinoa is "bio & fair") with unmeasured effect on consumer buying behavior. Besides labeling quinoa with certifications, retailers put emphasis on "vegan", "gluten-free" or "superfood" labeling. Rarely, retailers highlight the origin of quinoa, because consumers usually do not differentiate between Peru and Bolivia as the source of origin.

Current ambitions of several Bolivian stakeholders aim at highlighting a certain quinoa ecotype connected to its Bolivian origin. ILO (2015) proposes to establish a Peruvian quinoa brand called "Quinoa Imperial." I think this kind of labeling might not be the right marketing approach. First, a new label can confuse customers (McEachern, Seaman, Padel, & Foster, 2005). Second, consumers might not be interested in that kind of segregation. Finally, it impedes scaling the marketing by including Peruvian farmers. Moreover, an expert was very doubtful whether a product like quinoa, sometimes seen as a staple, can ever be of such importance that consumers are interested in a geographic denomination, such as Bordeaux red wine or Emmentaler cheese.

In the highlands, quinoa should be produced and marketed as organic (certified by a third party) as the market demand is quite high and competitors do not face the same favorable agro-climatic conditions. Moreover, non-third party approved marketing about fair treatment of farmers as well as "gluten-free" or superfood marketing can add value for small-scale farmers. Especially importers and retailers can be very helpful with their marketing knowledge about end consumers. More research is needed to understand specific consumer demand.

Bolivia has been cultivating quinoa for a longer time and has naturally developed an immense self-help small-scale farmer network and is receiving relatively more development support, e.g. by the Dutch governmental organization CBI. Moreover, Bolivia still produces most organic quinoa (Salcedo, 2015). Peru is trying to create such a PO network, but small-scale farmers lack the culture and experience. A fortiori, Peru has a competitive advantage in administrative professionality. It outperforms Bolivia in every ranking that deals with economic performance and the ease of doing business. Importers and retailers have told me about comparable experiences in doing business with the two countries. Cooperation between both countries could help to exchange knowledge and contribute to reduce the individual shortcomings. More or less independent parties, such as donor organizations, could act as mediators.

5.6.3 More equitable access to services

An effective way to supply smallholders with relevant inputs is the installation of one-stop shops as in the case of Gadisa Gobena Commercial Frams P.L.C. In this case, the donor organization USAID sponsored a center supplied with inputs based on farmers' needs. In the center, smallholders can get certified seeds, fertilizer, herbicides, pesticides, training or rental of machinery. These kind of centers have the advantage that large amounts of consumers can be reached quickly (Sopov et al., 2014). As quinoa is harvested after about half a year, farmers need harvesting and planting technology only rarely throughout the year. Sharing economy models can help all parties to reduce costs.

Another option to increase accessibility to inputs for farmers and get better control over the value chain, is the introduction of shared ownership of land or the application of the nucleus estate model or setting up joint ventures: The company supplies the farmer with inputs and controls the value chain (possessing own trucks and processing facilities). Shared ownerships is aggravated by existing community land ownership management systems.

Finally, quinoa serves as a source for nutritious food for many small-scale farmers. Securing the business model for the future helps farmers to maintain a valuable source of nutritious food.

5.6.4 More inclusive innovation

To convince farmers of the benefits of long-term relationships, companies can identify "lead farmers." These producers are supplied with all relevant inputs directly so that the community can see quick wins. This model might have a multiplication effect and convince other farmers to join long-term relationships with the company.

An option for farmers to diversify their income is to invest in inter-cropping. As consumers demand ethically, and healthy produces, canihua can be a valuable alternative for farmers as it grows in similar altitudes. Canihua is already sold by international retailers, but in smaller quantities than quinoa. Inter-cropping has the further advantage that it benefits the quality of the soil.

5.6.5 Better measurement of outcomes

The installation of chain-wide platforms might help to monitor the results of inclusive initiatives. The success could be measured by using "Efficiency Performance Indicators", which at the same time incentivize efficient management of farmers. These indicators could measure the yields of organic quinoa per hectare, the involvement of women in the farming processes or the attendance at seminars. Based on the accomplishment with these factors, producers could be paid a premium.

5.6.6 Further questions

Sopov et al. (2014) found out that women are in general more productive on crops that demand intensive management. Thus, the new contract farming scheme could incentivize women participation in farming activities besides post-harvesting.

Moreover, the boom of quinoa prices has led to unforeseeable incomes for small-scale farmers. However, some of these farmers failed to make long-term investments. Sopov et al. (2014) promote the idea of giving money to women rather than men as they have shown better management skills in the past. This approach could meet with severe headwind from men.

As evaluated above, the value chain currently lacks inclusiveness. However, several opportunities exist to leverage the inclusiveness potential in the sector. In the following part, I will elaborate how the identified key stakeholders can contribute to the activation of this potential. This

evaluation can be seen as a summary of the main findings of this chapter. Please find a summary of my individual research questions in Appendix 14.

5.7 Summary: Possible roles of key stakeholders

5.6.1 Exporters

Exporters can play a very crucial role towards a more inclusive strategy. They are often in direct contact with producers on the one hand and communicate with foreign demanders on the other side. The direct contact with international companies obliges exporters to assure compliance with international standards in prior steps. Thus, education of small-scale farmers is a prerequisite for exporters. This has led to the formation of a set of "champions", who currently lead a process of more inclusiveness. The exporter platform CABOLQUI can serve as a basis for a chain-wide organization. Moreover, the geographical locked-in makes exporters very interested in a thriving national quinoa sector.

Despite the positive characteristics of exporters towards a thriving, an inclusive strategy they sometimes lack formation which might impede international collaboration. Some exporters only entered the export business with the quinoa boom and lack know-how and experience from other sectors. As a result, only a few exporters are viable trading partners. Furthermore, especially Bolivian exporters often miss business knowledge as I identified in the different indices measuring economic distance (Appendix 8).

Concluding, exporters' need for educated producers and their exposed production in the value chain should be taken advantage of in the design of a strategy. Their need for healthy business relationships with international importers entails formation of small-scale farmers. Education and equipment of smallholders might close the misalignment between integration of the local and the global value chain to a certain extent.

Worldwide quinoa cultivation and commercialization on a large scale is the biggest threat for the existence of exporters.

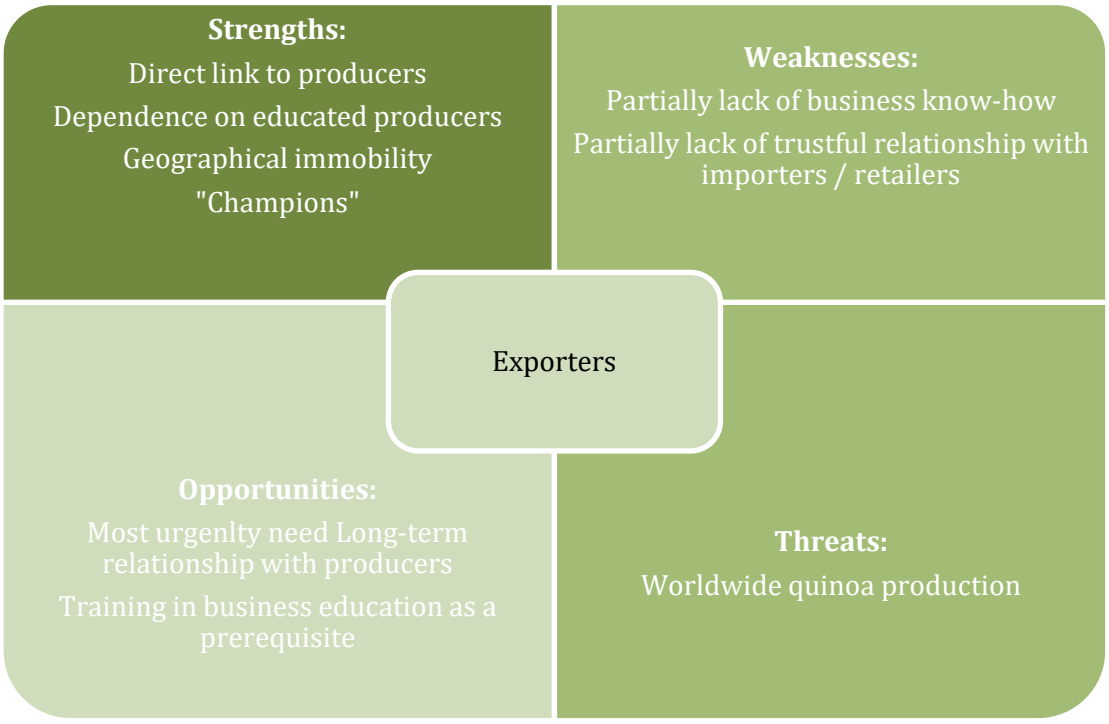

Figure 18 - Analysis of the strengths, weaknesses, opportunities and threats of exporters towards a thriving, inclusive strategy in the quinoa value chain in Bolivia and Peru

5.6.2 Importers

Importers can serve as a viable member of a more inclusive policy as they often possess significant financial capabilities due to their respective size. Furthermore, importers are important partners in a more inclusive strategy due to their valuable know-how about the end-consumer market.

However, producers often have no direct link to farmers According to the "ethics of care theory" explained in chapter "3.1.4 Transition to BoP 3.0", the missing direct link might impede a more inclusive mission of these stakeholders. Moreover, a trader explained to me that the fragmented and commoditized market structure and small traded volumes block importers from engaging in long-term relationships.

Concluding, the know-how about desires of the end consumer can be a decisive factor in solving the tension of different marketing approaches. With their independent role, they can act as a mediator between the various stakeholders and provide knowledge about what characteristics consumers in their home countries desire.

The geographical distance and small investments in the sector mean that importers are not locked in this particular value chain. If other countries offer more viable business opportunities (better business infrastructure, more cost-effective production) importers might quickly drop out.

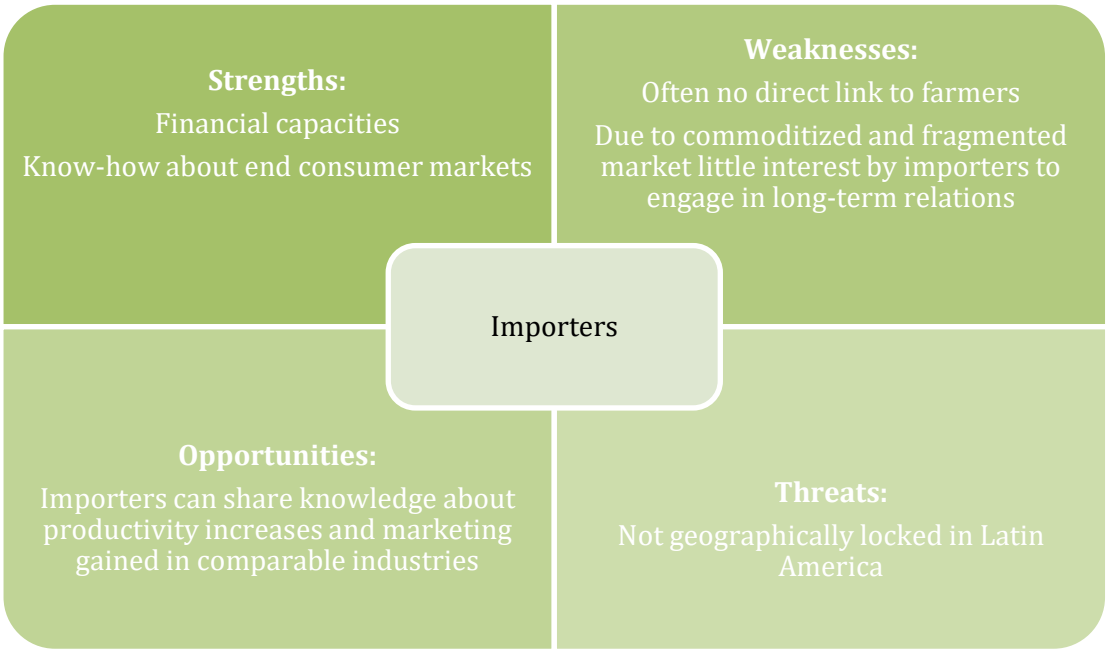

Figure 19 - Analysis of the strengths, weaknesses, opportunities and threats of importers towards a thriving, inclusive strategy in the quinoa value chain in Bolivia and Peru

5.6.3 International consumers

Consumers' willingness to pay a premium for high-quality quinoa from the Andes will be a decisive factor in the functionality of a new strategy. Currently, quinoa is not very known and especially forms of usage are still unknown. Moreover, media campaigns, especially in the United States have shed a negative light on quinoa claiming that quinoa consumption by "Westerners" has a negative economic impact on Bolivians (Friedman-Rudovsky, 2012).

An increasing share of conscious customers interested in ethical product traits might always be willing to pay a premium; it remains unsure how the mainstream market will accept the product. Moreover, next to interest in fair trade or organic labeling consumers interested in ethical labeling might be interested in "local" production. Thus, higher quality quinoa produced in close regions of the customer might become a major competition for Andean quinoa. The creation of a brand like "quinoa real" might rather confuse (McEachern, Seaman, Padel, & Foster, 2005) than educate consumers.

