

# **Marketing's contribution to the sustainability of pastoralism: Evidence from Ethiopia**



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# **Marketing's contribution to the sustainability of pastoralism: Evidence from Ethiopia**

Workneh Kassa Tessema

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*To Amy, Abraham and Abel*



## **Abstract**

Sustainability of pastoralist production is important for the livelihood of pastoralists as well as to the supply of animal-based protein to the consumer market. However, there have been concerns on the sustainability of pastoralist production system, particularly on the ecological impact of the system. To this respect, the issue of whether pastoralists adjust their herd size through stocking and destocking decisions to the available pasture and water is still a central question in the debate to the sustainability of pastoralists. The stocking and destocking (management) decisions of pastoralists on their herd are considered essential for appropriate use of pasture and water (planet), for improved livelihood of pastoralists (people), and their economic contribution (profit).

The stocking/destocking decision in anticipation of changing external conditions is increasingly considered as a marketing challenge. However, the role of marketing in the pastoralist literature has largely been limited to short-term exercise to minimize the livestock losses due to droughts (by selling in times of the drought and buying after the drought). There was no much emphasis to the unique potential contributions of marketing to the sustainability of pastoralist production. This thesis therefore investigates whether and how marketing can contribute to the sustainability of pastoralists. It consists of a literature review and three empirical studies.

The literature review on the sustainability of pastoralism indicates that the sustainability of the pastoral system depends on how the system is managed. The role of marketing for the sustainability of pastoralism is also indicated along the literature review. In the first empirical study the market integration of pastoralists is examined using the inductive case study, and the concept of market orientation of pastoralists, as an adaptation of market integration, is developed. In the second empirical study, the relationship between market orientation and livelihood performance is empirically tested in a quantitative survey in two pastoral regions of Ethiopia. The study is based on cross-sectional data, with performance data collected in one region at a second time period. The results show that customer orientation and interfunctional coordination components of market orientation positively contribute to the livelihood performance of pastoralists. The competitor orientation component of market orientation, however, doesn't influence livelihood performance. The third empirical study examines in a semi-experiment the role of market orientation in the resource dilemma that pastoralists face



when a climate forecast demands a change in their herd size. The results show that customer orientation and interfunctional coordination components positively contribute to the sustainable utilization of pasture and water by pastoralists; whereas competitor orientation weakens the sustainable utilization of natural resources. These relationships are stronger if the climate forecast is uncertain because the predictions of formal and informal forecasts are inconsistent.

Overall, this thesis contributes to the understanding how marketing can help to solve sustainability problems in pastoral areas, in particular the Horn of Africa. It also contributes to the extension of marketing theories from high income countries to informal economies in emerging markets. This research therefore informs marketing researchers that marketing theory is generalizable to the informal economies such as pastoralists in emerging markets. The research also suggests to policy makers that creation of customer value can help to strengthen sustainability.

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*Goddana Wakoo Borruu travels with his herd of cattle, camels and goats across the Borana plains in Southern Ethiopia that stretch all the way into Northern Kenya. His eyes gaze at the sun set and he wonders whether the governmental extension worker that visited him today is right in that this year's dry season will be longer and dryer than all those years before. When the hayyuu (wise men) of his clan looked at the position of the stars, flowering behaviour of plants, and at the intestines of slaughtered goats, they came to a similar prediction. Goddana thinks of travelling with his herd in the direction of the nearest town that has a cattle market just before the dry season starts. If he sells some of his cattle, the remaining smaller herd is more likely to survive when green pastures and drinking water become scarce. If his herd and those of others are too big in the dry season, the pasture may not turn green again when the rain season starts. The money that he earns at the market might be necessary to buy some cereal foods for his wives and children. His children are also begging him already for months to send them to school, but that requires a tuition fee. His cousin Guyyoo went to school. He used to live in a house in town and work as a broker for clan members who wanted to sell livestock at the market. He died however young, probably because he drank too much alcohol after chewing khat in the afternoon with his friends. Now we can only make use of the services of other brokers, Goddana thinks. Most clan members complain that they connect them to buyers that give low prices, even for their best livestock. His grandfather would have known what to do: he would never sell any livestock. Even when he had no shirt to wear, he was the most respected person of his clan because he had the biggest herd. But grandfather didn't have a mobile phone, Goddana thinks, and the market places of his time were much smaller than nowadays. Maybe there is more to learn about these markets that will help my family, my herd and the pasture that we live on...*



## General introduction

Pastoralists are people who, for their livelihood, depend on livestock raising using the natural pasture (e.g., Koocheki & Gliessman, 2005). The lifestyles of pastoralists go back for many centuries (e.g., Spooner, 1971). Pastoralism is still a dominant way of life for an estimated 200 million people globally (WISP, 2007), particularly in dry environments where rainfall cannot sustain crop-based livelihood. Practiced on 25% of the world's land area, pastoralism provides 10% of the global meat production (FAO, 2001). As a source of cash income, livestock production by pastoralists is thus essential socially in terms of livelihood for large populations (Millar & Photakoun, 2008), but also economically to cater for the growing demand for animal protein in the developing world in the face of population growth, and income growth (e.g., Delgado et al., 1999; Delgado, 2003). However, concerns with the pastoralist system have also been voiced, and primarily so, on the ecological implications of the system. Sustainability of the pastoral system and pastoralists that operate therein is a central issue in many debates among development practitioners, academics, and policy makers (e.g., Warren, 1995; Lesorogol, 2005).

Sustainability can be defined 'as the ability of a system to continue into the future' (Hansen, & Jones, 1996, p.186). In line with the Triple P (people, profit and planet) operationalisation, sustainability of pastoralists needs to embrace the ecological (the use of restricted ecological resources and biodiversity aspects), social (healthy and functional society of pastoralists), and economic (to meet basic needs and requirements of the pastoralist community and society more broadly) dimensions (e.g., Dale, 2001; Brundlandt, 1987; Serageldin, 1996). The main concern in the pastoralist literature has focused on the planet dimension of sustainability (e.g., Xiaogang, 2005), i.e., how pastoralists use the natural resources like pasture and water. Hardin's (1968) classic article on the tragedy of the commons framed the ecological sustainability of the common grazing lands as a so called resource dilemma. Resource dilemma refers to a situation in which a group shares a scarce natural resource from which the individual members can harvest, and the group runs the risk that excessive harvest leads to the depletion of the resource (Van Dijke et al., 1999). Because for their livelihood pastoralists share limited and variable pasture and water resources that can be easily destroyed by overgrazing, the pastoral system has featured as a prototypical example of the resource dilemma. Central to this debate is whether pastoralists can be expected to

responsibly adapt their production strategies to the varying availability of natural resources. As a result, herd size management in terms of flexible stocking and destocking of livestock has become a central issue in the debate (Campbell et al., 2000).

Regarding ecological sustainability of pastoralism, two opposing views have emerged labelled equilibrium and disequilibrium after their main implication on whether herd sizes of pastoralists would be expected to be stable or flexible (e.g., Campbell et al., 2000). According to the equilibrium view pastoralists are preoccupied with the goal of maximizing their livestock number and hence lack motivation to adjust their herd size in order to preserve their own habitats in the long term (Lamprey, 1983). In other words, unless the communal land use is restricted such as through individual ownership of the grazing lands, sustainable resource utilization for livestock production by pastoralists will be jeopardised (e.g., Bisson, 1993). Proponents of this perspective argue that the pastoral system is a cause of rangeland degradation as a result of overgrazing in times of resource scarcity (e.g., Lamprey, 1983). However, the disequilibrium view would disagree and argue that overgrazing is not the cause of rangeland degradation, because in response to the level and variability of rainfall, the pastoral system will use the limited resources responsibly (e.g., Adriansen, 2006; Solomon et al., 2007) by exploiting their mobile lifestyle in moving their herds from one place to another and change the size of their herds through destocking and restocking depending on changes in climatic conditions. As a result, the issue of whether and on the basis of what signals pastoralists adjust their herd size to the available pasture and water is still a central question in the debate (Sandford & Scoones, 2006; Behnke, 1992; Campbell et al., 2000; Vetter, 2005).

In this respect, it has been argued that from a pastoralist perspective the stocking/destocking decision in anticipation of changing external conditions can be conceived of as a marketing challenge, not only contributing to livelihood and profit, but also sustainability of the system (e.g., Davies, 2006; Fratkin & Mearns, 2003; Turner & Williams, 2002). As such, markets (and therefore, marketing) relates not only to economic and social aspects of sustainability, but also to the ecological aspects. Effective market integration of pastoralists has received scant attention in the literature without much consensus (Amanor, 1995; Postigo et al., 2008; Adriansen, 2006). For example, Amanor (1995) claims that market integration of pastoralists in West Africa has increased their income, breeding skills, and efficient use of pasture. On the opposite, based on their study in Peruvian pastoralists, Postigo et al. (2008) state that increased market integration of pastoralists' leads to overgrazing and degradation of the pasture and water resources. However, in these and other studies market integration is approached as market interaction (selling and buying) without much emphasis on the long

term benefits from livestock markets. As a consequence, the role of marketing has largely been limited to short-term exercise to minimize the livestock losses due to droughts by selling in times of the drought and buying after the drought (e.g., Morton & Barton, 2002). Therefore, a gap still pertains to the unique potential contributions of marketing to the sustainability of pastoralists.

Marketing is defined by the American Marketing Association (2007) as ‘the activity, set of institutions, and processes for creating, communicating, delivering, and exchanging offerings that have value for customers, clients, partners, and society at large’. As Drucker (1958, p. 253) states ‘It is in marketing ... that we satisfy individual and social values, needs, and wants—be it through producing goods, supplying services, fostering innovation, or creating satisfaction’. Central to marketing theory is the marketing concept which is based on the long term view on customers, creating customer value, and satisfying customers to attain superior performance (Webster, 1988; Day, 1994; Ruekert, 1992). It has a strategic, long-term view to it, as Webster (2009, p.23) states ‘The marketing concept argued that customer orientation leads to profit maximization and maximizes the value of the firm over the long run’. To this respect, market orientation is the implementation of the marketing concept in the culture of a (formal or informal) organization (Slater & Narver, 1995; Narver & Slater, 1990; Slater & Narver, 2000; Gainer & Padanyi, 2005). Thus, marketing has the potential to align pastoralists to the market, by a long term perspective on creating value for customers. This in turn may influence the economic performance and the social performance), and because the market position of market-oriented pastoralists is more sustainable, it may also influence their stocking decisions when confronted with a resource dilemma in times of drought.

### **1.1 Aim and research questions**

This thesis aims to understand whether and how marketing can make a contribution to the sustainability of pastoralists. To this end, the study aims to answer four questions. The first question that the thesis aims to answer is: Is pastoralism in principle a sustainable production system? There are only two answers to such a question which are: NO, pastoralism is in principle an unsustainable production system, and YES, but it depends... The latter answer raises of course the question: “under which conditions is such system sustainable? To understand how marketing can contribute to the sustainability of pastoralism, a better understanding of these conditions is important because it helps to answer the second question, namely: “How does marketing relate to the conditions under which pastoralism is sustainable?” Marketing can only contribute to sustainability if pastoralists can apply flexible

## Chapter 1

stocking strategies that are facilitated by market transactions. Once this condition is fulfilled, the thesis can explore which concept(s) from the marketing literature are likely to generate new insights that make pastoralists more sustainable. The third question of this thesis is therefore: “which concepts from the marketing literature can generate insights that potentially contribute to the sustainability of pastoralism? Identifying these concepts provides more theoretical guidance in how marketing can contribute to the sustainability of pastoralism. That potential contribution should subsequently be tested, which leads to the fourth question: “How do these concepts empirically relate to the social and economic aspects of sustainability and to the resource dilemma that characterizes the ecological aspect of pastoralists’ sustainability?”

### **1.2 Structure of the thesis**

The thesis is organized around five chapters (see Figure 1.1). *Chapter 2* (On the sustainability of pastoralism-Exploring marketing’s potential contribution), provides a review of the relevant literature on the sustainability of pastoralism, and the potential contribution of marketing for the sustainability of pastoralism is indicated. The chapter also further discusses the conditions necessary for pastoralism to be a sustainable production system resulting in specific policy implications to foster such sustainability.

Given their mobile production system, integrating pastoralists with the market is more challenging than for other smallholder producers. Thus, exploring how pastoralists market their livestock and which concepts from the marketing literature can help to improve their sustainability is important. Hence, an inductive case study on the market integration of pastoralists is conducted in *Chapter 3* (From market integration to market orientation—A multiple case study on pastoralists in three regions of Ethiopia). The inductive case study includes evidence from over one hundred interviews with among others pastoralists, experts and channel members, as well as field observations, focus groups, and desk research. Using the inductive case study method, the chapter develops the concept of market orientation of pastoralists (as an adaptation of the market integration concept), and identifies the antecedents and consequences of market orientation.

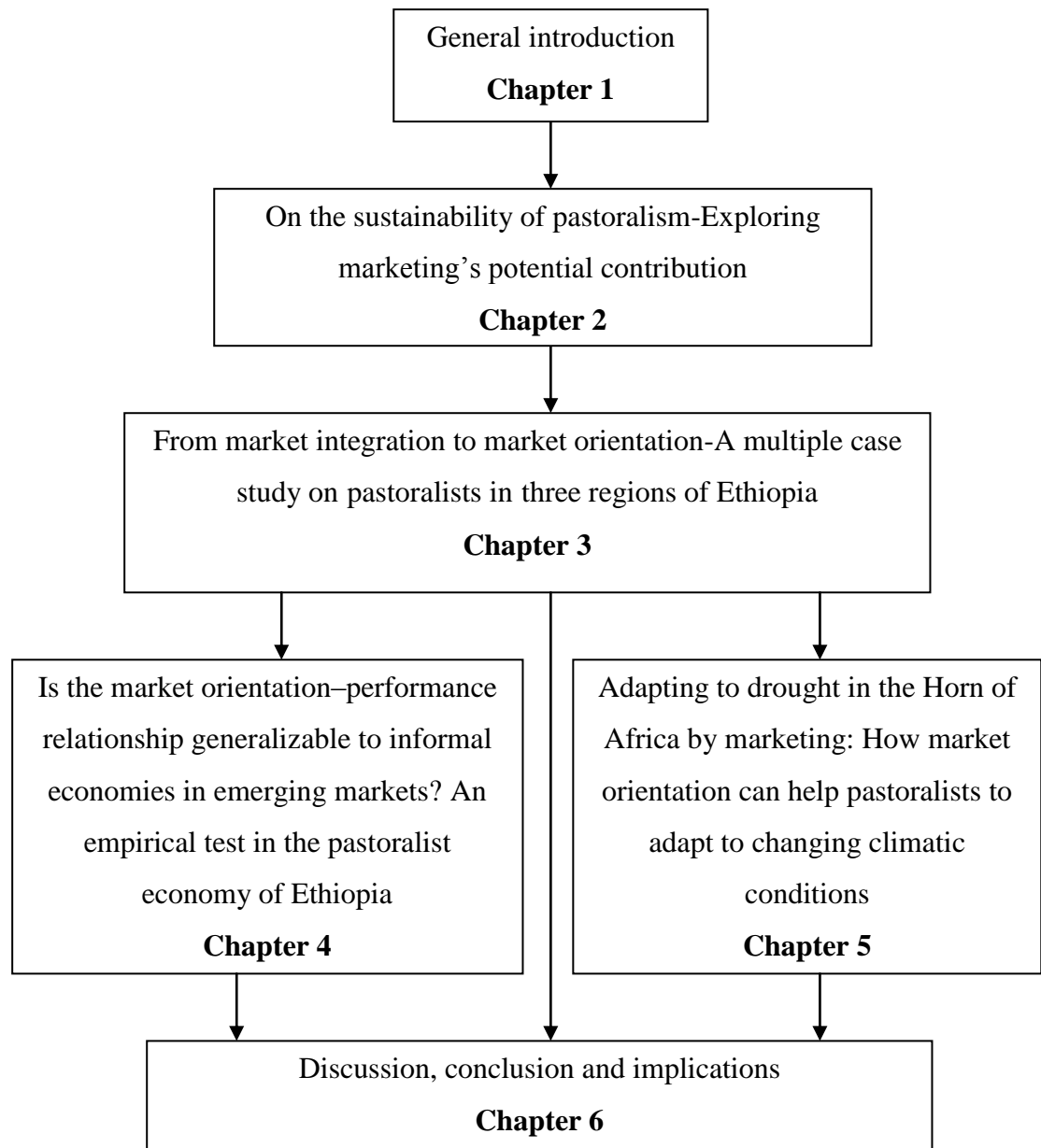
Based on the inductive case study, in Chapter 3 it is argued, that market orientation of pastoralists is (although related) different from market integration. In *Chapter 4* (Is the market orientation–performance relationship generalizable to informal economies in emerging markets? An empirical test in the pastoralist economy of Ethiopia) we therefore follow a deductive approach, using the market orientation concept from the marketing literature to

analyze the relationship between market orientation and livelihood performance of pastoralists. The chapter focuses on determining the extent to which market orientation influences the performance of pastoralists. The extent to which the different market orientation components (customer orientation, competitor orientation, and interfunctional coordination) specifically influence the livelihood performance of pastoralists is empirically investigated in a quantitative survey study. The study also tests the moderating effects of population density, by comparing two different pastoral regions of Ethiopia.

In *Chapter 5* (Adapting to drought in the Horn of Africa by marketing: How market orientation can help pastoralists to adapt to changing climatic conditions) we focus on the extent to which market orientation influences the resource dilemma that pastoralists face. It presents the results of a semi-experiment on 232 pastoralists that examines whether pastoralists adjust the size of their herd to climate forecasts. The chapter also investigates the role of two factors proposed by the literature on resource dilemma, i.e.: the presence of a quality incentive and the confirmation of the formal climate forecast by the informal (traditional) one in influencing the adaptation of pastoralists in herd size change.

Finally, in *Chapter 6* (Discussion, conclusion, and implications), the results and conclusions from the empirical studies are discussed. The chapter also addresses the theoretical and policy implications of the research, and discusses limitations of the research and opportunities for future research.





**Figure 1.1** Outline of the thesis

## **On the Sustainability of Pastoralism Exploring Marketing's Potential Contribution**

This chapter is submitted for publication as Tessema, W.K., Ingenbleek, P.T.M., & van Trijp, H.C.M. (Submitted). On the sustainability of pastoralism; exploring marketing's potential contribution.

### **Abstract**

Pastoralism is a mobile livestock production and marketing system generally practiced in dry environments. It is the dominant way of life for an estimated 200 million people and it is practiced on 25% of the world's land area. Ongoing debates about pastoralism focus predominantly on whether this production system is sustainable. Although marketing may potentially contribute to the sustainability of pastoralism, the (agro-food) marketing literature has not yet devoted specific attention to this issue. This article aims to highlight the potential contribution of marketing to the sustainability of pastoralists. The article reviews and analyzes existing literature from various disciplines on the ecological, socio-cultural, and economic domains of pastoralism to determine its sustainability. The results show considerable consensus among scholars that pastoralism is not by definition an unsustainable production and marketing system. Sustainability is, however, achieved only if pastoralists can adapt to their ecological, social, and economic environments. Marketing in turn facilitates adaptation because selling and buying will help pastoralists to balance their herd size with the ecological conditions while creating customer value to potentially improve their livelihood. As such, the future debate should not focus on whether pastoralism is sustainable, as much as it should focus on the policies that create the conditions under which it can be sustainable.

### **2.1 Introduction**

Pastoralism is a mobile livestock production system based on the use of natural pasture. Pastoralists live with herds of livestock, which they move to take advantage of natural pasture for grazing (e.g., Koocheki & Gliessman, 2005). In dry environments where rainfall cannot sustain crop-based livelihoods, pastoralism is the dominant way of life for an estimated 200 million people (WISP, 2007), practiced on 25% of the world's land area. Pastoralism dates back to ancient times; the Biblical patriarch Abraham is perhaps the best known ancient pastoralist. Historians argue that pastoralism emerged as agriculture developed. When crop production on lands suitable for agriculture intensified, stimulated by emerging urban areas and the development of irrigation systems, lands that were too marginal for agriculture were left to the livestock (Spooner, 1971). In this sense, pastoralism itself is an adaptation to natural conditions by which people exploit lands such as plains, deserts, steppes, mountains, and tundra (Barfield, 1997; Galaty & Johnson, 1990). Pastoralism currently is common in Africa, Asia, the Americas, and Australia (Galaty & Johnson, 1990), and a form of it based on the seasonal movement of herds still occurs in Europe (Chang & Tourtellotte, 1993).

The sustainability of the livestock production by pastoralists is for several decades the topic of a debate among policy makers, academics, and development practitioners, especially in the aftermath of events such as the Sahelian drought of the 1970s (e.g., Lesorogol, 2005; Warren, 1995; de Bruijn & van Dijk, 1999). The debate recently renewed in response to the continuing drought in the marginal lands of east Africa (see, for example, Little et al., 2009; Fratkin & Roth, 1990 on the impact of drought). Opinions about the sustainability of pastoralism diverge, mainly reflecting the different ideas about the extent of overgrazing that will lead to degraded natural resources (e.g., Lamprey, 1983). The Tragedy of the Commons is manifest in this context; pastoralists pursue their short-term survival at the expense of the long-term preservation of commonly shared natural resources (e.g., Hardin, 1968). To avert the assumed environmental degradation, extensive donor funded development projects have been invested on pastoralism to 'modernize' it through private ownership of communal rangelands (e.g. commercial ranching) (Fratkin, 1997). Others consider pastoralism as an effective way of utilizing the sparse vegetation of dry lands that promises an optimal economic strategy in many areas of the world (e.g., Casimir & Rao, 1998; Davies, 2008). The two schools of thought have been described on the basis of their main management strategies as equilibrium (keeping stock stable) and disequilibrium (keeping stock flexible) (e.g; Fratkin, 1997). The traditional discrepancy between equilibrium and disequilibrium views regarding the sustainability of pastoralism is decreasing (Vetter, 2005), but the direction of the literature

since then is unclear, as are the key gaps and contributions that have emerged in the past few years. A fresh review of the literature on the sustainability of pastoralism is therefore both timely and important.

The first objective of this article is therefore to review recent literature, on its views whether pastoralism is a sustainable production and marketing system for livestock and livestock-based products. We find substantial consensus that pastoralism is potentially sustainable, though several prerequisite conditions are necessary in practice. The second objective of this article is to determine how marketing can help pastoralists to meet these conditions.

Literature on pastoralism has broadened in its scope. Traditionally, the subject was dominated by ecologists and anthropologists, but recent contributions from economics and geography extend the debate (e.g., Davies & Hatfield, 2007). Marketing is however largely absent in the discussion on the sustainability of pastoralism (e.g., Bailey et al., 1999). This is surprising because marketing thinking seems both timely and relevant. Pastoralism provides 10% of the global meat production (FAO, 2001). As such pastoralism makes a substantial contribution to cater for a growing demand for animal-based food products, due to population growth, urbanization, and income growth (Delgado et al., 1999; Delgado, 2003). Especially in developing and emerging countries, demand for meat has increased substantially and is predicted to continue to expand (FAO, 2003; Delgado, 2003). The increase in the demand for meat and milk integrates pastoralists increasingly into livestock-based production and marketing systems (e.g., McCabe, 2003).

In the remainder of this article, we first present a brief background on pastoralism and its purported sustainability. Next we define our methodology, which organizes existing literature according to its inferences (conclusions) about sustainability and analyzes the focus on the different components of sustainability (planet, people, and profit), policy implications, and disciplines. Then we present the results. Finally, based on the findings we present and discuss implications for the sustainability of pastoralism, and then end with a conclusion and some policy implications for pastoralists.

## **2.2 Background**

### *2.2.1 Pastoralism*

Cohen (1974, p. 261) defines pastoralism as “a system of production devoted to gaining a livelihood from the care of large herds of animals ... based on transhumance ... an adaptation to a particular habitat: semi-arid open country or grasslands, in which hoe or digging-stick

cultivation apparently cannot be sustained.” Drawing on a widely used definition of Cohen (1974), we define pastoralism as a production system that involves livestock raising and uses mobility to adapt to a dry land ecology that is not suitable for sedentary crop cultivation. Other definitions sometimes restrict pastoralism to subsistence systems (e.g., Spooner, 1971), but we acknowledge that pastoralists earn incomes by selling their livestock or livestock products such as milk. In addition, pastoralists may engage in crop cultivation, if the land and availability of water allow them to do so (this makes them so called agro-pastoralists).

Unlike settled farmers, pastoralists (1) usually have access to communal grazing resources, (2) raise their animals for direct consumption and exchange (i.e., the capital they accumulate through the market can provide security during droughts; Widstrand, 1975), (3) locate in remote areas without advanced infrastructure or logistics systems, and (4) use marginal lands where large-scale sedentary production is difficult and unsustainable (Bostedt, 2005).

Yet pastoralism may take many forms. Because it must adapt to various physical and social conditions, it is highly diverse in terms of the type of livestock reared and strategies followed to exploit alternative livelihoods (Galaty & Johnson, 1990). Dynamic social, economic, and ecological factors affect the pastoralists’ daily lives, options, and decisions (Cousins et al., 2007). Temporary droughts and low market prices may induce pastoralists to pursue (alternative income generating) strategies that threaten their natural environment, such as producing charcoal from the scarce vegetation if they cannot sell or feed their livestock. These events increase the ecological, socioeconomic, and political pressures on pastoralism in many parts of the world (e.g., Abule et al., 2005) and raise debates and questions about its sustainability.

### *2.2.2 The sustainability of pastoralism*

Debates and questions about the sustainability of pastoralism diverge in the literature as equilibrium versus disequilibrium views. These two views can be put simply as pessimistic (equilibrium) versus optimistic (disequilibrium) views on how they see the sustainability of pastoralism (Moritz, 2008). The equilibrium view focused on the (natural) environmental aspect of sustainability, opposing communal use of rangelands and arguing that pastoral practices would lead to overgrazing and degradation (e.g., Fratkin, 1997). According to this view pastoralists are preoccupied with the goal of maximizing livestock number and hence lack motivation or strategy to preserve their own habitats in the long term (Lamprey, 1983). Therefore, as a management strategy, the equilibrium view has emphasized fixed

(conservative) stocking, private ownership of the range, commercial ranching, and sedentarization (which would inhibit mobility and flexibility) of pastoralists and ignore any appeal of traditional management practices (e.g., Bisson, 1993; Fratkin, 1997).

The disequilibrium view instead considers pastoralists ecologically rational and innovative actors who create efficient systems to exploit natural pastures using their mobility (e.g., Adriansen, 2006). The disequilibrium view therefore emphasizes the social elements of sustainability (people) and the potential of indigenous knowledge. In this view, overgrazing is not the cause of rangeland degradation, because the pastoral system is driven by the level and variability of rainfall (e.g., Solomon et al., 2007). Therefore, pastoralists cannot adhere to a single conservative stocking rate, as a management strategy, but instead must adopt a flexible (opportunistic) strategy to change their livestock numbers in response to climatic variations (Sandford & Scoones, 2006).

In her recent review of pastoralism literature, Vetter (2005) observes that this polarization, which has characterized literature for decades, is starting to fade. To understand pastoralism today, the investigation into how pastoralists live with their natural (ecological) environment must be broadened to consider how they live in relation to the complex dynamics of their entire environment (Xiaogang, 2005). This approach would underscore the need for pastoral sustainability that reconciles three themes: the planet (i.e. the ecological imperative to live within and maintain biodiversity), people (i.e. a social imperative to ensure the development of healthy and functional societies), and profit (i.e. an economic imperative to meet basic needs of the pastoralist community and society more broadly) (Dale, 2001; Brundlandt, 1987; Serageldin, 1996; Serageldin & Steer, 1994). Without a balance among these dimensions of sustainability, the required changes and development become difficult to implement (Lamberton, 2005).

### **2.3 The literature review**

Although prior reviews have summarized literature on pastoralism (Fernandez-Gimenez & Le Febre, 2006; Fratkin, 1997; Fratkin & Mearns, 2003; Vetter, 2005), a fresh review is relevant and timely because the pressures of drought and growing demand for animal-based food products have increased academic attention to pastoralism in the past five years. A simple search in Google Scholar for publications with the words ‘pastoralism’ or ‘pastoralist’ in the title yields 2300 hits for the 2005–2012 period, and more than 16,000 publications mention one of these words anywhere in the text. Through an extensive review of more recent literature, we examine whether the trend towards agreement that pastoralism is in principle

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sustainable, as it was recognized by Vetter (2005) has continued. We also examine which perspectives on sustainability current contributors have adopted, the policy implications they offer, and whether and how marketing can help to reconcile the different perspectives.

To identify pertinent literature, we undertook a literature search using Scopus and the Web of Science with the search terms ‘pastoralism and development’ and ‘sustainability and pastoralism.’ Only studies published since Vetter’s (2005) review were considered for the search, conducted in February 2009. In reviewing the initial search result of 553 journal articles, we excluded papers not directly related to our research, according to their title, key words, or abstract (e.g., archaeology, animal genetics, and biology studies) or their introductions, which indicated a few articles that did not pertain to development. Therefore, our analysis focuses on 125 papers; we coded these contributions according to their sustainability inferences (conclusions), the aspects they covered, and their policy implications. Furthermore, we coded the papers in terms of their key discipline (based on the subject of the study, journal type, and authors’ affiliation or department), geographic focus, and research method.

The sustainability inferences consist of four categories: ‘yes,’ ‘no,’ ‘it depends,’ and ‘not indicated.’ For the sustainability aspects, we noted the different aspects of sustainability (planet, people, and profit) and specific sub criteria, as follows: planet (biotic and abiotic factors), profit (economic benefits), and people (mobility, pastoral adaptation, indigenous knowledge, institutions, and social changes). Finally, to code the policy implications (with respect to the management strategies), we determined whether they relate to constant level stocking, flexible stocking, controlled grazing, mobile grazing, or diversification (pastoralists are engaged in other income-generating activities in addition to livestock production).

The first author coded all the papers, and a second rater coded 40 of them to ensure intercoder reliability. We developed an initial coding scheme on the basis of prior literature and discussions between the coders after a pilot study of 10 papers. When the two coders did not agree, they discussed their differences until they reached agreement and then refined the coding scheme accordingly. If they could not reach agreement, one of the coauthors intervened. To test the final coding scheme (see Table 2.1), we also investigated the coders’ agreement from 30 other papers; the percentage of agreement indicated intercoder reliability (e.g., Bryant & Miron, 2004) and reached .907, which is reasonably high.

We summarize the distribution of studies across geographic settings, academic disciplines, and research methods in Table 2.2. This distribution reveals two important insights. First, the African savanna dominates research, which must be taken into account in

any interpretation of the policy implications (because, for example, the economic and institutional environments of Sub-Saharan Africa are substantially different from those in other pastoral areas; e.g.; Fafchamps, 2004; Fafchamps, 2001). Second, pastoral systems appear in various academic areas but remain dominated by environmental/ecological approaches. As compared to previous reviews, this indicates a growing interest of other disciplines in pastoralist production system.

Tables 2.1 and 2.2 are shown in the following pages.



**Table 2.1** Criteria used to evaluate different dimensions of sustainability, policy implications, and inferences about sustainability

	<b>Criterion</b>	<b>Elaborations</b>
<b>Different dimensions of sustainability</b>	Biotic factors	Biotic factors (e.g., grazing by livestock) cause changes to pastoral system or vegetation.
	Abiotic factors	Changes to pastoral system or vegetation are results of abiotic factors such as climate and rainfall.
	Adaptation, indigenous knowledge, mobility, & institutions	Pastoralists are flexible to coping with changes. From a disequilibrium point of view, pastoralists have indigenous knowledge and institutions to deal with their environment.
	Economic benefit(s)	The pastoral system's economic importance to provide meat, milk, and/or income.
<b>Policy focus</b>	Conservative-stocking, controlled grazing	Maintaining specific number of livestock to graze a pasture where grazing is controlled and managed.
	Flexible stocking, Mobile grazing	Pastoralists vary their livestock depending on rainfall. Pasture utilization is based on mobile grazing.
	Diversification versus Specialization	Whether pastoralists are engaged in other income-generating activities in addition to livestock production or only in livestock production.
<b>Sustainability</b>	Yes	If a study considers the system sustainable.
	No	If a study considers the system not sustainable.
	It depends	If a study conditions sustainability on some (policy) measures.
	Not indicated	If a study does not indicate a position on sustainability.