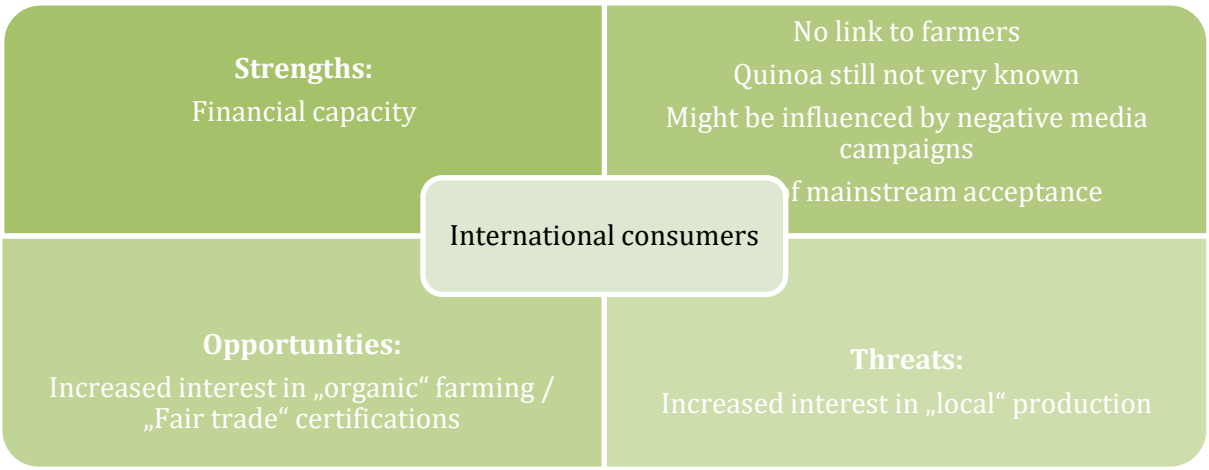

Figure 20 - Analysis of the strengths, weaknesses, opportunities and threats of international consumers towards a thriving, inclusive strategy in the quinoa value chain in Bolivia and Peru

5.6.4 Governments

Based on the existing laws and the constitution, governments have the obligation to support the poor. Thus, they have already created a set of initiatives with missionary aims. Moreover, a close distance of regional governments and a big network can add up as an active accelerator towards a more inclusive strategy. Nevertheless, states have not yet decided on a definite plan in the quinoa sector, and higher export incomes due to higher (unsustainable) yields seem like a luring scenario in the short run. Investments in this alternative could destroy the base of small-scale farmers. Moreover, external perception of corruption, a slow capacity to act due to bureaucracy and a lack of coordination are negative characteristics of this partner.

Andean quinoa has already proven to accelerate regional and local development positively as it creates jobs and brings prosperity to the poorest regions.

Summing up, governments have to play a crucial role in a new strategy as they are interested in a positive development for small-scale farmers and already have a firm foundation of necessary interventions. In the future, they should also play a coordinator role.

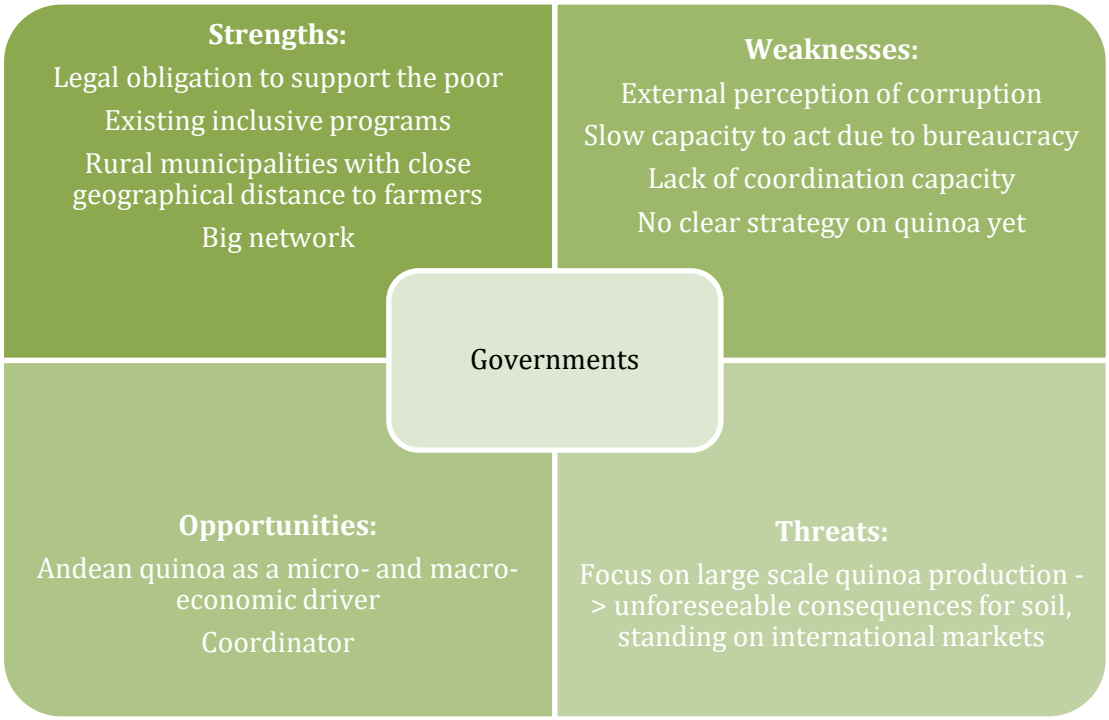

Figure 21 - Analysis of the strengths, weaknesses, opportunities and threats of governments towards a thriving, inclusive strategy in the quinoa value chain in Bolivia and Peru

5.6.5 Aid agencies

Aid agencies are decisive partners in a new more inclusive strategy as their license to operate often arises from having a developmental impact. Many of these organizations are at the grass-roots level as an expert told me. This position can help to bridge distances that exist in the value chain. I assume that cultural acceptance of NGOs is high among producers as these organizations have helped them to connect with international markets in the first place. Besides partnerships with farmers, these organizations might have established relevant forms of collaboration with strategic partners, e.g. governments. Nevertheless, aid agencies can have little power due to their marginal size and their lack of involvement in the value chain.

In the future, aid agencies can bundle their efforts to provide technologies and offer training for small-scale farmers. Above that, they can use their international network to help to educate end consumers about characteristics of Andean quinoa. Finally, due to their more or less independent role in the value chain they can act as a mediator, e.g. to foster intracontinental cooperation.

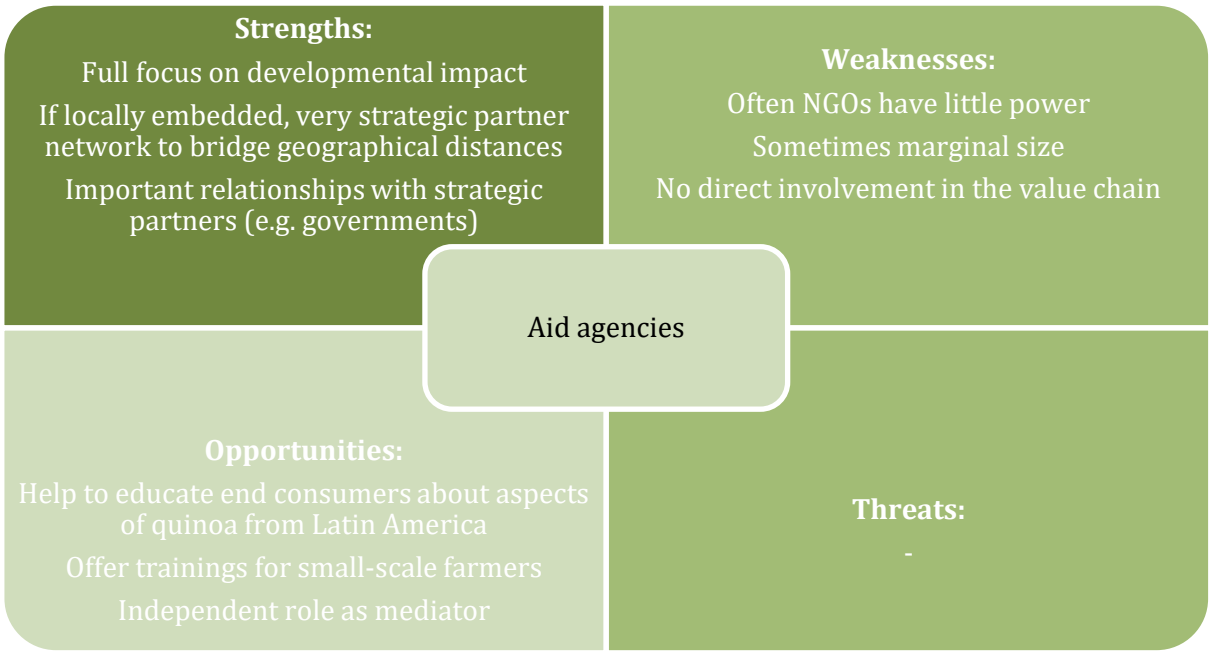

Figure 22 - Analysis of the strengths, weaknesses, opportunities and threats of aid agencies towards a thriving, inclusive strategy in the quinoa value chain in Bolivia and Peru

5.6.6 Knowledge institutes

Knowledge institutes currently possess little power in the value chain. They have no direct stake in the chain and can often only make recommendations. However, these organizations are working on developing and educating about proper technology. Moreover, they are adapting seeds that can resist to environmental changes. In some cases, these seeds are already given to small-scale quinoa farmers for free.

With their theoretical and pragmatic input, significant tensions in the sector can be solved, such as unequal distribution of technology and environmental degradation. However, findings of knowledge institutes can be used on a global scale and thus, might help to crowd out Andean farmers.

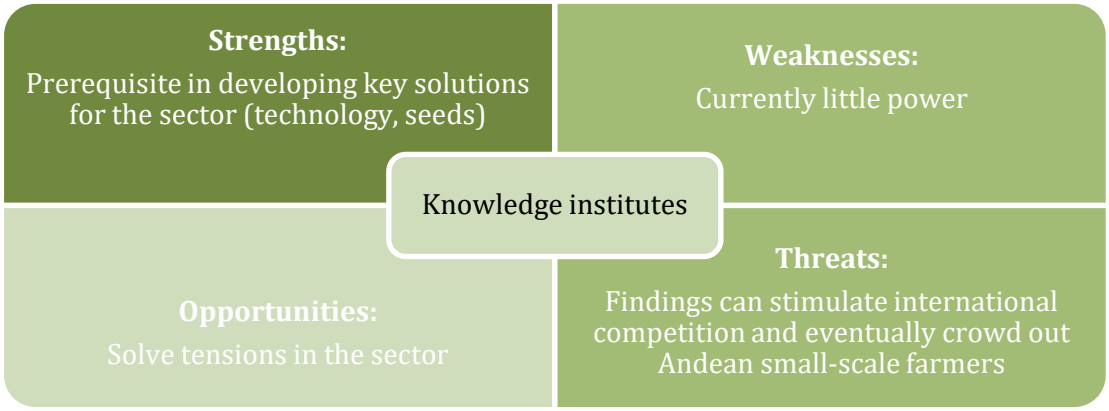

Figure 23 - Analysis of the strengths, weaknesses, opportunities and threats of knowledge institutes towards a thriving, inclusive strategy in the quinoa value chain in Bolivia and Peru

5.6.7 Retailers

Retailers control demand for quinoa. Whereas small retailers have less power due to their relatively smaller buying quantities, emerging large retailers can have a severe impact. However, retailers in general act by consumer needs. Shifting consumer needs, e.g. towards "locally sourced" quinoa can make retailer leave the value chain.

In the future retailers can play a decisive role as they can decide which products they offer to their customers: Like in the case of Plus described above, retailers could only offer organic (or fair trade) quinoa. This change in product offering could lead (like in the case of Plus) to an increase in sales and a premium income for smallholders. However, retailers can also be lured by new business opportunities worldwide.