**Table 2.2** Distribution of studies in terms of their geography, discipline and methodology

<b>(a) Geographic or focal region of research</b>	Number
Africa	90
Asia	13
Australia/New Zealand	8
Latin America	1
Europe	3
Global	10
Total	125
<b>(b) Academic discipline</b>	Number
Anthropology	10
Geography	17
Interdisciplinary	13
Ecology	59
Economics	26
Total	125
<b>(c) Research method</b>	Number
Empirical quantitative research	23
Empirical quantitative and qualitative research	18
Empirical qualitative research	55
Conceptual/theoretical and review research	29
Total	125

## 2.4 Results on the sustainability of pastoralism

We first consider whether the studies suggest an overall assessment of the sustainability of pastoral system. Only 78 of the 125 studies contain an overall assessment; we analyze these studies specifically to determine whether their conclusions are affirmative, negative, or conditional (Table 2.3). No less than 58 (74% of 78 studies) conclude the pastoral system is sustainable. This affirmative conclusion is particularly prevalent in anthropological studies (8 of 10), which emphasize indigenous knowledge, mobile grazing, and pastoral decisions that are ecologically, socially, and economically sustainable (e.g., Xiaogang, 2005). In economics though, only 8 of 26 studies indicate a positive conclusion, though rather than sustainability,

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many of these studies center on the efficiency of rangeland management and advocate private ownership of the commons (e.g., Kabubo-Mariara, 2005).

Only 2 of the 125 studies, both from ecology, reach a negative conclusion about the sustainability of the system (Abule et al., 2005; Mortimore & Turner, 2005). Abule et al.'s (2005) empirical study on the usage of the rangeland resources by pastoralists in the middle Awash valley of Ethiopia identifies their unsustainable practices, which they use to suggest the need for other employment options for pastoralists. Mortimore and Turner (2005) emphasize that the growing human population and land shortages limit the mobility of pastoralists, which eventually may cause a shift to mixed agriculture (e.g., cropping and livestock farming).

The relatively few studies that indicate pastoralism is unsustainable confirm the emerging development described by Vetter (2005), namely, that the gap between optimists and pessimists is decreasing. Our finding adds that the balance appears to be shifting toward optimists, with a growing consensus that pastoralism is not by definition unsustainable.

In turn, those with a critical position tend to advise constant (restricted) stocking and controlled grazing, whereas studies that indicate pastoralism is not by definition unsustainable advise mobility and flexible stocking strategies. Mobile grazing and diversification also get emphasized across studies that consider pastoralism sustainable or conditionally sustainable (see Table 2.3).

We also find that a substantial number of studies (18) assert that conditions are required for sustainability, as we summarize in Table 2.4.

**Table 2.3** Distribution of studies in terms of inferences for sustainability, policy implications, and dimensions of sustainability covered

Sustainability	Discipline					Policy Implications				
	Anthrop.	Ecol.	Econ.	Geog.	Interdisc.	Constant stocking	Flexible stocking	Controlled grazing	Mobile grazing	Diversification
Yes (58)	8	28	8	8	6	2	12	7	42	17
Depends (18)	1	9	3	3	2	1	2	0	12	5
Not indicated (47)	1	20	15	6	5	1	4	2	21	10
No (2)	0	2	0	0	0	1	0	1	0	1
<b>Total</b>	<b>10</b>	<b>59</b>	<b>26</b>	<b>17</b>	<b>13</b>	<b>5</b>	<b>18</b>	<b>10</b>	<b>75</b>	<b>33</b>

Sustainability	Dimensions of sustainability							
	Planet		People					Profit
	Biotic	Abiotic	Mobility	Adaptation	Indigenous knowledge	Institution	Social change	Economic benefit
Yes (58)	28	35	37	34	22	34	30	29
Depends (18)	12	13	11	9	8	8	11	11
Not indicated (47)	18	20	15	10	8	21	11	11
No (2)	2	2	1	2	1	2	2	2
<b>Total</b>	<b>60</b>	<b>70</b>	<b>64</b>	<b>55</b>	<b>39</b>	<b>65</b>	<b>54</b>	<b>53</b>

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Studies emphasize diverse conditions, that pertain to the ecological (e.g., Hill et al., 2006), economic (e.g., Thornton et al., 2006), and social (e.g., Malley et al., 2008; Richardson et al., 2007; Sternberg, 2008) domains. Other studies emphasize the combination or even integration of ecological, social, and economic conditions (e.g., Boone et al., 2006; Galvin et al., 2006; Kassahun et al., 2008) that make pastoralism sustainable. For example, based on Somali pastoralists of eastern Ethiopia, Kassahun et al. (2008) indicate that sustainability requires an integrated approach that includes among others participation of pastoralists in resource conservation, and income generation. Table 2.4 also reveals that studies regard adaptability (sometimes referred to as flexibility or similar terms) as an important condition for the sustainability of pastoralism. Institutions also might help pastoralists adapt to changing environments, such as land tenure systems (e.g., Solomon et al., 2007), conflict management (e.g., Haro et al., 2005), access to technologies and markets (e.g., Malley et al., 2008), and secured herding contracts (e.g., Turner & Hiernaux, 2008).

**Table 2.4** Overview of conditions indicated for sustainable pastoralism

Condition	Description	Representative references
Adaptation	Flexibility to adjust to changes in social, market economic, and ecological (e.g., rainfall) factors.	Sternberg (2008); Adriansen (2006)
Other conditions		
Contributing to adaptation		
Management strategies	Techniques followed in livestock production and use of natural resources (such as flexible stocking, and mobility)	Thornton et al. (2006), Hendricks et al. (2007)
Indigenous knowledge	Traditional knowledge about rangeland, water management, and grazing reserves.	Angassa & Oba (2007)
Institutions	Customary and legal land tenure systems, conflict management, security of herding contracts, access to markets and technologies.	Fernandez-Gimenez & Le Febre (2006); Turner & Hiernaux (2008)
Integrated approach	Combining two or more activities together such as resource conservation and income generation, and land use for livestock production and cultivation.	Kassahun et al. (2008); Boone et al. (2006)

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In summary, our review supports prior contentions that the scientific field is moving beyond a dichotomy (equilibrium versus disequilibrium views) that long characterized literature on pastoralism. Moreover, the consensus indicates that pastoralism is not by definition unsustainable, though such consensus does not always translate into real-world sustainability; because conditions (e.g., adaptation of pastoralists to changing environmental factors) also matter to make pastoralism sustainable.

Based on the review of the literature we discuss the implications to the conditions (see Table 2.4) on the sustainability of pastoralism. First, adaptation is important to improve the sustainability of pastoralism (Morton, 2007). Adaptation refers to ‘the decision-making process and the set of actions undertaken to maintain the capacity to deal with current or future predicted change’ (Nelson et al., 2007, p. 396). The adaptation concept also is common to prior pastoralism literature, such that 57% (43 of 76, see Table 2.3) of recent contributions that contain affirmative or conditional inferences about sustainability also emphasize the importance of adaptation. For example, Homann et al. (2008b) show that frequent droughts and the shortage of grazing land have prompted Borana pastoralists in Ethiopia to adopt camel husbandry and a hybrid cattle breed that can tolerate grazing pressures. Camel husbandry in particular has enhanced pastoralists’ sustainability, in that it provides milk during dry seasons and improves the efficient utilization of poor vegetation lands. Also to cope with the emerging bush encroachment that reduced grazing pasture for cattle, the Borana pastoralists responded with diversification from their cattle raising into raising browsing animals (camels and goats) (Kamara et al., 2004). Based on her study on Fulani pastoralists in Senegal, Adriansen (2006) found that pastoralists change their herd composition (adding goats to cattle) because they learned that quick selling and buying in the market is more profitable with goats. Thus, pastoralists’ adaptation to browsing livestock can enhance sustainability because it enhances their optimal resource utilization and cash income. Hence, pastoralists can still adapt better if they are more integrated to the marketing system for their products (Marin, 2008).

Second, the literature highlighted that in order to adapt, pastoralists require management strategies that are flexible with respect to their livestock production. The flexible management strategies might be crucial given increasingly variable ecological, social, and economic factors. Related to the arguments on adaptation the literature has paid attention to management strategies as a condition to sustainability. This is because depending on situations that they encounter,

pastoralists may apply management strategies that include both fixed stocking and variable stocking. To this respect, ethnographic study by Moritz (2008) on the pastoralists in the Far North province of Cameroon, finds that peri-urban (closer to urban centre) pastoralists feed cattle cottonseed cakes in the dry period and use seasonal movement in the rainy period to feed their livestock. But the same pastoralists still maintain larger part of their herd with other pastoralists (entrusting) who are in mobility. This shows that pastoralists employ simultaneously different management strategies to sustain their livestock production. To this respect, flexible management strategies could be essential for pastoralists to balance multiple perspectives (ecological, social, and economic) for their sustainability rather than simply following the management strategies as prescribed either by the equilibrium or disequilibrium approach. The application of flexible management strategies can be enhanced when pastoralists are also integrated to the market for their livestock products as well as inputs. Cash generated from increased market integration can be channelled by pastoralists to different purposes: to purchase fodder during dry period for their livestock, buy cereal foods for their family, and invest in other income generating activities (e.g., livestock trading).

Third, because pastoralists are indigenous to ecology, some have argued that their indigenous knowledge, rather than outside support, is often more effective to adapt to changing conditions (e.g., Gemedo-Dalle et al., 2006). According to some, pastoralists' knowledge on the impact of climate change on their way of life is based on generations of experience conserved in their livestock husbandry practice (Tyler et al., 2007). Some groups of pastoralists appear to have built indigenous knowledge that has enabled them to live in relative harmony with their environment for tens of thousands of years (Wills-Johnson, 2009). In this regard, pastoralists' knowledge gathered over time spans far exceed significant periods of climate change (Tyler et al., 2007). For example, Sveiby (2009) argues that modern society should learn the principles of sustainability from the aboriginal pastoralist society to adopt a caring attitude towards the earth's ecology. But others still argue that indigenous pastoralists' knowledge should be integrated with the scientific knowledge to enhance their adaptation to land degradation threats (e.g., Reed et al., 2007; Stringer & Reed, 2007). For example scientific research can facilitate breed improvements (such as increased milk) to the livestock reared by pastoralists (Rewe et al., 2011). The integration of the indigenous knowledge and the scientific knowledge in turn can be facilitated through pastoralists' market integration. Pastoralists can sell part of their livestock to get cash to



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buy industrial goods that enhance their resource use. For example, Stammer (2009) documents how reindeer pastoralists in Russia use mobile phones to improve the timing of their mobility and pasture use, as well as monitor oil pipeline leakages in their pastures. Thus, access to mobile phones (due to increased market integration) facilitates efficient natural resources utilization of pastoralists.

Fourth, adaptation of pastoralists or a lack thereof might be influenced by the interventions from formal institutions. More pressure on ecology might result from socioeconomic forces such as changes in government policies. For example, Kamara et al. (2004) indicated that among the Borana pastoralists of Ethiopia certain government policies have resulted in conflicts with traditional systems which affected communal resource use and decreased pastoralists' welfare. The introduction of government-imposed administration disturbed the indigenous institutions that the Borana pastoralists use for mobile land use; leading to the deterioration of rangelands (Homann et al., 2008a). This is because with the formal administrative boundaries the traditional mechanisms for negotiated access to pasture and water are restricted (Homann et al., 2008a). Restrictions to resources access across different administrative boundaries may lead to conflicts among the different pastoral groups. Ogutu (1993) also indicated that Kenyan governmental policies prevented the mobility of pastoralists and kept them from using traditional grazing lands. The resulting overcrowding in the reserved enclosures caused soil erosion and further reduction of the cattle population. Based on the study of Borana pastoralists in Ethiopia, Oba et al. (2000) indicate that official bans on the use of fire (that pastoralists use to control bush encroachment) promoted bush cover and the decline in range conditions. But by supporting pastoralists' integration to economic institutions (e.g., technologies), the formal institutions might help to enhance their adaptation to ecological changes. For example, provision of mobile veterinary services and education by the government bodies and nongovernmental organizations can enhance the sustainability of pastoralists (Davies, 2008). On the positive side, measures that support pastoralists in their own efforts to adapt might enhance sustainability of pastoralists by taking measures that could slow down resource use and human population growth. For example, a study by Ntozi and Kabera (1991) shows that to control their population growth Bahim pastoralists in Uganda use traditional family planning techniques. Swift (1977) also indicates that the *Gada* (traditional administrative system) rules of the Borana pastoralists in Ethiopia regulate their population growth by postponing marriage until a very late stage in the life cycle.

Fifth, the review suggests that adaptation requires an integrated approach that takes into account both resource conservation and livelihood of pastoralists. For example, protecting grazing lands for conservation (wildlife and forests) needs to include arrangements to generate income to pastoralists. A study in Kenya by Iiyama et al. (2007) indicates that enhancing the integrated land use (such as adding crop cultivation to livestock production) has a positive impact on social, economic, and natural resource aspects of sustainability to pastoralists. In addition to their livestock raising, pastoralists are cultivating where rain-fed or irrigated agriculture is possible (e.g., BurnSilver, 2007). If population of pastoralists grows, but their livestock quantity doesn't, pastoralists should diversify their sources of income in order to maintain their standard of living (Galvin, 2009).

## **2.5 The pastoralist livestock marketing system and sustainability**

### *2.5.1 The contribution of marketing to adaptation*

The potential for establishing linkages in the marketing system (between pastoralists and other chain members) has seldom been used in policy making for pastoralists (Nori, et al., 2005). To this respect, most of the projects that involve collective-action groups end up in focusing on solving only production constraints and ignore marketing factors (Musemwa et al., 2008). Marketing is still considered as an emergency exercise to facilitate destocking in times of changes in climatic conditions such as drought (Nori, et al., 2005; Morton & Barton, 2002) rather than long-term oriented set of activities that can enhance sustainability of pastoralists. As a consequence, livestock marketing to pastoralists was not considered as a function for creating, communicating, and delivering value to customers in a way that benefit the pastoralists (seller) and other stakeholders (e.g., Kotler & Keller, 2006).

The American Marketing Association (2007) defines marketing as 'the activity, set of institutions, and processes for creating, communicating, delivering, and exchanging offerings that have value for customers, clients, partners, and society at large'. Since marketing is an important aspect of any livestock production system (Bekure & Tilahun, 1983), most pastoralists also supply their livestock to markets at international, national, and local level (Davies & Hatfield, 2007). For example, traditionally the livestock of pastoralists is exported to the Middle East from East African countries (Solomon et al., 2003; Little, 1992). Pastoralists can benefit in terms of income from their livestock exports.

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In addition to the obvious contribution to profit (i.e., income), marketing also contributes to the standard of living (people) and ecology (planet) dimensions of sustainability. Marketing contributes to the standard of living because by selling their livestock asset pastoralists obtain cash to buy cereal food, medicine (both for pastoralists and their livestock), send their children to school, and finance other essential expenditures that require cash. In addition, the cash income generated at the market may improve pastoralists' livelihood as they obtain access to consumer products and long-term investments (e.g., Adriansen, 2006; Riseth, & Vatn, 2009). Marketing contributes to the ecology because it can enable pastoralists to exercise proper livestock management, because pastoralists can destock livestock in times of drought and buy (restock) after the drought (e.g., Turner & Williams, 2002). This helps pastoralists to adjust their livestock population to available feed resources (Verbeke et al., 2009), making their production more sustainable against changes in climatic conditions (e.g., Adriansen, 2008). Thus, marketing facilitates adaptation to sustainability: selling and buying will help in order to adapt to the changes in climatic conditions through flexible stocking decision of pastoralists.

Marketing can also facilitate other conditions that enhance pastoralists' adaptation for sustainability. For example, indigenous knowledge that help pastoralists to understand the climate (such as traditional climate forecast) can be more effective when pastoralists exercise selling and buying, depending on the outcomes of the forecast (rain or drought). This means that given marketing, pastoralists can effectively apply their indigenous knowledge to enhance their sustainability. Based on the advice of the traditional climate forecasters (so-called *Hayyuu*) pastoralists among the Borana of Ethiopia, for example, able to minimize their herd loss by selling a part of their herd before the severe drought of 2011 that hit the Horn of Africa (IRIN, 2011).

Also, market opportunities of pastoralists can effectively be aligned with climatic requirements through a flexible management strategy that apply destocking and restocking. The flexible management that pastoralists exercise can be enhanced with the increase in their marketing knowledge (for example through trainings on livestock marketing and experience sharing). This strategy can be facilitated by institutions that encourage pastoralists to sell at the right time and to produce livestock that is demanded by the market: this makes livestock selling much easier. In this regard, institutions that provide standards and market information to pastoralists can facilitate their stocking decisions based on climatic conditions.

The combination of indigenous knowledge, marketing (management) strategies and market knowledge, and institutions that facilitate the livestock transaction process of pastoralists can be useful in an integrated approach for adaptation. As such, the integrated approach for adaptation relates to all the conditions to sustainability of pastoralists that have been brought forward in the literature. To this end, marketing can enhance pastoralists' effort in pursuit of their integrated approach (that takes care of both the pastoralists' livelihood and their ecology) for adaptation to sustainability. For example, by taking the case of Borana pastoralists, Coppock et al. (2011) states that livestock marketing, combined with micro-finance, allowed pastoralists to learn how to destock (i.e., marketing knowledge) when needed and diversify investments to enhance their sustainability. Proceeds from livestock sales generated the capital for diversification; which in turn facilitated the purchase of cell phones and other means that enables pastoralists to collect market information (Coppock et al., 2011). This may mean that the more income that is available to pastoralists through marketing, the more are their opportunities to invest in diversified activities (e.g., livestock trading) to enhance their adaptation to the changes in the natural conditions such as drought.

### *2.5.2 Barriers to marketing*

Marketing systems of pastoralists should however deal with a number of barriers. Most importantly: 1) market exchange is largely secondary because livestock production by pastoralists is usually subsistence aimed at producing foods for household members (Fratkin et al., 1994), 2) direct marketing of livestock is dominant rather than slaughtering livestock for processing (Davies & Hatfield, 2007), 3) the product (livestock) is moving from place to place due to mobility in search of pasture and water, 4) livestock (being living animals) holds greater cultural and social meaning to pastoralists as compared to other marketable commodities (e.g., coffee) (Turner & Williams, 2002), (5) a lack of marketing skills undermines the competitive advantage of pastoralists at the global livestock marketing system (Davies & Hatfield, 2007), and (6) high transaction costs (e.g., including costs of information search, trekking, and negotiation), and poor access to information and formal markets (Davies & Hatfield, 2007). Thus, marketing's contribution to the sustainability of pastoralists therefore needs to minimize the aforementioned constraints that they encounter.

## **2.6 Implications**

### *2.6.1 Policy implications*

We outline three main implications for public policy on pastoralism. First, pastoralist policy should support adaptation. Support for adaptation contributes towards enhancing sustainability (e.g., Ayers & Huq, 2009). Policy makers could support adaptation by helping pastoralists acquire the necessary resources, including access to markets, the provision of skills, and education services (Nassef et al., 2009). These resources entail some of the conditions for sustainability from Table 2.4. In addition, easier access to information makes markets more efficient, expands employment opportunities, and eases the effort required to monitor and maintain natural resources (Kramer et al., 2009). For example, information and communication technologies could help pastoralists track changes in climatic conditions and markets. Advance information (and knowledge) by pastoralists about the changes in climatic conditions and markets in turn can enhance their timely livestock destocking and restocking.

Second, pastoralist policy requires a broad sustainability scope. In the past, the sustainability of pastoralists has centred mainly on the natural environment. But this one-sided approach ignores the complex interactions among ecological, social, and economic elements. Policy makers therefore should take a holistic and integrated perspective toward the environment in which pastoralists operate while designing and implementing pastoralist policies.

Third, pastoralist policy should strengthen market integration. Policies could help pastoralists fulfil market requirements (e.g., quality and food safety standards) that may constrain their market integration. To fulfill market requirements by pastoralists, policy can promote linkage of pastoralists with livestock food processors through contract farming or participatory producer cooperatives (Delgado, 2003). Fulfilling market requirements enhances pastoralists' market integration to increase their income levels, as well as contributes to the supply of animal protein. In turn, increased market integration may facilitate timely destocking and restocking in communal lands, according to the changes in the natural environment. This shift could lessen the pressure that pastoralists place on the natural environment in their desperate efforts to generate sufficient income.

### *2.6.2 Implications for further research*

Future research may focus in the following areas. First, interdisciplinary research appears necessary to deal with the research challenges ahead. Input from the social sciences can reveal the adaptation exercises of pastoralists, while ecologists test their actual impact on natural conditions. Economists then are needed to understand whether market conditions stimulate adaptation to sustainable pastoralism or promote unsustainable practices. As the environments faced by pastoralists grow complex and dynamic, all elements of sustainability (ecological, social, and economic) should be addressed in their full breadth to help pastoralists function in a more sustainable manner. Addressing pastoralism from a perspective that covers all elements of sustainability, therefore, can enhance wise use of the natural resources, pastoralists' livelihood, and their contribution to the growing demand for animal protein.

Second, we also consider the topic of market integration as a fruitful direction for research. The cash economy has a growing impact on pastoralists in different parts of the world (e.g., Fratkin & Mearns, 2003). Researchers should examine how pastoralists can increase their market integration and combine market knowledge with their indigenous knowledge. Insight into these processes would enable policy makers to design policy instruments that support the functioning of markets that provide incentives to pastoralists to use pastures sustainably (for example through advance selling and buying of livestock in times of drought). In this regard, the marketing literature may have a lot to offer to the sustainability of pastoralists. Implementing the research instruments that are available in the existing marketing literature however is not necessarily appropriate to the context of pastoralists who are operating in an informal and subsistence economy. This is because marketing literature has not so far considered the marketing practices of pastoralists. Therefore, inductive case study is required to identify marketing practices at the pastoralists' level. A deeper qualitative inductive study might be useful to understand market integration practices of pastoralists and its consequences to the sustainable use of resources by pastoralists. Further, future research might explore the role of relationship marketing and market orientation with respect to pastoralists.

## **2.7 Conclusion**

Although researchers who focus on pastoralism increasingly agree that the system is not by definition unsustainable, the adaptation conditions, sometimes also indicated in the literature as

## Chapter 2

management strategies, indigenous knowledge, institutions, and integrated approach (in conserving the natural resources and generating income to pastoralists), are important to maintain the sustainability of pastoralists. As a consequence, sustainability of pastoralists largely hinges on the extent to which a balanced approach to the ecological, social, and economic environment is maintained by fulfilling the necessary conditions for their adaptation. Thus, sustainability of pastoralists needs to focus on its important conditions for adaptation (see Table 2.4). Adaptation conditions for sustainability in turn can be facilitated by enhancing livestock marketing of pastoralists. Marketing facilitates adaptation to sustainability because selling and buying will help in order to adapt to the changes in climatic conditions (through flexible stocking decision of pastoralists).

From a marketing perspective, the question to policy makers then becomes whether pastoralists can enhance their integration to benefit from the changing economic environment (such as growing demand for animal proteins) (Delgado, 2003; Delgado et al., 1999). To this respect, intervention strategies are necessary from policy makers that enhance market integration of pastoralists. Support for enhanced market integration of pastoralists not only can contribute to the increased income to pastoralists, but also to minimize their herd loss due to changes in climatic conditions such as drought. In the event that pastoralists' learning processes to integrate to the changes in the market are not fast enough, short-term livestock destocking (selling) or restocking (buying) interventions are still necessary to exercise appropriate livestock management in relation to the available pasture and water.

To sum up, to make pastoralism sustainable policy needs to emphasize the ecological, social, and economic elements that pastoralists daily encounter. A focus on any of the ecological, social, and economic elements in isolation would rather jeopardize the efficient resource utilization of pastoralists and hence lead to their unsustainable practices. In balancing the utilization of natural resources (e.g., destocking and restocking) and generating a higher income to pastoralists, marketing can potentially contribute in enhancing the sustainability of pastoralists.

## **From Market Integration to Market Orientation A Multiple Case Study on Pastoralists in Three Regions of Ethiopia**

This chapter is to be submitted for publication as Tessema, W.K., Ingenbleek, P.T.M., & van Trijp, H.C.M.

### **Abstract**

This study presents an in-depth case analysis on the market integration of pastoralists. The study is conducted in three regions of Ethiopia using extensive qualitative evidence. The study reconsiders the concept of market integration and offers market orientation of pastoralists as an alternative. Market orientation refers to the extent to which pastoralists align the products that they sell (or buy) to the requirements of buyers. Unlike market integration, their market orientation concept can help to achieve a dual objective: better livelihoods of the pastoralists and ecological sustainability. The study also shows how the new market orientation concept is related to market integration. The study confirms that antecedents and consequences of market integration also apply to the market orientation of pastoralists. It also extends the framework in that it identifies a new antecedent as well as a consequence. The findings imply that policy makers should make sure that pastoralists align their livestock products to the requirements of the market in order to achieve both improvements of livelihoods and ecological sustainability.



### **3.1 Introduction**

Market integration of pastoralists is increasingly seen as the solution to a range of different problems (e.g., Fratkin & Mearns, 2003). First, integrating pastoralists more with the market enables proper livestock management in light of changes in climatic conditions; pre-emptive selling (destocking) of livestock in times of drought to buy (restock) after the drought (e.g., Turner & Williams, 2002). To this respect, increased market integration of pastoralists helps to adjust the livestock population to available feed resources (Verbeke et al., 2009), making it more environmentally sustainable (e.g., Adriansen, 2008). Second, integrating pastoralists more with the market can facilitate the supply of dairy products and meat by the pastoralists to contribute to the growing demand for animal proteins (Davies & Hatfield, 2007). This is particularly important in developing countries where demand for meat and milk has increased substantially and is predicted to continue to expand (FAO, 2003; Delgado, 2003; Delgado et al., 1999). Third, market integration may improve the export position of a country by increasing the exports of livestock and livestock-based products. In that case pastoralists may contribute to the economic development of their country (Davies & Hatfield, 2007). Fourth, the cash income generated at the market may improve pastoralists' livelihood as they obtain access to consumer products and long-term investments that may improve their quality of life (e.g., Adriansen, 2006; Riseth, & Vatn, 2009).

In the pastoralist literature, market integration is seen as increasing the livestock transactions by pastoralists in the market (e.g., Fratkin & Mearns, 2003). To this respect, it is considered that the more pastoralists sell and buy livestock in the market, the higher is their market integration. However, market integration of pastoralists has not always led to all the desired outcomes (such as income increases and adaptation to climatic changes to pastoralists, and supply of animal proteins for the growing urban population). Barrett and Luseno (2004) describe, for example, a network in which pastoralists from northern Kenya actively sell, buy and resell among themselves, but are unsuccessful to add value to sell livestock to external buyers (e.g., exporters), resulting in inefficient competition and price depression. As a consequence, the pastoralists' livestock supply to the market decreases, affecting their incomes. Market integration can also harm the natural resources on which pastoralists depend. For example, based on their study in Peruvian pastoralists, Postigo et al. (2008) state that increased market integration of pastoralists leads to overgrazing and degradation of the pasture and water resources. According to

Postigo et al. (2008), a higher market integration of pastoralists results to increased land enclosure for cultivated grasslands and water diversions for irrigated pasture with the consequence of overexploiting the natural resources. Such evidence makes it worthwhile to re-evaluate the concept of market integration.

This study draws on qualitative evidence from case studies on three pastoral regions of Ethiopia to reconsider the current conceptualization of market integration of pastoralists. Case study research is a recommended method for in-depth investigations in which typologies and concepts are inductively developed (Yin, 2003). The case studies include different stages in the livestock marketing chain to understand the connections of pastoralists with other chain members (e.g., traders). Although pastoralists may be active on several markets with products such as dairy (Nori et al., 2006) and firewood or charcoal (Devereux, 2006), we focus in this study on the livestock market, which is the market that is closest to pastoralists' core activity. Ethiopia is selected for this study because it has the largest number of pastoralists in the Horn of Africa (ECHO, 2007). The Horn of Africa contains the largest population of pastoralists in the world (ECHO, 2007). Within Ethiopia there are substantial differences in terms of climate, vegetation, geographic location, and ethnicity of pastoralists (e.g., Unruh, 2005); which allows for a meaningful case comparison (Yin, 2003).

The findings suggest a broader concept of market integration, that we label *market orientation*, to distinguish it clearly from the more narrowly defined market integration concept. The concept is labelled market orientation because it has a strong resemblance with the market orientation concept from the marketing literature as it is used for formal businesses (Kohli & Jaworski, 1990; Narver & Slater, 1990). The development of the market orientation concept for pastoralists is the primary contribution of this article. Because the development of the concept of market orientation of pastoralists builds on the market integration concept, this article also explains how market orientation relates to market integration. To this respect, the article contributes a typology of pastoralists that includes four different types of market integration, varying not only in the degree of market integration but also on the strategic intent of that integration. Third, the article reconsiders the antecedents and consequences of market orientation, thereby further completing the framework as it emerges from the literature on market integration. These findings suggest that, unlike the more narrow market integration concept, promoting market orientation is likely to achieve multiple policy objectives regarding pastoralists.

In the following sections, we first provide a theoretical background on market integration and review the relevant literature on the antecedents and consequences of market integration. Next, we describe the methodology of the study and present the results. The article concludes with policy implications, limitations and directions for future research, and conclusion.

### **3.2 Market integration of pastoralists**

Market integration (sometimes called ‘commercialization’ (e.g., Pingali & Rosegrant, 1995; von Braun, 1995), ‘market participation’ (e.g., Barrett, 2008; Bellemare & Barrett, 2006), or ‘market orientation’ (e.g., Omitti et al., 2007; Gebremedhin & Jaleta, 2010b), is often defined as the amount of agricultural produce that is commercialized (offered to market) versus the amount that is consumed by the household (e.g., Timmer, 1997; Fafchamps, 1992; Tipraqsa & Schreinemachers, 2009). To this respect, market integration has been largely viewed as the extent of growing different types of food crops for subsistence (subsistence farming for food) versus specialization (cash crops for the market) (e.g., Von Braun, 1995). In the literature, there is a growing interest in market integration of smallholders in general (e.g., Von Braun et al., 1990; Gabre-Medhin, 2009) because it is expected to reduce poverty. At the macro-level, market integration of smallholder producers is considered to be a driver of development through income increases (e.g., Von Braun et al., 1990; Pingali, 1997; Dollar & Kraay, 2004).

The concept of market integration has also been criticized. First, according to some scholars, market integration as the amount (volume) of a product that is sold in the market is flawed because it does not take into consideration the buying decision of producers in the market (Gabre-Medhin, 2009; Renkow et al., 2004; Jaleta & Gebremedhin, 2011). Second, the concept ignores the extent to which producers try to align their products to the *requirements* (needs and wants) of the market (e.g., Bitzer et al., 2011). As a consequence, the concept makes little distinction between smallholders’ production based on market requirements from a mere sale of output produced (e.g., Gebremedhin & Jaleta, 2010a). Third, a dichotomy between food crops (low market integration) and cash crops (high market integration) assumes that smallholder producers make a clear distinction between the two (food crops versus cash crops) in their production and marketing decisions (Gabre-Medhin, 2009). Smallholders may, however, also enhance their market integration when they grow crops that can be used for self-sufficiency as

well as for commercialization (Dorsey, 1999; Jayne, 1994). Focusing on fewer crops can make smallholders more vulnerable for price changes of that crop (Fafchamps, 1992).