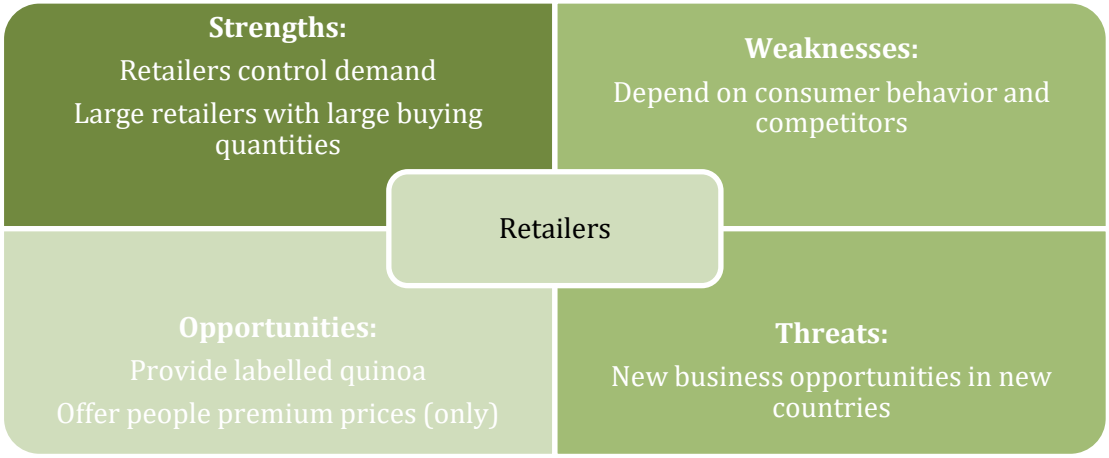

Figure 24 - Analysis of the strengths, weaknesses, opportunities and threats of retailers towards a thriving, inclusive strategy in the quinoa value chain in Bolivia and Peru

6. Discussion

In my analysis of the sector, I could identify large potential to increase inclusiveness. In the following part, I want to transform these findings into clear recommendations. Moreover, I will discuss the relevance of my findings for the wider Latin American background. Finally, I will evaluate the relevance of my used theoretical framework.

6.1 Discussing existent recommendations

The ILO (2015) has analyzed the quinoa value chain of Peru and identified opportunities to reduce poverty in the Peruvian quinoa value chain of farmers and other workers in the chain. The opportunities can be summed as follows:

1. Increase added value with certification, fair trade, and differentiation. The private sector should increase investment in group certification of organic quinoa. Furthermore, quinoa should be differentiated due to its biologic and nutritional value underlining Andean sourcing. Technical round tables will impede concentration of power in the hands of a few.
2. Secure quality of Peruvian quinoa. This can be achieved by the facilitation and implementation of a quality and a traceability system.
3. Improve productivity of producers in the Sierra region. To execute this idea, the selection process of profitable quinoa has to be altered and the productivity of quinoa farmers should be stimulated. Technical round tables can play a significant role in the execution.
4. Produce better quinoa seeds. The ILO (2015) proposes that existing models of seed production and commercialization (the organization "CAPRO Semillas Puno" gives away cheap certified quinoa to small-scale producers) should be scaled and new models that incentivize small-scale production should be implemented.
5. Include more producers and processors in the value chain. The new good agricultural practices (GAP), discussed in part "3.2.3 The value chain" can help in a successful execution.

This translates into the following recommendations:

1. Improve the governance of the quinoa value chain. First, a traceability system should be implemented. Second, the profiles of technological investment should be sharpened. Third, local technical roundtables should be supported to increase development of the value chain at the local level.
2. Support innovation that increases the captured value added of small producers. Therefore, quinoa should be distinguished according to its nutritious and sourcing region. Furthermore, new companies should adopt the group certification methods of organic quinoa by exporter "champions".
3. Improve the systems and conditions of production, work, and quality in the farms. ILO (2015) proposes to install measures to identify and track unique quinoa varieties in their traditional source. Different "technology packages" should be developed for every type of grain. Technical roundtables should be in charge of distributing and standardize technology solutions. Finally, based on the described project of seed distribution, seed availability should be spread.

The opportunities and recommendations strongly match with my evaluations of the sector. First, I strongly agree that small-scale farmers should focus on organic production due to their agro-climatic conditions. Second, an integrative approach, e.g. as suggested via roundtables, can be a very good solution to achieve economies of scale. Third, it will be crucial for the future to increase

the availability of certified seeds, technology, and know-how. Existing initiatives, like the mentioned "CAPRO Semillas Puno", can be essential foundations.

Despite the positive ideas by the ILO (2015), I think that their evaluation contains several shortcomings. First of all, an inclusive value chain needs an alignment of all parties behind a common goal. Without the commitment of the international part of the value chain, a scaled inclusive business strategy is not possible.

Second, the ILO proposes that existing technical roundtables can stimulate a combined approach. However, in my interviews, my respondents only explained to me that Bolivia has an integrative organization CABOLQUI. Furthermore, one respondent explained to me that there is a need for a multi-stakeholder-platform. Thus, I believe that current round tables seem not to fulfill their function to the fullest. Moreover, there is still a need for a more integrative stakeholder-platform that also include the international part of the value chain.

Third, the ILO stresses that quinoa should be segregated according to its biological characteristics. Moreover, marketing should focus on its Andean origin. However, consumer trends rather show an interest for ethical and health traits rather than biological characteristics. Moreover, the focus on Andean origin in marketing can collide with the desire for "locally sourced" products.

Fourth, the implementation of a traceability system is a crucial factor for a functioning inclusive value chain (Sjauw-Koen-Fa, 2012). ILO (2015) describes the design and development of tracking protocols and collaboration with regional governments as relevant steps in the execution. These actions seem very blurry to me. A traceability system needs an integrative approach. The amount of different parties in the value chain should be decreased to gain better control. I think managing transporters and processing facilities will be crucial. This can be achieved by better-associated producers and a combined approach by all parties in the value chain.

Fifth, initiatives, like the "CAPRO Semillas Puno", can help to stimulate access of producers to certified seeds. Copying these models can contribute to reach better scales. However, many farmers live in remote areas with poor infrastructure. Some of them have not even yet started to consider quinoa as a business opportunity. Thus, for these initiatives to work, it is necessary to educate smallholders about the existence of such efforts. Therefore, information asymmetries should be diminished.

Sixth, small-scale quinoa farmers, often lack access to finance due to the characteristics of the sector. The ILO does not give clear recommendations about how this gap can be closed.

Finally, I agree with the ILO that the quinoa sector offers possibilities for more inclusive growth. However, work of paid peons is often executed by community members without financial reward. The ILO (2015) suggests that ambassadors of the private sector can help the formation of small-scale farmers. However, I think that other collaboration models with small-scale farmers might be more cost-efficient and thus, better suited for scalability.

6.2 Recommendations to increase inclusiveness of the sector

In this chapter, I will outline how my findings can be used by academia and management to shift the quinoa industry in Bolivia and Peru towards more inclusive business models. The prerequisite for these recommendations is the chain-wide acknowledgement of Andean small-scale farmers as primary producer of quinoa, especially the highly-demanded high-quality quinoa.

1. **Create a multi-stakeholder-platform:** Various stakeholders along the value chain share the interest of a more inclusive strategy for the quinoa sector. Other interested parties have yet to be convinced of the benefits. Uniting all stakeholder in an independent

platform can leverage resources and help smallholders to shift towards BoP 2.0. In Bolivia, the largest exporters have set up a joint umbrella organization called CABOLQUI, which collaborates with processors and POs. It has the goal of improving the lives of the members of the value chain. As a sign of the seriousness of their work, support organizations, as CBI, are supporting the platform. A successful umbrella organization like this should be expanded to include all relevant members of all parts of the value chain to leverage combined strength. An independent body, like CBI, can play a facilitation role pushing the inauguration of such a platform. Identified "champions" can take the lead. Smallholders should elect the members. Moreover, they should also be represented themselves. "Efficiency Performance Indicators" can measure success and stimulate better yields at the same time.

2. **Increase associativity:** Farmer groups organized in POs or associations can be beneficial for the whole value chain. Farmers can successfully assert own interests and the private sector can more quickly approach farmers on a larger scale. Increased associativity also means that farmers can invest in processing facilities together and collectively gather quinoa. These investments could cut out intermediaries that are hard to monitor and assure that quinoa is more easily trackable. Besides support by the public sector, aid agencies and the combined stakeholder-platform should encourage the formation of POs, e.g. by explaining the benefits to small-scale farmers to trigger creation bottom-up.

3. **Establish one-stop shops:** Centralized or nucleus estate models, in which companies engage in direct contracts with farmers and provide relevant resources (seeds, know-how, technology, finance), can help to equip smallholders and share risks. One-stop shops, in which producers can get easy access to necessary inputs and rent new technology, can be an efficient way of providing relevant inputs in new contract models.

4. **Focus on organic production in the high Altitudes:** Quinoa farmers in the Altiplano are currently producing the quinoa of the highest quality and highest nutrition. Due to the agro-climatic conditions, scalability of the production in the region is limited. Moreover, yield increases may have an adverse impact on the quality of the fragile soil in the area. Producing organic is beneficial for the producers in bifocal perspective: It prevents the possible destabilization of the ground and supplies the high market demand for this character trait. The combined platform should pay for the necessary group certifications.

5. **Emphasize health and ethical traits in marketing:** Establishing a brand solely for one particular type of quinoa in one country in Latin America requires immense marketing efforts, excludes certain quinoa farmer groups, and might be gratuitous for international consumers. I think, it would be rather beneficial and value adding if marketing efforts would be executed jointly across Latin American countries. Quinoa should be positively demonstrated in the media, e.g. connected to gourmet chefs. Emphasize should be placed on desired product traits, such as certified organic and non-certified "gluten-free," fair trade and "super food." Putting emphasis on the marketing of the Latin American origin might be in conflict with consumer desire for locally produced food. Governments should once again take the initiative to coordinate efforts of different value chain members that are already marketing quinoa. Budget for marketing is available as private sector market quinoa with private labels and aid agencies, like CBI are currently involved in setting up a marketing strategy for "quinoa real". All stakeholders should jointly select marketing characteristics of Andean quinoa. Building upon the experience of members at the end of the value chain can help to identify the demand of the seller's market.

6. **Stimulate inter-cropping:** Diversifying the production can secure income and positively benefit soil quality. New Andean products are emerging that can be grown in similar agro-economic conditions (e.g. canihua). Producers and interacting parties can replicate best practices from the quinoa sector to enhance implementation.

6.3 Application to the Latin American context

The Andes offer a large variety of different crops that are already exported. The trading volumes of these products often do not reach the volumes of quinoa. However, local experts suggest that small-scale farmers should diversify their production to secure income and protect the soil.

Consumers in Western Europe and Northern America have shifted their needs towards healthier and more ethical products. Thus, Latin American "superfoods" could have a bright future, such as chia, amaranth or canihua. In my small experiment, I found out that most people are already familiar with chia and amaranth and are quite liable to taste the product. On the other hand, canihua is still widely unknown, but people are likely to try. Business research could focus on ways to bundle marketing efforts to promote these produces jointly. Nevertheless, in my research, I have already encountered several backlashes of a transfer of my results. The most promising Andean product faces harsh international regulation: it is not allowed in certain bakery products in the European Union and chia oil can only be used in products to a certain extent.

6.4 Application to a wider context

BoP is claimed to be still in a pre-paradigmatic state (Ansari, Munir & Gregg, 2012) and it remains unclear how BoP investments will alleviate poverty and encourage businesses to act on not fully tested ideas (Walsh, Kress & Beyerchen, 2005). This thesis evaluated the current state of inclusiveness of the quinoa value chain in Peru and Bolivia and offered insights how a business solution has helped ten thousands of people to leave poverty. Scattered approaches are applied to shift the value chain toward more inclusiveness of small-scale farmers. However, there remains insecurity of the success of the proposed strategy. The current development up till now and the future progress can serve as a compelling case for academics and practitioners to see how inclusive value chain approaches succeed or fail in practice.

The paradigm of the BoP has helped to identify the status of Andean smallholders and determine the need for cross-sector partnerships and the need for changing external perceptions. However, to analyze the current state of inclusiveness of the quinoa value chain, inclusive business and the in particular LINK methodology, provided a better framework.

The identified "champions" show how economic benefit can go hand in hand with a developmental impact. The involvement of these parties in inclusive business models happened mostly out of economic thinking (responsibility to comply with international standards) and the fact that the companies are geographically locked in their respective sectors. However, as foreign companies are not geographically locked in the Peruvian and Bolivian sector and traded volumes are of minor economic importance, they do not engage in CSR activities. Thus, involvement in the industry due to the ethics of care (Chevrollier, Nijhof, van der Klein & Brandt, 2014) could not be confirmed. Moreover, it remains unsure how to crack the BoP-code (Hart & Caneque, 2015) and involve all parties in pro-poor activities.

Finally, the great interest in quinoa leads to the development of new seeds that are better adapted to different environments. If these seeds are made available for producers around the world, quinoa can help to secure availability of nutritious food.

6.5 Summary: Discussion

The ILO (2015) has issued a report to evaluate pro-poor chances in the Peruvian quinoa sector. In my opinion, the evaluation contains several shortcomings that I aimed to improve my recommendations:

1. **Create a multi-stakeholder-platform:** A chain-wide platform can help to align ambitions and ensure trust along the value chain.
2. **Increase associativity:** More POs can have benefits for all involved parties: More efficient access to farmers on the one hand, and a better bargaining position on the other hand.
3. **Establish one-stop shops:** One-stop shops can be a way to grant farmers fair access to relevant services.
4. **Focus on "organic production" in the high Altitudes:** Andean farmers have unique agro-climatic conditions to produce highly demanded organic quinoa.
5. **Emphasize health and ethical traits in marketing:** International consumers demand health- and ethics-related product characteristics. Combined marketing approaches should comply with these desires.
6. **Stimulate inter-cropping:** Inter-cropping with other internationally demanded crops can secure income and soil quality.

The results of my thesis might serve to be replicated to other emerging crops, such as canihua, chia or amaranth. The BoP theory and especially inclusive business ideas have proven very helpful to identify rooms for inclusive improvement. However, the question remains how to convince all stakeholders of mutual interdependence.

7. Conclusion

My thesis dived into the question how the booming quinoa sector can be transformed towards more inclusiveness to be prepared for emerging international quinoa cultivators and gain maximum benefits for all parties. Analyzing the theory of the BoP and inclusive business and the context of quinoa, I understood that no investigations had been made on the inclusiveness of the quinoa value chain.

My findings revealed that Andean small-scale farmers, who cultivate quinoa in small lots, dominate the quinoa value chain in Peru and Bolivia. These people are often only in direct contact with regional, sometimes national organizations, but rarely with international value chain partners. Based in poorly connected areas, faced with information asymmetries and a lack of formation and inputs, they are the weakest link in the value chain.

Due to their little cooperation (e.g. with exporters) and their external perception as producers rather than co-producers, the current position of smallholders is in between BoP 1.0 and BoP 2.0. However, a boom in "superfoods" has helped the formerly neglected group of indigenous farmers and their respective regions to take part in inclusive growth. Alone in Bolivia, 20,000 farmers were able to leave poverty (Salcedo, 2015).

Increasing inclusiveness could be a relevant step in order to prepare the farmers for the future. Exporters, aid agencies, governments and knowledge institutes are most involved in measures that can help these farmers. Especially some exporter "champions" have understood the mutual interdependence and developed inclusive business models that provide economic and social benefits. Furthermore, main exporters in Bolivia have started to collaborate in an integrated organization. Farmers in Bolivia are strongly associated in farmer groups.

These measures are starting points to approach the key challenges to more inclusiveness in the sector. Most importantly, there is a large gap between the international and national part of the supply chain. Next to this misalignment, the Peruvian and Bolivian value chains act as rivals. This impedes a successful combined use of resources. Finally, farmers in the supply chain are supplied with relevant inputs very unequally.

Importers, retailers, governments and knowledge institutes should be more tightly incorporated into an inclusive strategy due to their respective potential. Importers and retailers can contribute with their marketing know-how about consumer needs and the position as deciders about the demand for specific product characteristics. Governments can take over a coordination role and line up all partners behind a common goal. Knowledge institutes provide the scientific basis that is needed to keep up the competitiveness of small-scale farmers. Finally, aid agencies can act as independent mediators and try to resolve misalignment between different chain actors.

To overcome the existing barriers, it is crucial that all stakeholders understand their mutual interdependence. A chain-wide stakeholder-platform can bundle efforts, approach larger numbers of smallholders and increase mutual trust and understanding. Together, these stakeholders can set up central one-stop shops, where stakeholders can receive relevant inputs. Increased associativity by smallholders strengthens their position in the value chain and makes it easier for stakeholders to contact them. Moreover, producing organic quinoa helps to secure soil quality and satisfies current demand of the market. Marketing efforts should also be bundled and focus on wanted consumer desires, such as superfood or "gluten-free". To secure farmer income and soil quality, inter-cropping with emerging Latin American produces can be a relevant alternative.

This plan can help to approach a large number of sub-goals included in the recently released framework of the SDGs. The policy can contribute to diminish poverty, assure food security and decrease malnutrition. Moreover, it already helps to reduce economic and socio-cultural inequalities and supports to establish global responsible production and consumption patterns.

The findings show that inclusive business is not yet a standard in international business practices. However, national exporters have been engaged in more or less inclusive business models, nonetheless due to the necessity to comply with international standards. This one-sided involvement in inclusive business leads to a very unfair distribution of risks and makes the sector fragile for the future. The question remains, how international companies can be convinced to act more inclusively.

7.1 Research limitations

Qualitative research asks for opinions about individual elements, thus this kind of investigation is always subject to biases and idiosyncrasies. I ensured overall validity by following guidelines in literature and using the triangulation method (Yin, 2009). I conducted interviews with experts from all different parts of the value chain as well as other stakeholders involved. Compared to the total amount of possible interview my sample is relatively small. Especially time constraints explain the small number of interviews. Since the research is of exploratory nature, it is not going into the greatest depth.

In my research, it became apparent that all countries have different circumstances that limit the transferability of my results. Even within the countries, every case can be approached differently, and I made general statements with caution. My research will not be applicable as a "one-size-fits-all" solutions for inclusive business in the quinoa sector.

Selection bias is another limitation of my research. Since I am new to the quinoa sector and did not have a network before my research, I relied on the network of other people. I used the snowball method to get introduced to stakeholders in the sector. Due to time constraints, I was not able to conduct field research on the ground and had to rely on desk research and Skype conversations.

The answers of my research could be subject to the response bias as some of my interviewees might have given socially desired answers. Since I was unknown to most of my interview partners and the interviews were recorded, some might have held back information that was delicate and might have been relevant for my thesis. When I involved in email contact with my respondents, people might not have given an impulsive answer, but rather considered it over.

Interviewees could also be subject to self-serving bias. This is the case if certain respondents need to maintain or enhance their self-esteem or put themselves in a very favorable manner (Myers, 2015). To prevent this bias, I asked several types of questions so that I captured the author's perspective in different ways.

The order in which I collected my data might also poses a relevant bias. If I had obtained certain information in an earlier or late stage of my process, my subsequent questions could have differed. This could have led to other information and thus, another conclusion.

I was not able to obtain interviews with parties from all stages of the value chain, e.g. I was not able to get in contact with intermediaries. These additional interviews could have also helped to get access to other relevant information.

These biases can have an impact on the validity of my study. Nevertheless, due to interviewing people from different stages of the value chain as well as other experts, I tried to establish stability.

The small experiment I conducted was a first attempt to understand consumer needs and desires. The number of responses was not high enough to draw statistically relevant conclusions. The respondents all have a personal relationship with me, and thus, answers are highly suspect to the response bias as they might have given socially desired answers to support the argumentation line of my thesis. Respondents nearly all had a German background, and thus, no conclusion can be drawn for the behavior of international consumers.

7.2 Directions for further research

My research can be seen as an overview of an inclusive business approach to the quinoa sector in Peru and Bolivia. I was able to attain broad information about the sector and its opportunities to shift towards more inclusiveness. Nevertheless, as the quinoa boom is a recent phenomenon, detailed research is only emerging slowly. The findings of this thesis can help to advance knowledge and in other value chains that call for increased inclusiveness.

Labelling

In my thesis, I have touched upon the topic of labeling. Organic, fair trade, and private labeling are already familiar in the market. A denomination of origin brand for high-quality quinoa from Bolivia is currently being developed. International demand calls for organic certification rather than fair trade labeling. Nevertheless, studies that were undertaken for other products also show that fair trade labeling can lead to a win-win opportunity for small-scale farmers and the private sector. It is yet unsure which product characteristics consumers most value with quinoa. To assess this, van Tulder et al. (2014) proposes two possible ways: Conducting surveys, other or qualitative interviews or making an analysis of retailing companies.

Agriculture and Biology

Scientific studies should be carried out about the impact of new agricultural techniques to the quality of soil in high quinoa cultivation areas. Therefore, longitudinal studies taking into account traditional agricultural cycles of ten years should be executed. Furthermore, biological research is needed in the sphere of seed development and its adaption to changing agro-climatic conditions.

Socio-cultural issues

In the analysis of external influences on the quinoa sector, I evaluated the topic of informally managed landownership rights. Experts have told me many people have suffered from this kind of system. It is not an isolated problem in the quinoa sector, but can be considered a general socio-cultural issue of the region. Finally, even though I only elaborated on the informal management of landownership rights, other rights such as water rights are also managed informally. Further elaboration on the topic can help develop the region socio-culturally.

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Appendices

Appendix 1: Overview of search terms

Keyword	"inclusive business"	"BoP" OR "Bottom of the Pyramid" or "Base of the Pyramid"	"pro-poor value chain"	"making markets for the poor" OR "MMW4P" OR "M4P"	"responsible supply chain management"	"quinoa"
Hits in Web of Science	15	145	1	0	7	10
Combinations	"inclusive business" AND "quinoa"	"inclusive business" AND superfood	("co-creation" OR "pro-poor value chain" OR "making markets for the poor" OR MMW4P" OR "M4P" OR "responsible supply chain management") AND "quinoa"	("co-creation" OR "pro-poor value chain" OR "making markets for the poor" OR MMW4P" OR "M4P" OR "responsible supply chain management") AND superfood		
Hits in Web of Science	0	0	0	0		

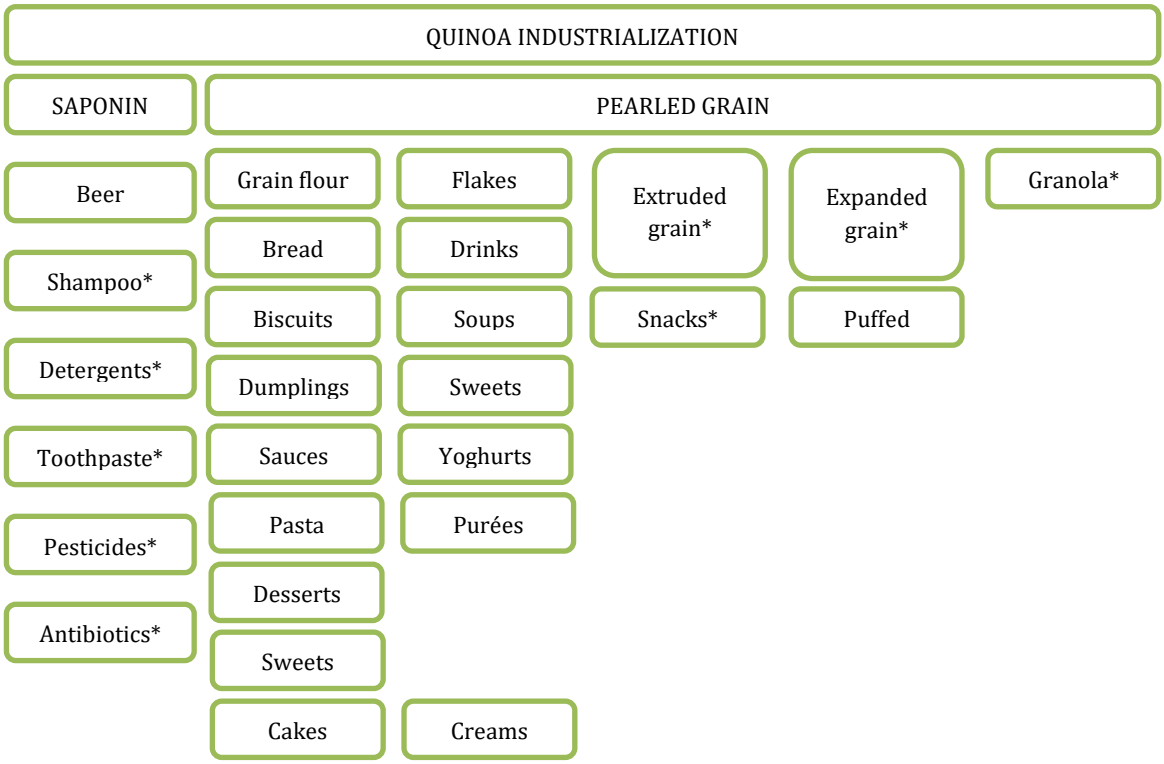
Appendix 2: Company transition from inactive to active (Van Tulder, Fortanier & da Rosa, 2011)

PASSIVE		ACTIVE	
INACTIVE	⟷	ACTIVE: go-it-alone	
	REACTIVE	⟷	PRO-ACTIVE: partnership
Definition of CSR			
"Corporate *Self* Responsibility"	"Corporate Social *Responsiveness*"	"Corporate Social *Responsibility*	"Corporate *Societal* Responsibility"
Main characteristics			
* Legal compliance and utilitarian motives	* Moral (negative) duty compliance	* Choice for responsi-bility and virtue	* Choice for inter-active responsibility
* Efficiency	* Limit Inefficiency	* Equity/Ethics	* Effectiveness
* Indifference	* Compliance/reputation	* Integrity	* Discourse ethics
* Inside-in	* Outside-in	* Inside-out	* In-outside-in/out
* 'doings things right"	* 'don't do things wrong'	* 'doing the right things'	* 'doing the right things right'
* 'doing well'	* 'doing well and doing good'	* 'doing good'	* 'doing well by doing good'
* Resource based view	* Shareholder view	* Capabilities view	* stakeholder view
* marketing/demand approach		* marketing and production: supply and demand	
Approach to poverty alleviation			
* No explicit statements on poverty	* Narrow BOP	* Statement on moral unacceptability of poverty	* Separate (strategic) business model for the poor
* We create jobs and employment (by-product of profits)	* Creation of local employment used defensively	* Definition of 'decent wage'	* Explicit support for all MDGs
* Affordable products	* Micro-credits as philanthropy	* Broad BOP	* Active partner-ships on poverty
* No code of conduct and low compliance likelihood	* Vague code and low specificity as regards poverty	* Micro-credits as business strategy	* Explicit codes, strong support of GRI
* No explicit support for labels	* Support for Global Compact and modest support for GRI	* Technology and knowledge transfer	* Technology and knowledge transfer specified for poverty
* No separate business model for poor	* Dialogue vaguely mentioned	* Explicit support for MDG1	* high specificity and high compliance likelihood of codes
		* Support for GRI	* Dialogues as an explicit tool
		* Specific codes on poverty and fair trade	
Link between inclusive business model and inclusive growth:			
* No link	* Weak defensive link	* Weak positive link	* Strong positive link