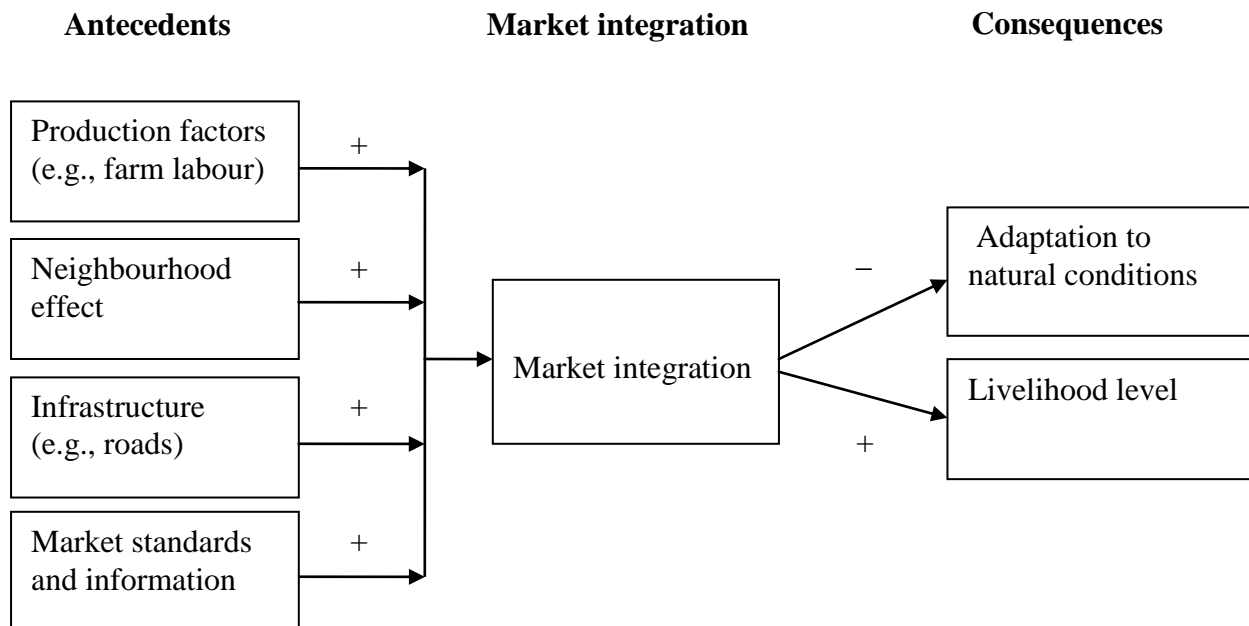
The latter point of critique applies in particular to pastoralists. Following the existing market integration conceptualization, pastoralists may be considered as subsistent producers if they depend on meat, milk, and milk products for their food with minimal market exchange, and as specialized livestock producers if they engage in selling livestock to buy milk or other food, and non-food requirements (e.g., Sikana et al., 1993). It may however be difficult for pastoralists to commercialize the entire livestock production (for cash) because pastoralists also need to maintain their food self-sufficiency (e.g., milk). At the same time pastoralists also may not entirely depend on their production for food, because they need to sell some of their livestock to buy cereal food, particularly during dry period as milk production is not sufficient. Pastoralists also need to generate cash by selling a part of their livestock to cover other expenses like healthcare and schooling their children. Hence, the market integration concept as the volume of produce sold versus consumed by the household is constrained when applied to pastoralists. This is also because pastoralists may use different segments of their herd for different purposes. For example, Roth (1990) indicates that Rendille pastoralists in Kenya adapted to the market by adding cattle to their traditional camel herding. Camels supported their self-sufficiency (for food through milk) while cattle represented a response to the growing cash economy (Roth, 1990). Therefore, market integration as the level of produce sold in the market versus consumed by the household may not be applicable to pastoralists.

In the literature on pastoralism, pastoralists have sometimes been assumed to be unwilling to sell their livestock because pastoralists want to maximize benefits (e.g., more milk) by increasing their herd through breeding (Lamprey, 1983; Hjort, 1981). As a consequence, pastoralists are largely considered as weakly integrated to the market. However, recent empirical studies (e.g., Adriansen, 2006) indicate that pastoralists are not necessarily homogenous in that they are entirely weakly integrated to the market or unwilling to sell their livestock. Instead, evidence shows that they respond to market forces to differing degrees (e.g., Amanor, 1995; Adriansen, 2006; Marin, 2008; Manderscheid, et al., 2004). For example, based on her study in Senegal, Adriansen (2006) found that pastoralists change their herd composition (adding goats and sheep to cattle) in response to the increased market demand for goats and sheep. Adriansen's (2006) study shows that the Fulani pastoralists in Senegal who always give high importance to

cattle started to increase goats and sheep in their herd to benefit from quick selling and buying in the market. Fulani pastoralists used the cash generated from selling goats and sheep to cover their expenses as well as to reinvest on cattle (Adriansen, 2006). Similarly, Fratkin and Mearns (2003) show that due to the increased demand for cashmere (goat wool) from China, livestock composition among the Mongolian pastoralists has switched to goats relative to other livestock such as cattle. A shift among many pastoralists from subsistence to commercial livestock production for sale is also noted (e.g., Fratkin, 2005). Therefore studies in fact show that not all pastoralists necessarily have a low level of market integration (Amanor, 1995; Manderscheid, et al., 2004; Sikana et al., 1993; Fratkin, 2005).

### 3.3 Antecedents and consequences of market integration

Studies have investigated the antecedents and consequences of market integration of smallholders in general. We now turn to these studies because these studies also contain valuable insights that can be applied to pastoralists. Table 3.1 summarizes studies on market integration of smallholders. Based on these studies, Figure 3.1 portrays the antecedents and consequences of market integration of smallholders.



**Figure 3.1** Smallholder market integration, its antecedents, and consequences

### *3.3.1 Antecedents of market integration*

*a) Production factors:* By production factors we mean the necessary elements and inputs required in the production process of the smallholders such as (farm) land size, fixed inputs (e.g., equipment), farm labour, and variable inputs like fertilizers. Availability of a new technology such as improved seed (or breed) is also important production factor (von Braun, 1995). Production factors can also include important ecological conditions like availability of pasture and water. Increased availability and use of production factors can increase market integration of smallholders. For example a study conducted in Thailand by Tipraqsa and Schreinemachers (2009) finds that increased use of agricultural inputs (such as fertilizers, better variety of seeds) enhanced the quantity of a produce that is sold to enhance income. A study by Key et al. (2000) also shows that the use of high yielding varieties and a higher use of machines (compared to human labour alone) significantly increased the production for sale by smallholders.

*b) Neighbourhood effect:* Neighbourhood effect refers to the extent to which smallholders can learn from increased market integration practices of other producers. In their study on the smallholder livestock producers in Philippines Lapar et al. (2003) find that market integration decisions of smallholders are influenced by observed decisions of other farmers (who are more market integrated) within their vicinity. This means that individual farmers use the experience of their colleagues, and friends as a guide for their decisions in adopting of new practices (e.g., Bala & Goyal, 1998) that enhance their market integration. Thus, smallholders' market integration can be positively influenced by a higher level of market integration of their neighbours.

*c) Infrastructure:* Infrastructure such as roads influences the market integration of smallholder producers. To this respect, the study by Balat et al. (2009) shows that high trade costs due to poor infrastructure such as roads prevent farmers in Uganda from adopting major export crops. Thus, development of infrastructure is one of the driving forces for the increased market integration of smallholders (von Braun, 1995).

*d) Market standards and information:* Market standards and information refers to the extent to which smallholders use market standards (such as reference yardsticks for quality levels) and the information (on prices, quality, and other attributes) for their products. Common use of market standards and information to smallholders enhances their market integration (e.g., Mithofer et al., 2008). To this respect, presence of the legal and contractual institutions helps smallholder agricultural producers to operate efficiently and hence enhance their market integration (von

Braun, 1995). Availability of such legal and contractual institutions helps to provide and maintain the standards for unit and quality that can enhance the market integration of smallholders. Provision of market information for the products of smallholders is also found to enhance the market integration of smallholder producers (Balat et al., 2009; Omiti et al., 2009).

The theoretical foundation for these antecedents comes from transaction cost theory (e.g., Williamson, 1991). From subsistence production for food versus producing for the market (so-called specialization) point of view, market integration can be framed as a ‘make’ or ‘buy’ decision, thus connecting to transaction cost theory (e.g., Key et al., 2000; Omamo, 1998). In this regard, von Braun (1995) states that high transaction costs are the basic reasons that force smallholder producers to favor subsistence farming rather than commercialization. As a consequence, unless mechanisms are put in place to cope with constraints of transaction costs, smallholders are less likely to realize the full benefits of market integration (Gabre-Madhin, 2009).

The literature on pastoralism also indicates that transaction costs like information search costs (of finding a partner with whom to exchange), and bargaining and negotiation costs highly affect market integration of pastoralists (e.g., Barrett & Luseno, 2004; Little, 2005; Kyeyamwa et al., 2008). For example, based on an empirical study in Uganda, Kyeyamwa et al. (2008) found that variation in the transaction costs that the pastoralists incur (including costs of information search, negotiation and trekking) greatly influences the extent of their market integration. Also, because perishable products like milk require preservation, pastoralists incur higher transaction costs than when they sell less perishable dry goods like grains (e.g., Baltenweck & Staal, 2007). As a consequence, higher transaction costs in livestock may force pastoralists to limit specialization for the market (because selling process is costly) in favor of raising livestock to produce milk (and other livestock products) to fulfil their food and other requirements by themselves.

### *3.3.2 Consequences of market integration*

*a) Adaptation to natural conditions:* Adaptation refers to ‘the decision-making process and the set of actions undertaken to maintain the capacity to deal with current or future predicted change’ (Nelson et al., 2007: 396). In the existing literature, increased market integration is considered as negatively affecting the sustainable utilization of natural resources (e.g., Angelsen, 1999). To this

respect, a study by Pendleton and Howe (2002) shows that increased market integration of smallholders in Bolivia damaged the natural environment as farmers increased forest clearance for cash cropping. In Thailand's case, Tipraqsa and Schreinemachers (2009) also indicate a concern on the sustainability in relation to the excessive use of agrochemicals (e.g., pesticides) by smallholder producers in their commercialization.

*b) Livelihood level:* Livelihood level refers to the level of household income and well-being that smallholder producers can generate as a result of increases in market integration. To this respect, many of the studies indicated that market integration enhances the income (e.g., Balat et al., 2009; Maertens & Swinnen, 2009; Von Braun, 1995) and nutritional status of households (e.g., Von Braun, 1995) (see also Table 3.1).



**Table 3.1** Studies on antecedents and consequences of market integration of smallholders

<b>Reference</b>	<b>Country</b>	<b>Product (Commodity)</b>	<b>Methods</b>	<b>Antecedents of market integration</b>	<b>Consequences of market integration</b>
Balat, Brambilla & Porto (2009)	Uganda	Export crops (e.g. coffee) and food crops (maize)	Household data on the entire Uganda	Infrastructure (e.g. roads), market availability, and market information	Export crop producers have higher incomes and are less poor than subsistence producers
Bernard, Gabre- Madhin & Taffesse (2008)	Ethiopia	Different crops	Survey on 2,532 households for propensity score matching (1,702 in comparison and 8,30 in treatment)	Cooperative membership, landownership, and education level	Higher income (prices)
Bouis & Haddad (1994)	Philippines	Sugarcane and corn	Panel data on 510 corn and sugarcane producing households	Better access to (credit, technology, and education), and farm size	Smallholders that shifted their production towards sugar made higher profits per hectare than their corn producing households

**Table 3.1** (continued)

<b>Reference</b>	<b>Country</b>	<b>Product (commodity)</b>	<b>Methods</b>	<b>Antecedents of market integration</b>	<b>Consequences of market integration</b>
Dorsey (1999)	Kenya	Coffee	Survey on 67 coffee growing farmers	Government support, capital and credit availability, producing many crops (diversification) and decrease in land size	Income increase to farmers
Kilic & Carletto (2009)	Guatemala	Snow pea for export	Panel data on 136 snow pea adopters (for export) and 157 non adopters	Government support (technical and marketing), and market availability	Increased welfare (e.g. income) of households
Key, Sadoulet & de Janvry (2000)	Mexico	Corn	Survey on 382 corn producing households	The use of high yielding varieties of corn, mechanization of production, and access to credit and infrastructure	Increased output of households
Lapar, Holloway & Ehui (2003)	Philippines	Livestock	A total of 110 households consisting of 75 (backyard) livestock producers and 35 non-producers	Neighbourhood effects, number of livestock, and exposure to extension agents	Not included

**Table 3.1** (continued)

<b>Reference</b>	<b>Country</b>	<b>Product (commodity)</b>	<b>Methods</b>	<b>Antecedents of market integration</b>	<b>Consequences of market integration</b>
Maertens & Swinnen (2009)	Senegal	Fresh fruits and vegetables (FFV)	Survey on 168 households participating in FFV production for export and on 158 households who do not	Product quality standards	Higher incomes and poverty reduction to the households
McCulloch & Ota (2002)	Kenya	Horticulture	Cross-section data on 263 households from rural and urban areas of which 141 are horticulture producers and the remaining are not	Land size, education level, and growing different types of crops	Farmers participating in export horticulture are less poor than those which are not
Mithofer, Nangole & Asfaw (2008)	Kenya	Vegetables	Survey on 11,132 house- holds who grow vegetable crops for export	Food safety standards, support by government (GO) and non-government organizations (NGOs), alternative cash crops, and availability of local market	Not included

**Table 3.1** (continued)

<b>Reference</b>	<b>Country</b>	<b>Product (commodity)</b>	<b>Methods</b>	<b>Antecedents of market integration</b>	<b>Consequences of market integration</b>
Omitti, Otieno, Nyanamba & Mccullough (2009)	Kenya	Milk, vegetables, and maize	Combines surveys and rapid rural appraisal on 43 rural and 33 peri-urban household producers	Market information and infrastructure	Increased proportion of sales of produce (than consumed) by the households to increase income
Pendleton & Howe (2002)	Bolivia	Bananas and yucca	Survey on 209 households producing bananas and yucca for export	Distance from market center, education level, and access to services (e.g. credit)	Increases forest clearance for cash cropping
Tipraqsa & Schreinemachers (2009)	Thailand	Rice	Survey on 240 farm households	Growing different types of crops, increased input use (e.g. fertilizer), and asset owned (e.g. land)	Increased productivity and income to the households

**Table 3.1** (continued)

<b>Reference</b>	<b>Country</b>	<b>Product (Commodity)</b>	<b>Methods</b>	<b>Antecedents of market integration</b>	<b>Consequences of market integration</b>
von Braun (1995)	10 countries from Asia, Africa and Latin America	Cash crops, food crops, fruits and vegetables	Synthesis from studies made by International Food Policy Research Institute (IFPRI) on commercialization	Infrastructure, and institutions (laws and contracts)	Increased income and nutritional status of households
von Braun, Hotchkiss & Immink (1989)	Guatemala	Snow pea for export	Cross-section data on 181 snow pea adopters and a control groups of 218 non adopters	Increased demand in US, higher labor land ratio in small farms, distance to market infrastructure, and assistance from GO and NGOs	Adoption of snow pea led to increased income and consumption levels of households

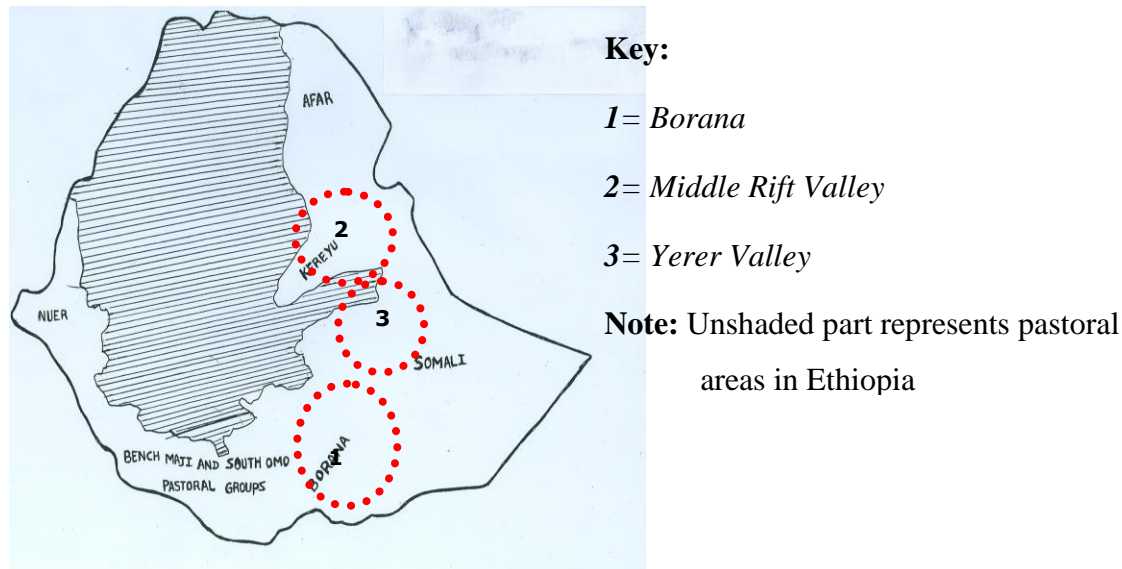
### **3.4 Study method**

We depart from the existing literature on market integration conceptualization (as low versus high market interaction) in order to refine the market integration concept in the context of pastoralists. This requires a qualitative based inductive study. To this end, this study follows a case study protocol (Yin, 2003). In this section we describe the case study selection, data collection, and analysis procedures.