Appendix 3: Comparing quinoa with corn, rice and wheat (per 100g) (adapted from FAO, 2015)

Nutrients	***Quinoa***	***Corn (White)***	***Rice (White)***	***Wheat (Hard Red Winter)***
Minerals				
Calcium (mg)	47	7	11	29
Iron (mg)	4.57	2.71	1.60	3.19
Magnesium (mg)	197	127	23	126
Vitamins				
Vitamin B-6 (mg)	0.49	0.62	0.11	0.37
Protein (g)	14.1	9.4	6.8	11.3
Fiber (g)	7.0	7.3	2.8	12.2

Appendix 4: Use of quinoa grain (adapted from Montoya Restrepo, et al., 2005)



Appendix 5: Overview of global quinoa experimentations

Appendix 5.1 Examples of specific countries

Ecuador was the third country after Bolivia and Peru to start investigating and reviving quinoa cultivation. Investigations began in 1982 by a conglomerate of organizations (National Agricultural Research Institute (INIAP), FAO, International Board for Plant Genetic Resources (IBPGR) and International Development Research Centre (IDRC)). Ecuador started off by selecting germplasm at national levels and then founded a national germplasm bank for Andean crops presided by INIAP. In 2000 a new early variety was introduced with improved cold tolerance and low saponin content. This gave new impetus for research and development in quinoa cultivation. Today, attention is focused on two types of production: certified organic and agro-ecological. These two methods account for an annual cultivated area of around 2,000 ha. Most quinoa is exported to the United States and Europe. Domestic consumption remains low while the government is promoting the use, mainly targeting children (FAO, 2015).

Chile is a minor player in quinoa production as quinoa never played an important part in the country's agriculture. Nevertheless, quinoa grows in two parts of Chile: In the salt flats in the country's extreme north (salare quinoa) and quinoa from sea-level areas in the Centre and Centre South of the country. Chile produces for internal consumption as well as for export (FAO, 2015).

Argentina: Quinoa is grown for millennia in the country in the province of Catamarca in the Altiplano as well as in the lowlands of Santa Fé and Córdoba. Today quinoa is only cultivated in the Andean region in the northwest of the country and part of the Andean Patagonia. The rejuvenized interest in quinoa is twofold: commercial, linking quinoa to the culinary demands of tourists and cultural, preserving the cultural heritage of indigenous people (FAO, 2015).

Northern Europe: Cultivation of quinoa in Northern Europe is relatively new. Nevertheless, its close relative fat hen (C. album) has been cultivated in the EU since the Iron Age. When US Americans started to import quinoa to the United States in 1970, the crop was also introduced to the United Kingdom, Denmark, and the Netherlands. The countries begun to study the plant were started that were later followed by other nations. Quinoa could be successfully adapted to a range of different environmental and geographical conditions, such as Turkey and Greece (FAO, 2015). Nevertheless, up till now petite commercial production exists outside of Latin America (Jacobsen, 2014). One successful project was conducted in France where "Quinoa d'Anjou" was established.

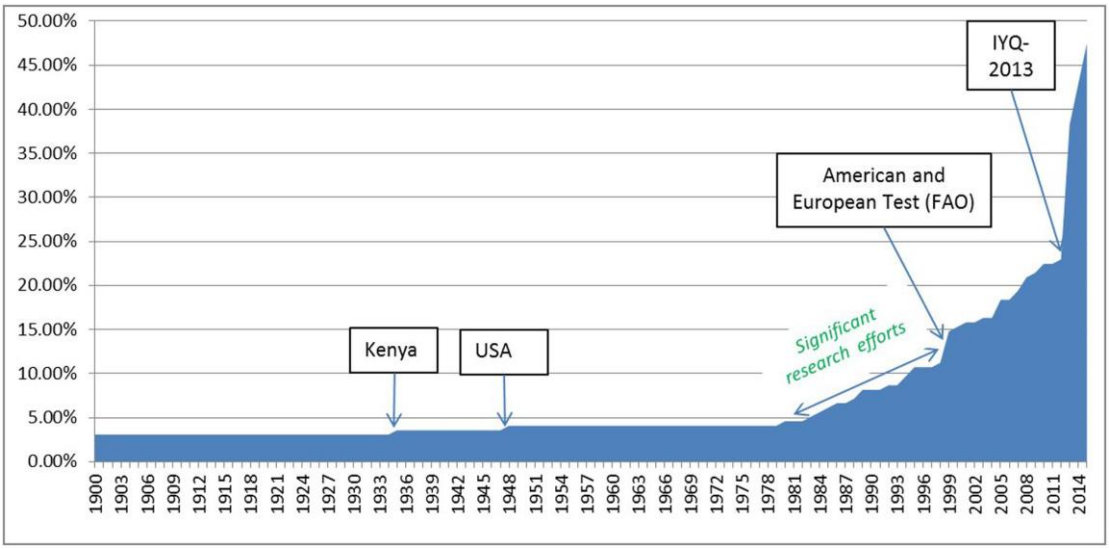
France: Led by the significant increases in European quinoa imports to France and the rising prices, the Pays de La Loire Region decided to support the creation of a quinoa sector in France between 2009 and 2012. The project was conducted by several partners: seed production company Abottarga, agricultural cooperatives (CAPL) and research institutions UR LEVA, UR Grappe, ESA Angers and Wageningen University. The objective was to develop and operate commercial distribution of "Quinoa d' Anjou". The goal was to achieve a production volume of 150 tons on 500 ha. Scientific support was granted in three ways: testing seeds adapted to the European climate, changing crop management and organoleptic studies to identify differences between European and Latin American quinoa. Within three years the sector became self-organized, including a regular producer group, efficient seed processing, and gradual integration of the production by agrifood industries and introduction of a local food system. The results show that yield potential is magnificent and the seed quality is different from Latin American quinoa. The further goal of this project is to develop production and commercial distribution of quinoa in France and to produce seeds of acceptable quality (FAO, 2015).

Morocco: Due to climate change, population increase and overgrazing, Morocco is investigating new sources to protect food security. In 1999 the IAV-BYU was initiated to address food safety issues of Moroccan subsistence farmers by selecting new crops with suitable genotypes to improve dietary needs. Significant scientific outcomes regarding quinoa cultivation, adaption and productivity, were achieved. The EU sponsored the SWUP-MED to diversify specifically and improve the sustainability of the Mediterranean cropping system. After an experimentation phase, several varieties of quinoa were given to the farmers and successfully implemented in the mountain as well as the desert area (FAO, 2015).

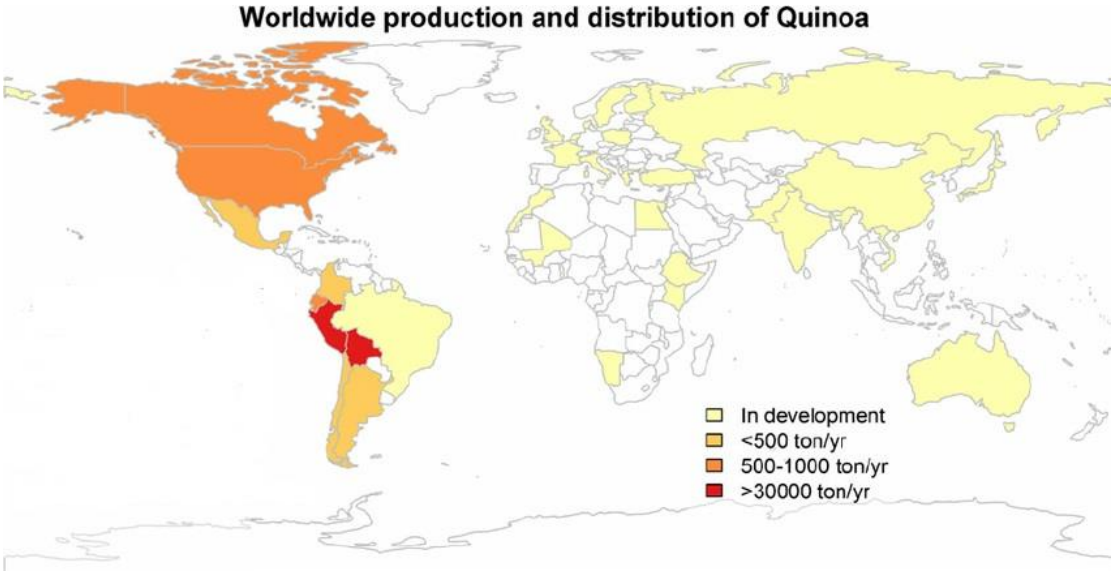
Mali: Agroclimatic conditions in Mali are comparable to those in northern Chile. Experiments started in 2007, and several traditional varieties from Chile gave satisfactory results (1-2tons/ha). The only limiting factor can be the energy requirement for using water. The crop is intended to protect food safety issues in the continent since quinoa has the potential to improve high-quality protein supply in Africa. Due to experience of introducing crops from Latin America to Africa acceptance of this product is expected to be high (FAO, 2015).

The United States and Canada: The Colorado State University started investigating in quinoa production in the 1980s to investigate possible cultivation in the Rocky Mountains. Together with private involvement quinoa was successfully produced in Washington State and the Canadian Prairies. The main barriers encountered were heated susceptibility, downy mildew, saponin removal and pressure from weed and insects. Further research in cultivation in other areas is undertaken since domestic demand by far exceeds supply (FAO, 2015).

Appendix 5.2: Percentage of UN countries with quinoa experimentation or cultivation (source: Bazile, Jacobsen & Verniau, 2016)



Appendix 5.3: Worldwide production and distribution of quinoa 2013 (Ruiz, et al. (2013))



Appendix 6: Future projections of quinoa

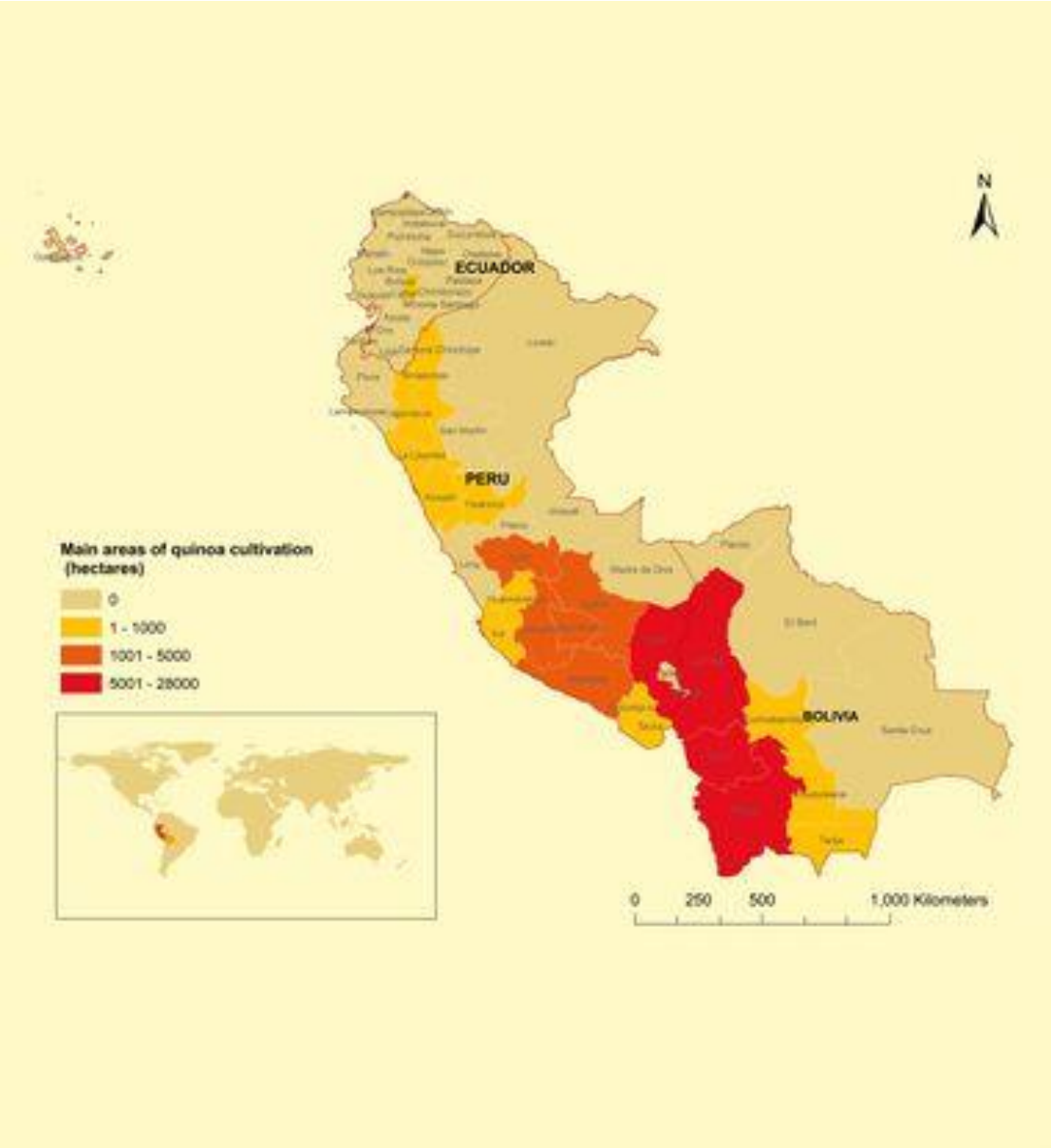
CBI (2014) has developed four possible scenarios how quinoa can evolve in the next ten years[49]:

- "Superquinoa": Quinoa consumption will increase fivefold in Europe. Quinoa will remain a niche product with attributes such as organic, Fair trade, healthy and authentic. Due to high costs of the production, food manufacturers will be unable to create a wide range of value added products. Small-scale farmers from the Andes have a competitive advantage as their product can be distinguished from other quinoa. Nevertheless, traceability and certification would have to be improved.
- "Collapse": Andean countries will go through Gartner's Hype Cycle: technology trigger, the peak of inflated expectations and finally disillusion. Sparked by the Bolivian government quinoa productivity and acreage will increase. As a result, pesticide residues will lead to food safety issues; soil degradation and loss of biodiversity will be main sustainability problems and supply inconsistency will emerge. Superquinoa will lose its momentum, and non-organic producers will gain market power.
- "Special commodity": Demand and production will grow fiftyfold fueled by high-profile cooks and active media. Conventional quinoa will have a majority market share as many people will consume the crop that is not interested in the origin. Quinoa will become a strategic product for multinationals aiming for vertical integration and economies of scale.
- "Quinoa Inside": Food manufacturing companies will understand the nutritious value of quinoa and produce a "Quinoa Inside"-label for health products. Bolivia will increasingly become involved in quinoa processing. As a result, quinoa will be important as an ingredient in processed products rather than as a grain. This will be to the disadvantage of small-scale farmers.

CBI describes scenario three as the most possible to become realized. Increased pressure on the Altiplano producers may increase the likelihoods of scenario two. To prevent this marketing will be crucial.

[49] The future development of quinoa is based on five identified key trends in the sector: Quinoa consumption in foreign markets and quinoa production in the Altiplano are rising, further processed quinoa products are emerging, prices are rising, and new production varieties and production methods are being developed).

Appendix 7: Location of quinoa cultivation and production (WOCAT, 2014)



Appendix 8: Distance overview

Distance	Index	Classification	Subclassification	Scale	Countries							Source
					Bolivia	Peru	United States	Canada	France	NL	Germany	
Cultural distance	Gert Hoofstede	*Power Distance*		1 - 100	n.d.	64	40	39	68	38	35	Hofstede, 2001
		Uncertainty Avoidance			n.d.	87	46	48	86	53	65	
		Individualism (vs. Collectivism)			n.d.	16	91	80	71	80	67	
		Masculinity (vs. Femininity)			n.d.	42	62	52	43	14	66	
		Long/Short-term Orientation			n.d.	n.d.	29	23	39	44	83	
	GLOBE	*Assertiveness*		1-7	3,68	n.d.	4,36	n.d.	3,57	3,13	3,21	House, Hanges, Javidan, Dorfman & Gupta, 2004
		Institutional Collectivism			5,03	n.d.	4,20	n.d.	5,27	4,76	5,07	
		In-Group Collectivism			5,91	n.d.	5,79	n.d.	5,88	5,39	5,46	
		Future Orientation			5,56	n.d.	5,34	n.d.	5,35	5,24	5,06	
		Gender Egalitarianism			4,65	n.d.	5,03	n.d.	4,71	5,10	5,06	
		Humane Orientation			5,11	n.d.	5,51	n.d.	5,91	5,41	5,63	
		Performance Orientation			5,98	n.d.	6,14	n.d.	6,10	5,71	6,27	
		Power Distance			3,31	n.d.	2,88	n.d.	2,96	2,61	2,66	
		Uncertainty Avoidance			4,64	n.d.	3,99	n.d.	4,65	3,34	3,38	
Administrative distance	Economic Freedom Index 2016			1-100	47,4	67,4	75,4	78,0	62,3	74,6	74,4	The Heritage Foundation, 2016
	Worldwide Governance Indicators 2014	*Voice and Accountability*		1-100	48	51	80	96	89	99	96	The World Bank Group, 2015
		Political stability and absence of violence / terrorism			32	28	67	91	59	86	79	
		Government Effectiveness			30	44	90	95	89	98	95	
		Regulatory Quality			20	69	88	98	82	96	94	
		Rule of Law			13	33	90	95	88	97	93	
		Control of corruption			30	33	89	94	88	96	95	

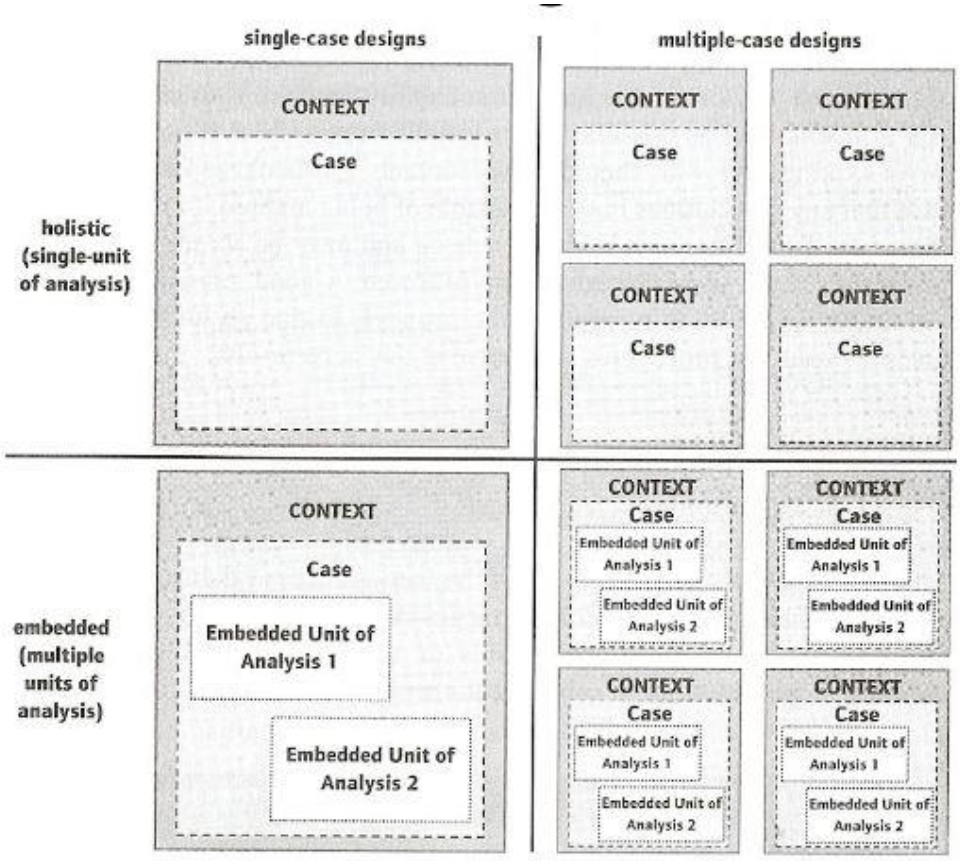
	Corruption Perception Index 2015			1-100	34	36		76	83	70	87	81	Transparency International, 2016
	Freedom in the World Index 2015	*Freedom Status*			Partly free	Free		Free	Free	Free	Free	Free	Freedomhouse, 2016
		Political Rights		1-7	3	2		1	1	1	1	1	
		Civil liberties			3	3		1	1	1	1	1	
	Ease of Doing Business Rank 2015	*Ease of Doing Business Rank*		1-189	157	50		7	14	27	28	15	The World Bank Group, 2016a
		Starting a Business			178	97		49	3	32	28	107	
		Dealing with Construction Permits			150	48		33	53	40	85	13	
		Getting Electricity			101	64		44	105	20	43	3	
		Registering Property			143	35		34	42	85	30	62	
		Getting Credit			126	15		2	7	79	79	28	
		Protecting Minority Investors			144	49		35	6	29	66	49	
		Paying Taxes			189	50		53	9	87	26	72	
		Trading Across Borders			124	88		34	44	1	1	35	
		Enforcing Contracts			136	69		21	49	14	91	12	
		Resolving Insolvency			92	74		5	16	24	11	3	
Economic distance	**GDP p.c. 2015**			US$	3,095.4	6,121.9		55,836.8	43,248.5	36,248.2	44,433.4	41,219.0	The World Bank Group, 2016b
	Competitiveness Rankings 2016			2.84-5.76	3,6	4,2		5,6	5,3	5,1	5,5	5,5	World Economic Forum, 2016

	Human Development Index 2015			0-1	0,662	0,734		0,915	0,913	0,888	0,922	0,916	Human Development Report, 2016
Political distance	**Political systems**				Presidential republic	Presidential republic		Federal presidential republic	Federal parliamentary democracy (Parliament of Canada) under a constitutional monarchy	Semi-presidential republic	Parliamentary constitutional monarchy	Federal parliamentary republic	Central Interlligence Agency, 2016
	AON Political Risk Map 2016	*Country risk*		risk levels: very high - high - medium high - medium - medium low - low - not rated (nd)	medium high	medium		n.d.	n.d.	n.d.	n.d.	n.d.	AON, 2016
		exchange transfer			medium	low		n.d.	n.d.	n.d.	n.d.	n.d.	
		Sovereign Non Payment Risk			medium high	medium		n.d.	n.d.	n.d.	n.d.	n.d.	
		political interference			very high	medium high		n.d.	n.d.	n.d.	n.d.	n.d.	
		Supply Chain Disruption Risk			medium high	medium		n.d.	n.d.	n.d.	n.d.	n.d.	
		Legal And Regulatory Risk			high	medium high		n.d.	n.d.	n.d.	n.d.	n.d.	
		Political Violence Risk			medium high	medium high		n.d.	n.d.	n.d.	n.d.	n.d.	
		Risk of Doing Business			very high	medium		n.d.	n.d.	n.d.	n.d.	n.d.	
		Banking Sector Vulnerability			medium low	medium low		n.d.	n.d.	n.d.	n.d.	n.d.	
		Inability of Government to Provide Stimulus			medium	medium		n.d.	n.d.	n.d.	n.d.	n.d.	

Colonial distance	**Worldstatesmen map**				by Spain	by Spain			by United Kingdom		by German y	by France, Russia, United States, Russia, Belgium, Netherlands	Worldstatesmen, n.d.
CSR distance	**CSR Risk Check 2016**	*Fair business practices*	*Corruption*	number of risks	2	3		1				1	MVO, 2016
			Market disruption & competition			1							
			Taxation								1		
		Human rights & ethics	*Government influence*		3	4		1				1	
			Conflicts & security		1	5				1		1	
			Land use & property rights			1			1				
			Community impact		4	10		4	3	2	1	2	
			Animal welfare										
			Consumer interest & product safety								1	1	
		Labour rights	*Freedom of association*		2	5		1	1				
			Labour conditions		1	3		4		3	7	3	
			Labour exploitation & human trafficking								2	1	
			Child labour		10	13		2					
			Discrimination & gender		2	3		7	3	1		1	
			Wage & remuneration		4	5		2			1		
			Health & safety at work		4	4		4		1	7		
		Environment	*Climate & energy*								3		
			Biodiversity & deforestation		5	9		1	2	1	1	1	
			Water use & water availability		2	1		2	1		1		

			Air pollution			4				1	1	1	
			Soil & (ground)water contaminatino			4		1	1				
			Environment & waste (general)		1						3		

Appendix 9: Basic case study designs (Yin, 2009)