#### *3.4.1 Research context and case selection*

With more than 12 million pastoralists (Getahun, 2008), pastoralism is an important part of the Ethiopian economy. Pastoralist livestock production contributes about 35 percent of agricultural gross domestic production in the country (Davies & Hatfield, 2007). Pastoralists are also responsible for about 30 to 40 percent of the livestock population in Ethiopia (Coppock, 1994; Halderman, 2004). Estimates show that about 70 percent of the goats, nearly 100 percent of the camels, and 30 percent of the cattle and sheep populations of Ethiopia are found with pastoralists (Mengistu, 2003). The livestock is vital to the livelihoods of pastoralists because it generates food (such as milk) and cash (by selling live animals and animal products in the market). The livestock resource of pastoralists can also be part of the solution to the growing demand for protein. The extent to which pastoralists effectively use the livestock resources for improving their livelihood as well as their supply position (to customers) may however depend on the extent to which they are integrated to the market. To this respect, those pastoralist which strategically align their supply (livestock and livestock products) to the market can enhance their livelihood (through higher income), and also increase contribution to customers.

This study selected three pastoral regions in Ethiopia as cases; Borana, Middle Rift Valley, and Yerer Valley (Figure 3.2). We aimed to maximize possible variations among these pastoral regions in terms of natural (ecology) conditions (e.g., pasture and water availability), and socio-economic aspects like income diversification (e.g., farming in addition to livestock raising), infrastructure, and development projects.



**Figure 3.2** The three pastoral regions in Ethiopia included in the case study (adapted from PFE et al., 2010)

The Borana region is characterized by relatively high mobility and low diversification (i.e., few other activities are carried out apart from livestock raising to generate additional income). The Borana region is also remote from the central markets (in terms of distance in km) with low presence of development projects such as plantation. In Borana, pasture is relatively more available as compared to other two regions. The Middle Rift Valley region has a higher average temperature as compared to other two regions. But this region is close to the central markets and crossed by the road and rail way line that connects Ethiopia with Djibouti (export outlet). A significant amount of grazing land (some districts about 28%) is taken over by development projects including the sugar plantation in the Middle Rift Valley. The Yerer Valley region is relatively far from the central markets; but closer to informal cross border livestock trading (through Somaliland and Djibouti). This may give pastoralists in Yerer Valley more market outlets as compared with pastoralists in other regions. Table 3.2 and Table 3.3 show the natural and socio-economic aspects of the three case study regions, respectively.

Including the three pastoral regions with different ecological and socio-economic background as cases can maximize the variation among the pastoralists. These three cases also allow for increased generalizability and reliability through repetition (e.g., Miles & Huberman, 1994). Maximum variation in between the three cases or within the cases provides valuable

insights during the case study process (e.g., Perry, 1998). This may provide rich information to the three pastoral cases which is important to the validity generated from case study research (e.g., Patton, 2002). The decision which regions to include as case studies was made in consultation with 2 experts on pastoralism from the Pastoralist Forum Ethiopia (PFE) and one expert from the Research Institute for Pastoralism and Agropastoralism at Haramaya University. The experts confirmed the argumentation for the case selection.



**Table 3.2** Natural and physical conditions of the three case study regions

Categories	Borana	Middle Rift Valley	Yerer Valley
Area in km <sup>2</sup>	About 95,740	About 6,500 <sup>1</sup>	About 39,500
Climate	Relatively humid. Average annual rainfall and temperature 600 mm and 19-24°C, respectively.	Very hot and dry. Average annual rainfall and temperature 550 mm and 33°C, respectively	Humid climate and average rainfall 650-750 mm in Yerer (and Daketa) valley. Hot in the lowlands of Jijiga.
Land	Poor soil for farming and lacks water. Irrigation is non-existent.	Fertile soil, and there are irrigation practices.	Fertile soil in the Valley. Poor soil in Jijiga. No irrigation practices.
Pasture and water	Bush encroachment (due to ban on fire), lacks water. About 60 % of the land is suitable for pasture.	High pasture shortage, grazing lands are incorporated into the Park and plantation. Only about 10% of the land is suitable for pasture; and there is Awash river	Suitable for camels. Pasture coverage about 13%. Spring wells and wetlands. Fafen, Daketa, and Yerer rivers. In Jijiga area, there is pasture shortage and overuse; and also lacks water.
Location	Remote from central markets (675 km away from Addis Ababa), few roads.	Closer to central markets (193 km away from Addis Ababa), along the main export road and railway line.	Closer to middle east market. Relatively far from central markets (615 km away from Addis Ababa).

<sup>1</sup> The area figures for Middle Rift Valley and Yerer Valley are computed by the first author.

**Table 3.3** Socio-economic characteristics of the selected case study sites

Category	Borana	Middle Rift Valley	Yerer Valley
Population <sup>2</sup>	About 1,509,846	About 231,569	About 1,175, 262
Population density	About 16 persons per km <sup>2</sup>	About 35 persons per km <sup>2</sup>	About 30 persons per km <sup>2</sup>
Livestock	Cattle, camels, goats and sheep. Traditionally cattle. Camel is recently adopted.	Camels, cattle, goats, and sheep. High shift from cattle to goats and camels. High cattle breed dilution due to previous restocking interventions.	Cattle, camels, goats and sheep in the valleys. Camels and goats dominate the lowlands of Jijiga.
Herd size	Larger cattle herd.	Larger camels and goats herd.	Larger camels and goats herd.
Formal institutions	No big development project except water wells.	Park (827 km <sup>2</sup> ), plantation (1000km <sup>2</sup> ) and irrigation on Awash river.	No big development projects.
Traditional institutions	<i>Gadaa</i> <sup>3</sup> system, <i>Buusaa-gonofa</i> shares wealth.	Relatively weaker traditional institutions.	Moderate traditional institutions.
Livelihood diversification	Less diversified (livestock trading).	More diversified (livestock trading, farming, charcoal, and petty trade).	More diversified (livestock trading, farming, and petty trade).
Marketing chain member	Pastoralists, brokers, traders, fattening operators and exporters.	Pastoralists, brokers, traders and exporters.	Pastoralists, brokers, traders, and (illicit) exporters.

<sup>2</sup> Population figures are computed from 2007 Central Statistical Authority census.

<sup>3</sup> The *gadaa* system is an indigenous institution for guiding the social and economic life of Borana pastoralists.

### *3.4.2 Data collection*

This study uses three case concepts describing the natural (ecological), socio-cultural, and economic environment of pastoralists, to guide the data collection (see Appendix 3.1 for example questions). Data were collected through individual interviews, personal observations, focus group discussions, and desk research following the recommendations of Yin (2003). Triangulation of data through desk research, interviews, focus group discussions, and personal observations is important to ensure reliability and validity of the case study data (Yin, 2003). The field study data were collected from September, 2008 to January, 2009. The first author administered all the interviews and focus group discussions.

Pastoralists were interviewed around their grazing areas and market centers. Market centers (Table 3.4) were selected from the three case regions to maintain generalizability on market integration of pastoralists. Interviews with pastoralists (around market centers) were conducted at the end of the market day or in the next day. This avoided overlap of the interviewing process with market activities of pastoralists. During the interviewing and focus group discussion processes with the pastoralists, four field assistants were employed to translate from local languages into national language. All interviews and focus group discussions are, then, transcribed into English. Field assistants were first trained on site by conducting two pilot individual interviews with pastoralists in each case study region (6 total). Discussions between the translators and the first author followed after each of the pilot interviews. This helped the translators understand the contents of the case study protocol (see Appendix 3.1) to minimize any translation errors.

**Table 3.4** Markets included in the case study

Region	Markets visited			Main livestock traded
	Primary	Secondary	Central	
Borana	Bulbul, Elwoye and Wachille	Negelle, Dubuluk, Moyalle, Yabello and Harobeke	Nazareth	Camels, cattle, sheep and goats. Only sheep and goats in Bulbul.
Middle Rift Valley	Asebot	Meisso and Metehara	Nazareth	Camels, cattle, sheep and goats.
Yerer Valley	---	Babile, Jijiga, Hartesheik, and Togouchalle	Nazareth	Camels, cattle, sheep and goats. Mainly goats and sheep at Hartesheik

Note: Primary markets are those which are regularly visited by small traders; whereas secondary markets are those which are visited by both small and big traders, exporters and slaughterhouses. The central markets are terminal markets for export and local abattoirs.

We interviewed respondents about livestock market decision as a central concept by using three different concepts related to the natural, socio-cultural, and economic factors. Interview questions were structured around a number of topics related to the three concepts (e.g., Dibb et al., 1997). Further, we designed the case study protocol (Appendix 3.1), based on the case study concepts, with specific research questions to facilitate the data collection process. Interview questions were kept deliberately broad enough to allow interviewees much freedom in their answers (Glaser & Strauss, 1967). Topic lists on issues to be discussed were prepared in advance of each interview sessions based on the case study protocol. Such advance preparation enhances data collection consistency and research reliability (Yin, 2003).

Using *individual interviews*: firsthand information was gathered regarding the in-depth account of experiences and motivations with respect to the market. A total of 64 interviews with pastoralists, 21 interviews with brokers, 29 interviews with traders, 4 interviews with fattening operators, 7 interviews with slaughterhouses and live animal exporters, and 13 interviews with experts were conducted (Table 3.5). Each individual interview session lasted for 30-60 minutes.

The backgrounds of experts are sufficiently dissimilar to shed light on the topic from different views. They have careers as policy maker, custom officer, veterinary service, development expert, and livestock marketer. Also interviewing other marketing chain members

(traders, slaughterhouses, fattening operators, and exporters) helps understand market orientation practices used in the livestock marketing chain.

*Personal observation:* All the market centers included in this study were physically observed on major market days by the first author. Operations of the slaughterhouses, fattening operators and live animal exporters were also observed. Such observation permits to understand market transaction activities that may not be seen from interviews.

**Table 3.5** Number of interviews conducted across the three case study regions

<b>Interview and FGDs</b>	<b>Borana</b>	<b>Middle Rift Valley</b>	<b>Yerer Valley</b>	<b>Total</b>
<b>Personal interview</b>				
Pastoralists	25	19	20	64
Brokers	11	4	6	21
Traders	7	5	17	29
<i>Subtotal (A)</i>	<i>43</i>	<i>28</i>	<i>43</i>	<i>114</i>
Focus group discussion	6	3	5	14
Fattening operators	Not located in a particular pastoral area			4
Slaughterhouses	Most are not located in pastoral area			5
Live animal exporters	Not located in a particular pastoral area			2
Experts	Not located in a particular pastoral area			13
<i>Subtotal (B)</i>				<i>24</i>
<b>Total individual interviews</b>				<b>138</b>

Note: FGD is not included under the total tally. Only one slaughterhouse from Middle Rift Valley is included.

Fourteen *focus group discussions* were conducted consisting 5 to 8 participants; of which 2 are with traders and 12 are with pastoralists for triangulation and cross checking (e.g., Strauss & Corbin, 1998). One broker was included in each of the 5 focus group discussions with pastoralists. Group discussions are preferred to individual interviews to provide data on realities as defined in a group context (Frey & Fontana, 1991). Each focus group discussion lasted for 1.5 to 2 hours consistent with Stewart and Shamdasani (1990) who note that focus group discussion lasts about 1.5 to 2.5 hours. Focus group discussions could not be made with exporters and fattening operators since it was difficult to bring them together. All interviews and focus group

discussions were recorded and transcribed to increase accuracy of data presentation (Patton, 2002).

*Desk research* involved reviews of related literature, publications and documents from relevant institutions. Documents gathered and reviewed include the Livestock Development Master Plan study by the Ethiopian Ministry of Agriculture and Rural Development (MoARD) (MoARD, 2007) and publications of International Livestock Research Institute (ILRI). Marketing improvement studies and different proceedings of the advocacy groups like United States of America International Development (USAID) and Pastoralist Forum Ethiopia (PFE) were also reviewed. Desk research is important to substantiate the outcomes of the interviews (Yin, 2003).

### 3.4.3 Data analysis

As this case study intends to develop a refined concept of market integration, and its antecedents and consequences, we departed from the framework in Figure 3.1. First, we prepared an extensive case analysis for each case region, based on the transcripts of interviews and focus group discussions, and desk research to identify the differences in the market integration of pastoralists. To interpret the results, interview and focus group discussion transcripts were analyzed first by the first author and then by the second author. The two researchers operated independently to minimize the interpretation bias (Eisenhardt, 1989). Eisenhardt's (1989) two-stage method (within-case and cross-case analysis) guided the analysis of the interview and focus group discussion data. Within-case analysis involved writing up a summary of each individual case to identify important case level phenomena. Following this process, the cross-case analysis involved searches for cross-case patterns (Miles & Huberman, 1994). By comparing responses across and within the cases, it was possible to identify different market integration types among the pastoralists, leading to a reconceptualization of market integration in the context of pastoralists, as well as its antecedents and consequences.

## 3.5 Results

From the rich case study data, we inductively broadened the concept of market integration. We label the new concept market orientation. After discussing this concept, we will explain how the new concept connects to the market integration concept. This is followed by a section that

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presents a refined framework on antecedents and consequences of market orientation of pastoralists.

### *3.5.1 The concept of market orientation of pastoralists*

From the case evidence it became clear that market interaction (selling and buying) of pastoralists also includes processes of sensing buyers' wants with regard to livestock and responding to these wants. Thus, in order to conceptualize market orientation, we analyzed our case evidence on the extent to which pastoralists exercise *sense*, *share*, and *response* functions in their effort to align their products (that they want to sell) to the requirements of buyers. Our evidence shows that pastoralists exercise these three important functions of being market-oriented in different degrees. Through the sense function pastoralists assess about the (livestock) types, breeds and qualities that buyers want in the market as well as the time at which the demand for their products becomes high. Market sensing of pastoralists is largely conducted through personal visits to the market, talks among the pastoralists during their market travel, and through informants from their clan members such as clan brokers. For example, one pastoralist noted 'We ask information from those who have been to market to sell livestock; based on that we estimate the price [of their livestock that they want to sell]. We use mobile phone these days and also get information through radio transmission...'. What is sensed in the market about the new developments with respect to the livestock types, breeds, quality and their prices is also shared within a pastoralist community. 'You don't need to ask information; everyone who went to the market passes market information [to us]', as noted by one pastoralist.