Appendix 10: Interview catalogue

Appendix 10.1: Interview catalogue phase 1

Interview partner	Topic	General question	Additional question	Theory / model / conceptual framework / question
General questions	Individual role	How would you describe your role in the quinoa business	What programs do you promote?	business model / ambition
			What is your mission?	mission / value proposition
	Collaboration	Who are the most important actors in the quinoa value chain (private / public sector, civil society, knowledge institutes, producer organisations)	What are their interests?	value chain overview
			How are stakeholders collaborating?	Value chain partnership portfolio
			What can be improved?	
		How do exporters collaborate with small-scale farmers?		Mission exporters
		In which ways can and does collaboration with international companies help small-scale farmers in the quinoa business?		Mission of international private sector
		Which is the best collaboration form of smallholders and international companies?	What is the contribution of knowledge institutes for small-scale farmers?	Mission of international private sector
		What role does the civic sector play to advance inclusiveness of small-scale farmers and		Mission of civic sector

		promote sustainability?		
		How are middlemen connected to small-scale farmers?		Mission of middlemen
		How do international governments help small-scale farmers?		Mission of international governments
		How do the governments in Bolivia / Peru contribute to a sustainable development of the quinoa sector, e.g supporting small-scale farming, supporting organic farming?	How do they hinder sustainable development?	Mission of national governments
			What laws and regulations are needed to prepare the quinoa sector for a sustainable, inclusive future?	Mission of national governments
	Challenges in the sector	Small-scale farmers do most quinoa farming. What are the most urgent needs of small-scale farmers and how could those issues be accommodated, e.g. via educational, financial or consultancy services or reducing price swings?		What should a mission entail?
		What negative externalities do you see in the quinoa business	Does quinoa export lead to violence within communities?	PESTEL analysis

		and how could those be tackled?	In which ways does Bolivian quinoa enter the Peruvian market?	PESTEL analysis
			How is quinoa cultivation connected to environmental degradation and biodiversity loss?	PESTEL analysis
			What is the connection between increasing quinoa export prices and local consumption?	PESTEL analysis
			How are countries adapting quinoa cultivation and production on a global scale?	PESTEL analysis
		What are current “best practices” of inclusive business models in the quinoa sector?		"best practices"
	Outlook	What is needed to prepare the quinoa sector for a sustainable future?	Which stakeholders should play a more important part in the future?	partnership portfolio in new strategy
			Which role should these stakeholders play?	potential business model / ambition / mission
			Which issues should be tackled?	potential impact
		Which key learnings from the quinoa business development can be transferred to		Application to a wider context ("Zooming out")

		other Latin American crops?		
		What should be the strategy for Peru and Bolivia in the quinoa sector?		inclusive strategy
		Do you want to add anything else that could be relevant for my thesis?		
		How do you think should the Latin American quinoa sector prepare for this new situation of competition from all over the world?		Response to PESTEL
International cultivators		What is the intention of growing quinoa in your country?	Do you want to make quinoa a commercially viable business in your country?	business model / ambition
		How do you see the future of quinoa?		Outlook
		In what way is growing quinoa in your country helping or destroying the business case for Latin American farmers?		Impact
Importers / Traders / Exporters	Business model	How would you briefly describe your business model?	What is your mission?	Mission / Value proposition
		From which parts of Peru and Bolivia do you source your quinoa?	Do you differentiate between Peruvian quinoa, Bolivian quinoa and quinoa from	Marketing: Importance of origin

			other countries?	
		What are the needs of the farmers you collaborate with?	How do you accommodate these needs, e.g. via educational, financial or consultancy services?	What should a mission entail?
		What are special circumstances that need to be taken into account when approaching the Bolivian / Peruvian quinoa sector?		PESTEL
	Collaboration	Are you working in a vertically integrated supply chain?	If not: What stages can be identified in the quinoa value chain?	Value chain design
		What is your legal relation to the farmers?	E.g. contract-farming, sharecropping, farmer-owned lands?	Value chain design
		Who are your value chain partners?	E.g. private / public sector, civil society, knowledge institutes, producer organisations	Partnership portfolio
			In which way do you collaborate?	Partnership portfolio
			In which way do these partners support or hinder implementing inclusive business models in Peru / Bolivia	Mission of partners

			What could be improved in this area?	Inclusive business strategy design
	Clients	What are the requirements of your clients to quinoa?	Are they willing to pay premium for organic quinoa?	Marketing: Premium payment
			Would they be willing to pay more for Premium quinoa "Quino Real" tha can only be produced in Bolivia?	Marketing: Premium payment
			How important are labels for your quinoa marketing, e.g. organic, Fair trade, denomination of origin, specialty brands?	Marketing: labelling
		How do you market quinoa?	Did your marketing change over the last years and do you think it will change in the future?	Marketing
			How important are consumer preferences for your marketing?	Marketing

Interview partner	Topic	General question	Additional questions / information	Theory / model / conceptual framework
Importers / Traders / Exporters	Business model	How would you briefly describe your business model?	What is your mission?	Mission / Value proposition
		From which parts of Peru and Bolivia do you source your quinoa?	Do you differentiate between Peruvian quinoa, Bolivian quinoa and quinoa from other countries?	Marketing: Importance of origin
		What are the needs of the farmers you collaborate with?	How do you accommodate these needs, e.g. via educational, financial or consultancy services?	What should a mission entail?
		What are special circumstances that need to be taken into account when approaching the Bolivian / Peruvian quinoa sector?		PESTEL
	Collaboration	Are you working in a vertically integrated supply chain?	If not: What stages can be identified in the quinoa value chain?	Value chain design
		What is your legal relation to the farmers?	E.g. contract-farming, sharecropping, farmer-owned lands?	Value chain design
		Who are your value chain partners?	E.g. private / public sector, civil society, knowledge institutes, producer organisations	Partnership portfolio
			In which way do you collaborate?	Partnership portfolio
			In which way do these partners support or hinder implementing inclusive business models in Peru / Bolivia	Mission of partners
			What could be improved in this area?	Inclusive business strategy design
	Clients	What are the requirements of your clients to quinoa?	Are they willing to pay premium for organic quinoa?	Marketing: Premium payment

			Would they be willing to pay more for Premium quinoa "Quino real" tha can only be produced in Bolivia?	Marketing: Premium payment
			How important are labels for your quinoa marketing, e.g. organic, Fair trade, denomination of origin, specialty brands?	Marketing: labelling
		How do you market quinoa?	Did your marketing change over the last years and do you think it will change in the future?	Marketing
			How important are consumer preferences for your marketing?	Marketing

Appendix 10.2: Interview catalogue phase 3

Topic	General question	Additional question	Theory / model / conceptual framework
Stakeholder power-interest matrix	What are your comments on my stakeholder mapping?	Do you think certain stakeholders are more powerful?	Stakeholder mapping
		Do you think certain stakeholders have a higher interest in a transition towards or against inclusivity?	Stakeholder mapping
Major focal points	What are your comments about my evaluation of main points?	How do you think will a consumer accept a brand like quinoa real?	Branding: quinoa real
		What do you think about a combined marketing approach by Latin American countries?	Intra-continental partnership management
		How do you perceive the relationship between Peru and Bolivia as potential business partners?	Intra-continental partnership management
		What would be necessary to convince them to work together?	Intra-continental partnership management
		How do you perceive the lack of compliance with international relationships?	PESTEL
		What "best practices" do you see to improve small-scale competitiveness in the value chain?	"best practices"
		What do you think about the debates concerning environmental sustainability in the sector?	PESTEL
		What should be the role of governments and importers in the sector?	value chain stakeholders ambition
Recommendations	What are your comments on my set of recommendations?	What do you think is important in setting up a multi-stakeholder-platform?	partnership management
		What programs are you aware of that support associativity?	PO management

		What programs and traninings that stimulate small-scale productivity are you aware of?	mission
		What is important to consider when offering trainings and education to increase productivity to small-scale farmers?	mission
		Do you perceive a high demand for organic quinoa in the market?	marketing
		Do you think that a combined marketing strategy of the sector is the best way to approach international consumers?	definition of a strategy
Stakeholder ambition / services table	What are your comments on the table?	Which points can be advanced?	Stakeholder mapping
		Which points would you like to discuss?	Stakeholder mapping

Appendix 11: Overview of used codes

Classification	Code	Subcode
Bolivia	Stakeholder	Government
		Producer organizations
		Middlemen
		Exporters
		Civic sector
		Other
	history	
Peru	Stakeholder	Government
		Producer organizations
		Middlemen
		Exporters
		Civic sector
		Other
	History	
PESTEL	Political / Legal	Governmental strategy
	Economic	Informality
		Infrastructure
		Contraband
		Price volatility
		Worldwide adaption
	Environmental	Agricultural systems
		Expansion of agricultural frontier
		Use of new technology
		Climate change
		Biodiversity
	Social	National consumption
		Community disruption
	Technological	
	Stakeholder approach towards negative externalities	
	Marginal bargaining position	

	Financial constraints	
	Lack of productivity	
	Other	
Stakeholders	Importers	Ambition
		Mission
	Retailers	Ambition
		Mission
	Certification institutes	Ambition
		Mission
	Knowledge institutes	Ambition
		Mission
	International governments	Ambition
		Mission
	International consumers	Ambition
		Mission
	Relationships	
Marketing	Branding	Quinoa Real
		Other collective brands
		Organic
		Fair trade
Other countries		
Outlook	Future strategy	
	Further research	

Appendix 12: Survey-based experiment

Dear participant,

Thank you very much for offering your time to help me advance my thesis. This interview will take about 10 minutes. With this interview I try to find out consumer preferences towards quinoa. I will use my findings to evaluate what are the best approaches to guarantee a long-term space for Latin America in the quinoa sector.

In the following I will ask several questions and you are asked to circle the answer that suits best your opinion.

Thanks for participating!

Value added products (1 = least likely 7 = most likely)

Quinoa Pasta (picture is an example)

Do you know the product? Yes | No

Would you like to taste the product? 1 2 3 4 5 6 7

Would you like to buy the product? 1 2 3 4 5 6 7

Quinoa Muesli (picture is an example)

Do you know the product? Yes | No

Would you like to taste the product? 1 2 3 4 5 6 7

Would you like to buy the product? 1 2 3 4 5 6 7

Quinoa Ready-meals (picture is an example)

Do you know the product? Yes | No

Would you like to taste the product? 1 2 3 4 5 6 7

Would you like to buy the product? 1 2 3 4 5 6 7

Andean products

Chia (picture is an example)

Do you know the product? Yes | No

Would you like to taste the product? 1 2 3 4 5 6 7

Would you like to buy the product? 1 2 3 4 5 6 7

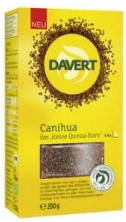
Amaranth (picture is an example)

Do you know the product? Yes | No

Would you like to taste the product? 1 2 3 4 5 6 7

Would you like to buy the product? 1 2 3 4 5 6 7

Canihua (picture is an example)



Do you know the product? Yes | No

Would you like to taste the product? 1 2 3 4 5 6 7

Would you like to buy the product? 1 2 3 4 5 6 7

Labelling (1 = I do not trust it 7 = I completely trust it)

Do you know the label? Yes | No

Do you trust the label? 1 2 3 4 5 6 7

What do you think does the label stand for? _____

Do you know the label? Yes | No

Do you trust the label? 1 2 3 4 5 6 7

What does fair trade mean in this logo? _____

Quinoa Please make a list from 1 - 3 which product you would be most likely to buy

Position: (__)

Position: (__)

Position: (__)

Personal details (1 = not important at all 7 = very important)

How many times have you bought quinoa? _____

How often do you buy in specialty shops (Bioläden, Reformhäuser) per week? _____

Do you inform yourself about product characteristics of quinoa? Yes | No

If yes, where do you inform yourself? Internet | Product package | Other: _____

Do you think labelling helps small-scale farmers or leads to extra costs for them? _____

How important is ethically traded food for you? 1 2 3 4 5 6 7

How important is it for you to help smallholders? 1 2 3 4 5 6 7

How important is organic farming for you? 1 2 3 4 5 6 7

How important is it that food comes from its traditional origin? 1 2 3 4 5 6 7

How old are you? _____

What gender are you? _____

Appendix 12.1: Quinoa option 1 as presented to the respondents

Appendix 12.2: Quinoa option 2 as presented to the respondents

Appendix 12.3: Quinoa option 3 as presented to the respondents

Appendix 12.4 Evaluation of the experiment

Topic	Questions	Scale	Answers		
Quinoa pasta	Do you know the product?	numbers yes / no	Yes 1	No 24	
	Would you like to taste the product?	1 (least likely) - 7 (most likely)	Numbers answer 1-3 (rather unlikely): 6	Numbers answer 4 (neutral): 2	Numbers answer 5-7 (rather likely): 17
	Would you like to buy the product?	1 (least likely) - 7 (most likely)	Numbers answer 1-3 (rather unlikely): 11	Numbers answer 4 (neutral): 4	Numbers answer 5-7 (rather likely): 10
Quinoa muesli	Do you know the product?	numbers yes / no	Yes 5	No 20	
	Would you like to taste the product?	1 (least likely) - 7 (most likely)	Numbers answer 1-3 (rather unlikely): 4	Numbers answer 4 (neutral): 4	Numbers answer 5-7 (rather likely): 16
	Would you like to buy the product?	1 (least likely) - 7 (most likely)	Numbers answer 1-3 (rather unlikely): 7	Numbers answer 4 (neutral): 4	Numbers answer 5-7 (rather likely): 13
Quinoa ready meals	Do you know the product?	numbers yes / no	Yes 5	No 20	
	Would you like to taste the product?	1 (least likely) - 7 (most likely)	Numbers answer 1-3 (rather unlikely): 7	Numbers answer 4 (neutral): 7	Numbers answer 5-7 (rather likely): 11
	Would you like to buy the product?	1 (least likely) - 7 (most likely)	Numbers answer 1-3 (rather unlikely): 9	Numbers answer 4 (neutral): 6	Numbers answer 5-7 (rather likely): 10
Chia	Do you know the product?	numbers yes / no	Yes 16	No 9	