Pastoralists also extensively use their networks for example by placing clan brokers in the market to send them market information. In line with this, one pastoralist for example noted, 'I get market information from brokers and other persons who have been in different market places'. But the extent to which market information is shared could vary among pastoralists because of different factors that limit timely information sharing such as long distance to market (i.e., lack of infrastructure). There could be also information asymmetry when (non-clan) brokers work in the interests of the buyers such as traders. As stated by one pastoralists, 'Some of them [brokers] communicate with the traders [in front of us] using finger signs shaking with cloth cover and decide the price.' Because of these reasons, attempts to share market information to respond to the requirements of the market may be limited for many pastoralists. Even with

market information sharing, pastoralists may not strategically respond (e.g., fattening cattle to sell) to the requirements of the market because they may be constrained by production factors such as shortage of pasture and water. But there are also pastoralists who use the shared market information for strategic response to the needs and wants of the buyers. To this respect, strategic responses of pastoralists may include selecting breeds, fattening, and raising different types of livestock (for market and for milk). By providing preferred breeds and/or fattening of livestock pastoralists can aim to get higher prices. For example, one pastoralist who fattens (to sell cattle) states, ‘We [those who fatten cattle to sell] have better market information than other pastoralists. Their cattle are not well demanded. [...] We have sometimes 1000 birr [Ethiopian currency] price differences [from matured cattle]. Because, ours are fattened ones’. Those pastoralists who sell their livestock after fattening respond to the requirements of the market; and hence they have a higher market orientation than pastoralists who sell without.

Thus, pastoralists differ in the level of their market orientation because their market sensing for information, sharing of information and responding to the market requirements using the market information varies among pastoralists. In the context of pastoralists, market orientation refers to the extent to which pastoralists align their products that they want to sell (to buy) to the requirements of buyers. Thus, simple market interaction that mainly looks at the volume of selling and buying of the livestock may not capture the practices that are exercised by market oriented pastoralists such as supplying selected breeds to the market.

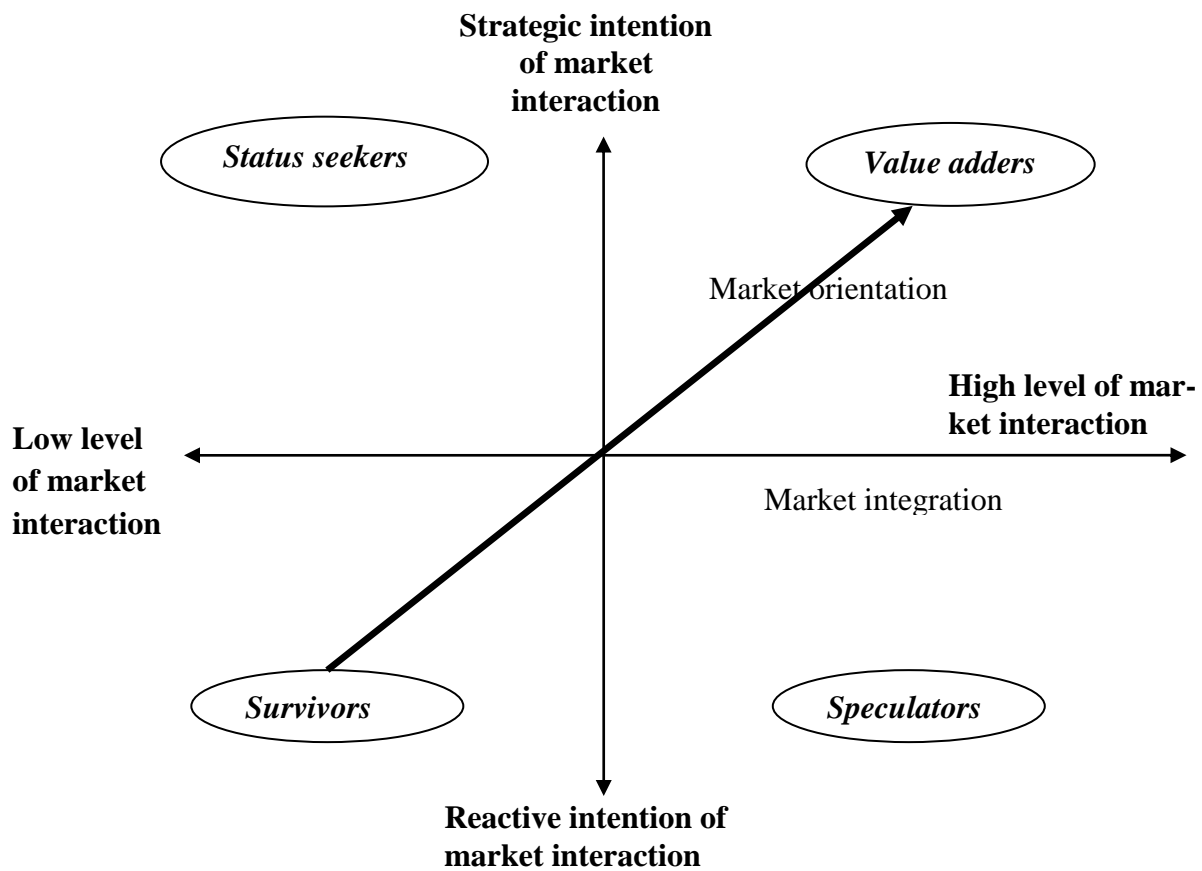
### 3.5.2 Relating market orientation to the market integration concept

From the iterative process of data interpretation, we found that two dimensions of market interaction: the *level* (low to high) and the *intent* (reactive to strategic) show how market orientation is related to market integration. The low versus high market interaction dimension shows the ‘old’ conceptualization of market integration (Figure 3.3). It therefore helps to understand how market orientation is related to market *integration*. In addition to the low versus high market interaction dimension, market orientation adds the reactive versus strategic intention dimension; and hence market orientation is more than market integration. The low versus high market orientation of pastoralists is represented by the diagonal arrow in Figure 3.3.

The two dimensions (*level and intent* of market interaction), also help us explain specific market integration types that pastoralists may exercise. To this respect, four ‘proto’ types can be



distinguished that we tentatively label as (a) value adders (high market interaction with strategic intention and thus higher market-oriented), (b) speculators (high market interaction with reactive intention and thus not highly market oriented despite their high level of market interaction), (c) status seekers (low market interaction with strategic intention to keep livestock, therefore not highly market oriented because they limit their market interaction), and (d) survivors (low market interaction with reactive intention and therefore exhibiting a low level of market orientation). We describe each market integration type in Table 3.6.



**Figure 3.3** Typology of pastoralists' market integration

**Table 3.6** Description of the types of pastoralists with respect to their market integration

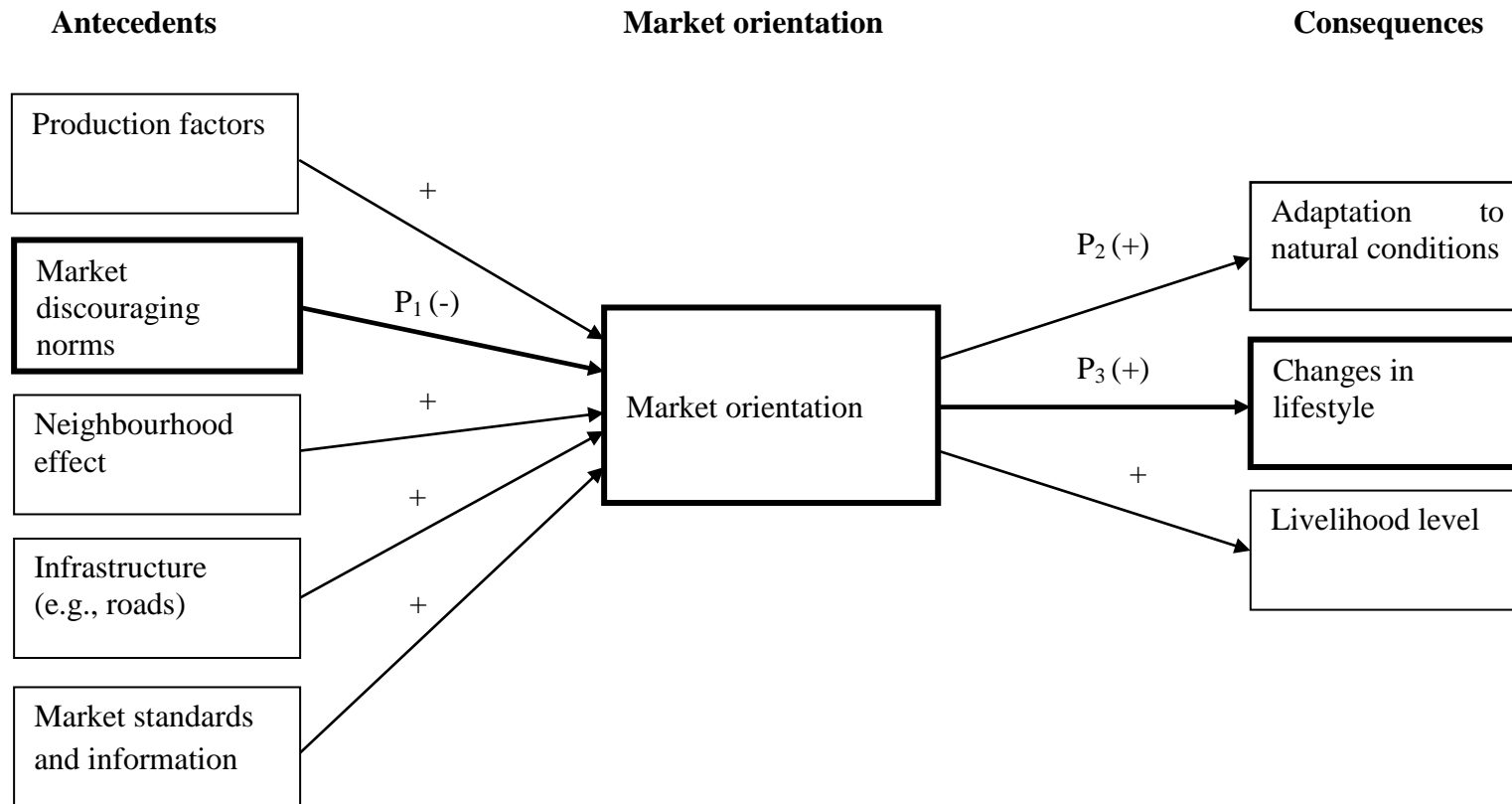
<b>Typology</b>	<b>Typical description</b>
<b>Value adders</b>	Fatten cattle (or provide a better breed) to sell at higher price. And replace for younger livestock for fattening, check market price either to sell or to buy. They have better access to market information through brokers, development agents, and NGOs. In particular, they have better contact and communication with development agents from agricultural bureau in their area. They also use hey, crop residues and other feed supplements to fatten their livestock to sell.
<b>Speculators</b>	Sell when prices are higher and buy when prices are lower. They check market price either to sell or to buy. They have better access to market information (mainly because they are in close contact with brokers in the market). They buy and trek livestock from distant markets (which are not accessible by traders) to sell at high price markets.
<b>Status seekers</b>	Sell if it is necessary (e.g., cereal food, clothes, and for wedding) and for replacement (e.g., old for young), maximize their wealth through breeding than through selling and buying, milk cover larger part of diet, and less effort to improve quality (e.g., fattening) to sell. Whenever they sell matured livestock they replace two or more younger animals for breeding.
<b>Survivors</b>	Sell in need of immediate cash for cereal food, clothes, and occasions like wedding. They have low negotiation power and usually do not sell on credit. They may not able to replace after selling their livestock.

### *3.5.3 Antecedents and consequences of pastoralists' market orientation*

Figure 3.4 shows the refined framework on antecedents and consequences of market orientation of pastoralists. Because the market integration and market orientation concepts are related, antecedents and consequences can also be similar. To this respect, all of the antecedents that are indicated in Figure 3.1 for market integration are confirmed by the case study evidence. As a consequence, we only briefly discuss the influence of production factors, neighbourhood effect, infrastructure, and market standards and information on the market orientation of pastoralists. The concept of market discouraging norms is new to the model and therefore explained more in-

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depth. Likewise, we discuss the effect of changes in lifestyle as a consequence of market orientation. The effect of adaptation to natural conditions is in the market orientation model positive whereas it was negative in the market integration model.



Note: Bold boxes and arrows represent new additions on changed relationships as compared to the market integration framework

**Figure 3.4** Framework of pastoralists' market orientation; its antecedents, and consequences

We therefore discuss this effect also in more detail. We also formulate formal propositions on these differences between the market integration and market orientation model.

*Production factors:* Pasture and water are the most important (livestock) production factors for pastoralists. Shortages in pasture and water (e.g., due to rainfall variability) influence the market orientation of pastoralists. For example, during dry season, pastoralists may focus on feeding their livestock to minimize possible death rather than increasing the quality to sell.

*Neighbourhood effect:* The practices of neighboring farmers influence pastoralists' market orientation. For example, in Meisso (Middle Rift Valley), and Babile (Yerer Valley) areas, pastoralists largely practice fattening to cattle to sell. These areas are located at the opposite lower edge of the Hararghe highlands where fattening is best practiced by farmers in Ethiopia. Fattening practice of neighboring farmers is, therefore, mimicked by pastoralists.

*Infrastructure:* Availability of infrastructure such as roads influences the market orientation of pastoralists. Pastoralists' proximity to infrastructure increases their market orientation. This is because proximity to infrastructure (e.g., roads) increases pastoralists' access to training and credit services from government and NGOs for fattening to sell.

*Market standards and information:* Common use of market standards and information influences the market orientation of pastoralists. For example, by not using standards to match the price with the quality of livestock, pastoralists and traders are forced to determine the price through negotiation using highly subjective assessment of the body conditions of the livestock. Price determination on subjective bases may not reward the efforts of pastoralists that they exercise to align the product that they want to sell to the requirements of buyers. Most of the time pastoralists are not also using market information to help them determine livestock prices.

The consequence of market integration in terms of livelihood level is also confirmed to market orientation. In the context of pastoralists *livelihood level* refers to the level of resources (e.g., a house in a town or cash saving) possessed by a pastoralist. For example, a house owned by a pastoralist in a town represents an increase in livelihood level as it increases her/his resource possession. Pastoralists who are more market oriented appear often to be also more involved in a number of other income generating activities (so-called diversification) including farming, petty trading, livestock trading, building and renting a house in a town, and opening a shop in a town. This is largely because a higher market orientation provides them higher initial cash required to undertake other additional income generating activities (diversification).

We also discovered a new antecedent factor and a consequence of market orientation. We discuss and make propositions on each of them.

*Market discouraging norms:* Market discouraging norms refer to the cultural clan norms that value the possession of livestock over sustainable herd management, including livestock marketing. Because they are typically enforced by clan-elders protecting a traditional way of life, market discouraging norms strongly influence the level of market orientation of pastoralists. As one pastoralist noted, ‘In our culture [Borana] more cattle is esteem. Hence, selling livestock is usually not encouraged’. Many pastoralists indicated that clan elders monitor their livestock sale. Repeated livestock sell without a justifiable reason may result in punishments. ‘The wife [of a seller] reports to the clan elder and the clan members punish him’, as one pastoralist stated. Punishments include physical beating or slaughtering one of the seller’s cattle. Another pastoralist noted, ‘... there are some individuals in our community who cannot sell any animal because of the clan decision’. The punishments are aimed to deter depletion of herd; which pastoralists consider as belonging to their clan. By the orders of elders, individually owned livestock is subject for clan contribution. The clan elders request members to contribute in livestock whenever their member incurs a loss of livestock due to raids or droughts. The best example of such clan contribution is ‘*Buusaa-gonofa*’<sup>4</sup>. Due to market discouraging norms that clan elders want to enforce, pastoralists may emphasize on breeding to increase their herd rather than focusing on fattening the livestock that they sell. Clan elders want their members to stick to traditional values such as having many livestock to contribute to their members, therefore, influences their market orientation. We, therefore, propose as follows:

*Proposition 1:* The stronger the market discouraging norms in a clan, the lower is the market orientation of pastoralists.