	Would you like to taste the product?	1 (least likely) - 7 (most likely)	Numbers answer 1-3 (rather unlikely): 6	Numbers answer 4 (neutral): 2	Numbers answer 5-7 (rather likely): 17
	Would you like to buy the product?	1 (least likely) - 7 (most likely)	Numbers answer 1-3 (rather unlikely): 6	Numbers answer 4 (neutral): 6	Numbers answer 5-7 (rather likely): 13
Amaranth	Do you know the product?	numbers yes / no	Yes 12	No 13	
	Would you like to taste the product?	1 (least likely) - 7 (most likely)	Numbers answer 1-3 (rather unlikely): 5	Numbers answer 4 (neutral): 4	Numbers answer 5-7 (rather likely): 16
	Would you like to buy the product?	1 (least likely) - 7 (most likely)	Numbers answer 1-3 (rather unlikely): 7	Numbers answer 4 (neutral): 8	Numbers answer 5-7 (rather likely): 10
Canahui	Do you know the product?	numbers yes / no	Yes 1	No 24	
	Would you like to taste the product?	1 (least likely) - 7 (most likely)	Numbers answer 1-3 (rather unlikely): 8	Numbers answer 4 (neutral): 2	Numbers answer 5-7 (rather likely): 14
	Would you like to buy the product?	1 (least likely) - 7 (most likely)	Numbers answer 1-3 (rather unlikely): 8	Numbers answer 4 (neutral): 8	Numbers answer 5-7 (rather likely): 8
EU organic label	Do you know the label?	numbers yes / no	Yes 24	No 1	
	Do you trust the label?	1 (no trust) - 7 (completely trust)	Numbers answer 1-3 (rather no trust): 4	Numbers answer 4 (neutral): 4	Numbers answer 5-7 (rather trust): 17

	What do you think does the label stand for?	number of answers	"don't know": 3	"green" OR "bio" OR organic 22	
FLOCERT FAIR TRADE label	Do you know the label?		Yes 25	No 0	
	Do you trust the label?	1 (least likely) - 7 (most likely)	Numbers answer 1-3 (rather no trust): 2	Numbers answer 4 (neutral): 3	Numbers answer 5-7 (rather trust): 20
	What do you think does the label stand for?	number of answers	fair trade OR "fair wages" OR "fair working conditions" 25		
Product choice	Opportunity 1	first choice 8	second choice 2	third choice 15	
	Opportunity 2	first choice 13	second choice 10	third choice 2	
	Opportunity 3	first choice 4	second choice 13	third choice 8	
General questions	How many times have you bought quinoa?	number of answers	"never" 16	"once or more" 9	

	How often do you buy in specialty shops per week (Bioläden, Reformhäuser, etc.)?	number of answers	"never" 8	"once or more" 17	
	Do you inform yourself about characteristics (labels, ...) of products?	number of answers	"yes" 11	"no" 13	
	If yes: Where do you inform yourself usually?	number of answers	"none" 13	"Internet" 10	"Other" 3
	Do you think labelling helps small-scale farmers or leads to extra costs for them?	number of answers	"helps" 13	"does not help" 4	"depends on economies of scale" 1
	How important is ethically traded food for you?	1 (not important) - 7 (very important)	Numbers answer 1-3 (rather not important): 2	Numbers answer 4 (neutral): 5	Numbers answer 5-7 (rather important): 18
	How important is it for you to help small-scale farmers?	1 (not important) - 7 (very important)	Numbers answer 1-3 (rather not important): 5	Numbers answer 4 (neutral): 4	Numbers answer 5-7 (rather important): 16
	How important is organic farming for you?	1 (not important) - 7 (very important)	Numbers answer 1-3 (rather not important): 4	Numbers answer 4 (neutral): 4	Numbers answer 5-7 (rather important): 17

	How important is it that food comes from its traditional origin?	1 (not important) - 7 (very important)	Numbers answer 1-3 (rather not important): 6	Numbers answer 4 (neutral): 4	Numbers answer 5-7 (rather important): 15
	How old are you?		average 30	extremes 16-55	
	What is your gender?		male 13	female 12	

Appendix 13: Market analysis

Brand	grain	Further value-added products	Certifications	Further marketing	Further products offered (Chia, Canihua, Amaranth?)
Naturacereal	white	ready meals	none	origin	chia
	black				
	red				
	colored				
	high nutrition				
Mea Vita	white		partly organic	gluten free	chia
					amaranth
Reishunger	white		organic	vegan	
	red			gluten free	
	black			origin	
Vitanatura	white		organic	gluten free	
				lactose free	
				vegan	
				origin	
Davert	white	chips	organic	origin	chia
	red	ready meals		way of production	canihua
	colored	pops			
	black	cereal			
Rapunzel Naturkost	colored	pops	organic	origin	chia
	red				
	white				
Wohltuer GmbH	white		organic		Chia
Vita2you	white			vegan	chia
				origin	
Werz	none	pops	organic	origin	amaranth

				gluten free	
Ecomil		drink			
		drink powder			
Altricereali		pasta	organic	gluten free	
El Puente GmbH	white	pops	organic	vegan	chia
	red	flour		origin	
	black	flakes			
bioZentrale	red		organic	vegan	
				lactose free	
				Inca	
STUKERT	white			vegan	
				gluten free	
				natural	
JMP Service KG			organic	gluten free	
Kellogg's		cereal			
Regenbogenkreis		powder		gluten free	amaranth
				lactose free	chia
				sugar free	
				vegan	
Pit & Pit	red	flakes		organic	chia
	black	drink			amaranth
	Dutch				
Gewürzkontor München	white			organic	chia
Priméal (Ekibio Groupe)	Real			origin	
	red black				
	colored				
MARY LINDA	white	flakes		organic	chia
	red	pops			amaranth
	black	flour			canihua
		chocolate			
Herrmann's		dog food			

Pasta d'Alba		pasta			
Eden Foods		pasta	organic	origin	
		canned food			
		flour			
		ready meals			
Spira Verde GmbH	White		organic	origin	chia
sBarnhouse		cereals			
Quinola	pearl	ready meals	organic	origin	
	red	flakes	FAITRTRADE	gluten free	
	black	flour			
Especias Pedrozas	red				chia
	white				
Aldi Nord Germany	white		bio	nutrition	chia
Edeka Germany	white		bio	gluten free	
				vegan	

Appendix 14: Answers to my research questions

1. What are the political, economic, social, technological, environmental and legal influences in the value chain?

A first analysis of the literature has only provided a superficial overview of the impacts in the sector. Interviews with experts have helped me to clarify this view and create a better synopsis.

- The value chain is placed in an informal environment with poor infrastructure. Uncontrolled quinoa contraband to Peru, price volatility and worldwide adaption of quinoa make the economic situation of the sector unsure.
- Governments have not set a clear strategy. Their decision can have severe effects for small-scale farmers.
- The scattered incidents of community disruption can be explained by traditional and necessary pluriactivity and migration of the farmers as well as the traditional system of managing land communally.
- Despite claims in the literature, the detrimental effects of new agricultural technologies are not scientifically proven. Furthermore, biodiversity of quinoa varieties is not lost due to autoconsumption. The expansion of the agricultural frontier does not necessarily result in the destruction of nature.
- Finally, new technologies are developed and spread out to small-scale farmers in a scattered way.

2. What is the ambition, mission, impact and partnership network of each stakeholder?

The analysis revealed that there exists a large variety of motivations to be part of the sector that translate into different missions towards the poor.

- Geographically distant companies, certification bodies, and transporters are rather interested in a viable business model than in having a developmental impact, whereas national companies have to engage in CSR initiatives to maintain their business model.
- Aid agencies are most interested in a developmental impact for the poor as a license to operate.
- The position of governments is not clear. They might be lured by short-term benefits of an expansion of the sector, or they might focus stronger on their current CSR practices.
- International consumers are hard to identify. In the past, they were rather interested in a developmental impact. Emerging quinoa from other countries might shift their interest.
- Knowledge institutes are interested in advancing the quinoa with biological, agricultural and business knowledge.
- Local consumers have increased their consumption after a small dip in the past

Coordination between the stakeholders is weak. Most parties only interact with their prior or subsequent steps in the value chain. Governments and aid agencies are probably best connected.

3. Who are the key stakeholders in the value chain?

The international private sector (importers and exporters), national governments, international consumers, the civic sector and knowledge institutes crystallize as the most relevant stakeholders for a more inclusive value chain strategy. These stakeholders should join efforts and communicate about a possible plan that involves the needs of all. Despite their low power, knowledge institutes should be incorporated more tightly. Due to the vital network of governments and the marketing know-how of importers, they should be convinced of the benefits of a more inclusive approach. Governments should also be convinced of the need for a sustainable development of the sector.

4. What is the current status of inclusiveness in the sector?

- **Chain-wide collaboration:** Especially in Bolivia, producers and exporters are organized in collaborative platforms to bundle efforts and exchange knowledge. In Peru, associative structures are not yet as efficient as in its neighboring country. Moreover, both countries have some "champions", companies that lead the process of more inclusiveness for smallholders.
- **Effective market linkages:** To make use of market opportunities, Bolivian organizations are involved in setting up a marketing label for its highest-class quinoa.
- **Fair and transparent governance:** Initiatives by exporters and associations to become a more vertically integrated help to gain control over the value chain. Moreover, donor organizations are working on a traceability model.
- **Equitable access to services:** Scattered initiatives exist by the identified "champions," aid agencies and governments to provide smallholders with necessary services.
- **Inclusive innovation:** Quinoa is commercialized in a wide variety of different products. Exporters and local businesses are involved in the process of adding value.
- **Measurement of outcomes:** Current initiatives involve intensive collaboration with small-scale farmers. I could not identify the exact forms of impact measurement.
- **Further questions:** Quinoa has helped to include the marginalized groups of indigenous peasants. Moreover, women often take over a key role in quinoa processing. Little traded volumes aggravate scalability of the sector.

5. What are challenges on the road towards more inclusiveness?

- **Lack of chain-wide collaboration:** Cultural, economic and administrative distances between the national and the international part of the value chain aggravate long-term cooperation and fair risk-sharing.
- **Missing market linkages:** The Bolivian marketing approach of "quinoa real" impedes global scalability and might miss consumer needs. Peru and Bolivia act as rivals and lack combined efforts.
- **Inequitable access to services:** Producers have unequal access to necessary inputs and services. Medium-sized farmers threat smallholders.
- **Missing inclusive innovation:** International processing networks aggravate business opportunities for local processors.

6. What are opportunities to increase inclusiveness?

- **Better chain-wide collaboration:** Small-scale farmers currently are the leading sourcing partners for quinoa and only they cultivate high-quality quinoa. Increased association and a multi-stakeholder-platform can enhance trustful chain-wide collaboration. A fair communication and pre-arrangement of prices can help to increase trust and gain control over the value chain.
- **More effective market linkages:** Marketing approaches should be oriented at current consumer needs (ethical, healthy). Furthermore, independent third parties can act as mediators between Peru and Bolivia to stimulate collaboration.
- **More equitable access to services:** One-stop shops, shared ownership or closer contracts can help to supply farmers with relevant services.
- **More inclusive innovation:** "Lead" farmers can help companies to gain quick trust of producers. Inter-cropping diversifies income and helps the soil.
- **Better measurement of outcomes:** "Efficiency Performance Indicators" can help to monitor and incentivize positive results.
- **Further questions:** Women could be better integrated into the process as they have a superior farm and management skills.

7. What contributions can the key stakeholder make?

- **Exporters** are the direct link to the international part of the value chain, and thus, they are responsible for the compliance of quinoa with international standards. Some exporters have crystallized of leading "champions" in the sector. They lead the process of increasing inclusiveness by offering producers relevant services. Exporters fear the threat of worldwide quinoa cultivation, which might destroy national business opportunities.
- **Importers** often have valuable business knowledge about the end market and significant financial capabilities. However, they lack direct contact with smallholders and are not geographically locked in the national market.
- **International consumers:** Quinoa is still a niche product and thus, lacks mainstream interest. However, consumers are becoming increasingly interested in health and ethical characteristics. The interest for "locally sourced" products could be a threat to Andean quinoa.
- **Governments** are active in pro-poor activities as they have the legal obligation to support the poor. In the future they could involve even more in the quinoa sector due to its micro- and macroeconomic benefits. However, they are sometimes perceived as corrupt and as slow, and their unclear strategy in the industry could be to the disadvantage of smallholders.
- **Aid agencies** have a clear focus on pro-poor initiatives and have sometimes established a significant network. However, they have relatively little power. In the future, they could help with their know-how and capabilities.
- **Knowledge institutes** provide relevant knowledge to solve challenges in the sector (better inputs, expertise). However, their contributions could be used by international competitors and help to crowd out quinoa farmers.
- **Retailers** control demand for Andean quinoa. They depend on consumer behavior and competitors. Thus, they could shift away from Andean quinoa.