*Adaptation to natural conditions:* Differences in the market orientation of pastoralists result into differences in their adaptation to the changes in the natural conditions. Adaptation to natural conditions refers to the extent to which pastoralists change their herd size depending on the expected change in climate (such as droughts that cause shortages in pasture and water). Pastoralists with a lower market orientation generally respond less to the changes in climate because selling is more difficult and less beneficial for them. As a consequence, pastoralists may consider that keeping to livestock to increase their herd is better than selling

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<sup>4</sup> A traditional insurance system of Borana pastoralists; where pastoralists contribute livestock for their clan members.

in the market. 'We have reasons to have a larger herd. During drought half will die but still half will survive. When it rains half will again revive and becomes many', as one pastoralist noted. They have difficulty in providing the livestock that is demanded in the market. This is because they may not fulfil the requirements of buyers in the market by improving quality of livestock that they want to sell. As stated by another pastoralist, 'We just take [the livestock] to the market when we need cash'. On the other hand, pastoralists with a higher level of market orientation destock (sell) a part of their livestock before dry season after fattening. For example, one pastoralist noted, 'I sell after fattening the cattle; and when I think I will get better price'. They also restock livestock from the market after the drought, and therefore have a higher adaptation to natural conditions. Overexploitation of natural resources is unlikely for market-oriented pastoralists because they achieve a competitive advantage that is relatively sustainable: their way of living is likely to generate an income for many years. Based on this we hypothesize as follows:

*Proposition 2:* The higher the market orientation of pastoralists, the higher is their adaptation to the natural conditions.

*Changes in lifestyle:* Higher market orientation can increase changes in the lifestyle of pastoralists. By the changes in lifestyle we mean the way how pastoralists shift from subsistence to monetized dealings in their way of life by using their cash income. Peoples' shift from subsistence to monetized dealings as a change in their lifestyle is emphasized in sociological studies (Chabot, 2003; Leatherman, 1992; Ruddle, 1993). The increase in cash makes pastoralists consumers of different products; including manufactured products. For example, the use of mobile phones represents a lifestyle change to pastoralists. Pastoralists use mobile phones to check livestock prices from their (clan) brokers and to get in touch with family members who are in mobility with their herds. Pastoralists indicated that the use of mobile phones increases their information exchange. One pastoralist for example exclaimed during focus group discussion, 'My father! Now we have this', while he showed his cell phone. Increases in the market orientation, however, can increase pastoralists' individualistic lifestyles rather than reciprocity based lifestyle of pastoralists (see also Smith, 1998; Casciarri, 2009 for more on lifestyle changes of pastoralists). For example, pastoralists have indicated that some of their members spend their money in towns for alcohol and 'Khat' (stimulant leaf). Spending in alcohol or 'Khat' for individual satisfaction (enjoyment) reduces reciprocity (and sharing) that characterizes pastoralists' traditional way of life. It can be proposed that:

*Proposition 3.* The higher the market orientation, the higher is the change in lifestyle of pastoralists.

### **3.6 Discussion and implications for policy**

#### *3.6.1 Discussion*

This study revealed market orientation as a refined market integration concept of pastoralists. Market orientation refers to the extent to which pastoralists align their livestock that they want to sell (or to buy) to the requirements of buyers. To fulfill the requirements of buyers and hence get higher prices pastoralists exercise market sensing, market information sharing and response (to the requirements of buyers) functions. To this respect, the strategic response of pastoralists to the market may include selecting breeds, fattening, and raising different types of livestock.

The study relates market orientation to market integration using two dimensions: the *level* (low to high) and the *intent* (reactive to strategic) of market interaction of pastoralists. The low versus high market interaction dimension confirms to the *old* conceptualization of market integration. Market orientation is related to market integration because it also considers the low versus high market interaction dimension. But market orientation is broader than market integration because the former, in addition, takes into account the strategic response of pastoralists to the requirement of buyers.

The study also confirms that the antecedents and consequences of market integration also apply to market orientation. In addition, the study identifies an antecedent and a consequence of market orientation that were not part of the conceptual framework on market integration. Pastoralist's market orientation is negatively influenced by the market discouraging norms that clan elders want to enforce among their members. Regarding the consequences, the study finds that by increasing the shift of pastoralists from subsistence to monetized dealings, market orientation enhances changes in lifestyle. The study also confirms that market orientation positively enhances the livelihood (e.g., a higher income) of pastoralists. However, the negative consequence of market integration to the adaptation of the natural conditions is not confirmed. Rather the study finds that market orientation positively contributes to the adaptation to natural conditions such as pasture and water. This may indicate that market orientation rather than market integration contributes to the sustainable utilization of the natural resources by pastoralists.

The findings therefore indicate that market orientation needs to be explained from the extent to which producers sell their products in alignment with the requirements of the



market. As a consequence, a higher level of market integration which is synonymously treated in the literature as a higher level of selling of products in the market may not actually capture market orientation of pastoralists. This is because a higher level of selling can also be attained through speculation; without any effort to improve quality to satisfy the requirements in the market.

### *3.6.2 Implications for policy*

By pursuing a policy directed towards market orientation of pastoralists rather than market integration per se, policy makers can achieve two goals simultaneously: improving livelihoods and adaptation to natural conditions. The study has the following implications.

First, in order to develop a market-oriented policy for pastoralists, policy needs to look beyond generic measures in terms of volume sold versus consumed by the household (i.e. market integration). Because market orientation (but not market integration) focuses on the strategic response of pastoralists to the requirements of buyers it can enhance the sustainable competitive advantage of pastoralists in their livestock market.

Second, market orientation could increase income benefits for pastoralists, chain members (like exporters), and the government (foreign exchange and taxes), and help pastoralists to establish stronger links with other chain members to enhance their sustainable livestock supply position. A higher volume of product sold without focus on value adding (e.g., fattening), however, could end up in having many speculator pastoralists; who in reality also exercise high level of selling and buying without value adding. Buying and selling by pastoralists without links to outside actors such as exporters brings price depression to pastoralists (e.g., Barrett & Luesno, 2004). Price depression could discourage pastoralists' livestock supply, further limiting their adaptation in livestock destocking and restocking due to changes in natural conditions that cause shortages in pasture and water. Therefore, policy intervention is required to enhance market orientation of pastoralists to improve their livelihood and economic contribution. To this respect, policy may focus on extension services (improving breeding, livestock quality, and health), training in fattening, and experience sharing (e.g., with fattening operators, or other pastoralists).

Third, availability of infrastructure is not enough to enhance market orientation of pastoralists. To this respect, facilitating the common use of market standards and information to pastoralists about the market requirements could contribute in enhancing their strategic response by selecting breeds demanded in the market, and fattening livestock to sell. Likewise collective action in the form of producer groups can enable pastoralists to take advantage of

the new developments in the marketing chains (e.g., Gebru et al., 2009; Markelova & Mwangi, 2010). Forming producer groups can enable pastoralists to exercise collective marketing to meet quality and safety standards such that their product fulfils market requirements (e.g., Thorp, et al., 2005). Likewise, enhancing the market orientation of pastoralists may also require increased awareness creation among the clan elders who may consider livestock selling as a possible threat to the security of their clan members. To this respect, clan elders need to understand the possible benefits of advance livestock destocking in order to restock after the drought.

Fourth, there is not a single policy that is effective for all pastoralists because the market interaction level and focus differs among the pastoralists. Policies should explicitly link the type of market interaction that pastoralists exercise with appropriate interventions to enhance market orientation. If pastoralists have a lower level of market interaction (status seekers and survivors), this may be caused by a limited access to insurance and credit markets (e.g., von Braun, 1995). In such cases, policy makers may improve the availability of these services to pastoralists. Likewise, making cereal foods more available to them, especially during dry periods, may make these pastoralists less risk averse, and increases the likelihood that they become more market oriented. Reducing concern for food self-sufficiency is suggested to increase smallholder producers' response to price incentives (Fafchamps, 1992). Pastoralists of the speculator type, exhibit a high degree of market interaction but without strategic intent to meet buyers' wants and needs. Fluctuations in prices and pasture could force these pastoralists to focus on short-term market speculation rather than investing in a long-term market oriented exercises such as feeding to fatten to sell. To this respect, interventions that reduce the frequent price fluctuations in the market might encourage speculators to supply their livestock by fulfilling the requirements of buyers. Shortage of pasture that pastoralists encounter may need to be minimized to enhance market orientation of pastoralists. Therefore, attempts to enhance market orientation of pastoralists should approach different groups of pastoralists differently to minimize their specific constraints to market orientation.

Fifth, policy makers should be aware that pastoralists' market orientation could be more sustainable through livelihood diversification (carrying out other activities apart from livestock raising to generate additional income) than specialization. In previous literature, policies to this respect have been focused on supporting smallholders to achieve higher market integration through specialization (e.g., Pingali, 1997). In addition to adding different livestock types such as grazers versus browsers (e.g., Swallow, 1994; Hendrickson et al., 1996; Nori et al., 2005), it is also crucial to pastoralists to include other activities such as petty

trading, livestock trading, and farming. Livelihood diversification could increase market orientation because the former can serve as an option as well as an incentive to pastoralists to reinvest cash from their livestock selling. Combining livestock and non-livestock investments (such as farming or petty trading) could increase income streams and asset accumulation to pastoralists (Desta & Coppock, 2002). In particular, policies that stimulate farming (though dependent on favorable rainfall or irrigation) may enhance market orientation because farming can produce fodder materials, like straw, which in turn enable pastoralists to fatten their livestock. In the absence of options for diversification, however, pastoralists may consider livestock as a single insurance to their food self-sufficiency and store of wealth. In that case, pastoralists may limit their livestock market interaction in favor of keeping them to build their herd. The latter trend could limit pastoralists' adaptation to natural conditions.

Sixth, understanding the behaviour of pastoralists as both sellers and buyers of livestock is crucial to enhance their market orientation. Market orientation should emphasize the selling and the buying practices of pastoralists because adaptation to natural conditions (i.e., livestock destocking and restocking) demands both. Difficulties to exercise buying (restocking) are also the main reasons that force pastoralists to limit their selling (destocking) decisions even during droughts (e.g., McPeak, 2005). Equating high market orientation only with increased selling (without comparable buying) could subject pastoralists to unintended consequences like the difficulty to maintain selected breeds. Hence, policy needs also to support the buying practice of pastoralists in terms of providing better breeds (better adapted to the pastoralists' ecology) for further breeding or fattening for the market.

Seventh, while supporting the market orientation of pastoralists, policy measures are required to minimize any undesired lifestyle changes (e.g., increased alcohol consumption) that may accompany increased market orientation of pastoralists. A higher market orientation could potentially ruin pastoralists' lifestyles as well as their livelihood level unless the benefits that pastoralists gain from a higher price are properly channeled for saving and further investments. To this respect while enhancing market orientation of pastoralists, developing financial and insurance markets could be a complementary endeavour that policy makers need to consider (e.g., von Braun, 1995).

Eighth, policy makers may support pastoralists in their attempts to balance market and ecological requirements. Increases in the market orientation of pastoralists can lead to higher herd productivity through breeding (e.g., Zander, 2011). At the same time pastoralists might be constrained from selecting productive breeds (such as those producing more milk) because they also take into account the ecological tolerance of the breed types. For example,

pastoralists may be forced to take into account the hardiness of the livestock type to tolerate forage shortages rather than their productivity (e.g., Desta et al., 2011). Policy may facilitate this trade-off through breeding programs, research and/or improving the forage conditions.

### **3.7 Limitations and direction for future research**

#### *3.7.1 Limitations*

There remain two main limitations in this research. First, the study is country specific, and hence we are not sure whether the findings also apply for pastoralists elsewhere in east Africa or other parts of the world. And as such it still remains to be tested for generalizability whether the findings demonstrated by the case studies in three regions of Ethiopia are applicable to pastoralists in other countries. Second, the study is based on cross-sectional data carried out at a specific period in time. In this regard, using longitudinal data collected at different times may unravel whether pastoralists develop from one market integration type to the other; thus, increasing (or decreasing) their level of market orientation over time.

#### *3.7.2 Direction for future research*

This study underscored that market orientation of pastoralists is explained by the extent to which pastoralists exercise the sense, sharing and response functions with respect to the market for their products. Future research needs to develop measurement instruments to test the conceptual framework that was developed in this study. In doing so it may further seek analogies with the market orientation concept as it was developed in the marketing literature (Narver & Slater, 1990; Kohli & Jaworski, 1990). Such future studies may take the following directions.

First, research may examine further (by using quantitative data) the impact of market orientation on the livelihood performance of pastoralists. The same research may further explore possible moderating variables that strengthen or weaken the market orientation-performance relationship to pastoralists.

Second, further research is required to validate empirically the contribution of market orientation in enhancing the adaptation of pastoralists to the natural conditions. To this respect, for example, a semi-experimental study can be designed to test how pastoralists respond to the changes in the natural conditions (such as rain and drought) by changing their herd size.

Third, research could also be directed on identifying the effects of market orientation on changes in the lifestyle of pastoralists. In this regard, sociological research might be

conducted to investigate relationships between the higher market orientation of pastoralists and other market integration types with respect to the changes in lifestyle. The outcomes from this type of research could be helpful in designing policies that aim to enhance market orientation while being abreast to pastoralists' culture and lifestyles.

Fourth, research also might analyze relationship between adaptation to changes in climatic conditions and market orientation to other smallholder agricultural producers beyond the pastoralists' context. To this respect, research might test how market orientation of smallholder agricultural producers (e.g., crop farmers) influences their adaptation to the changes in climatic conditions through changes in their crop varieties, timing of planting, and undertaking additional income generating activities (e.g., petty trading).

### **3.8 Conclusion**

In this study we refined the 'old' conceptualization of market integration into market orientation. In the context of pastoralists market orientation refers to the extent to which pastoralists align their livestock (that they want to sell) to the requirements of the market. This includes pastoralists' ability to sense market information, share the information and respond using the information to the requirement of buyers. By pursuing market orientation of pastoralists, policy makers can achieve multiple objectives: poverty reduction and adaptation to climatic conditions, meanwhile contributing to the production of proteins for the growing urban population and the export position of their countries.

**Appendix 3.1** Case concepts and protocol

<b>Case study Concept</b>	<b>Representative References</b>	<b>Key research question</b>
Natural and physical Factors	Amanor (1995); Perevolotsky (1986)	a) What natural environmental factors affect your livestock market decisions? b) How does seasonality affect your livestock market decisions?
Socio-cultural factors	Little (2005); Gebre-Mariam (1987)	a) How do socio-cultural aspects (e.g., clan norms and social status) affect your market decisions? b) How do you symbolize livestock market decision and its outcomes? c) What type of informal mechanisms do you use to facilitate your livestock market exchange?
Economic Factors	Kyeyamwa et al. (2008); McPeak & Little (2006)	a) How do different market institutions influence your livestock market decisions? b) What market infrastructural constraints affect your livestock market decision? c) What factors determine your bargaining power during livestock market exchange? d) What costs (e.g., search, and negotiation) do you incur in relation to livestock market transactions?



# **Is the market orientation–performance relationship generalizable to informal economies in emerging markets? An empirical test in the pastoralist economy of Ethiopia**

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## **Abstract**

The market orientation–performance relationship is a cornerstone of the marketing literature that has been well empirically tested in high-income countries and in the formal economies of emerging markets. However, a gap remains regarding the generalizability of the relationship to informal economies in emerging markets. Informal economies have unique characteristics and represent a significant share of emerging market economies. This study aims to address the gap by investigating the market orientation–performance relationship in the informal economy of pastoralists in Ethiopia. To this respect it theorizes on the impact of customer orientation, competitor orientation, and interfunctional coordination and it develops measurement instruments for the specific context in which the relationships are tested. The results show that customer orientation leads to better performance, that the effect of interfunctional coordination is contingent on the population density in the area, and that an effect of competitor orientation is absent. The findings suggest that creating value for customers should be the primary concern in informal economies as much as in formal economies.



## 4.1 Introduction

As the implementation of the marketing concept by organizations (Kohli & Jaworski, 1990), a market orientation is a cornerstone of marketing literature. Market-oriented organizations can combine resources in a way that creates value for their most important stakeholders, customers (Day, 1994; Slater, 1997) and thus leads to customer satisfaction, loyalty, and superior financial performance (e.g., Kirca et al., 2005). This market orientation–performance relationship has appeared in more than 100 empirical studies, generally showing a significant relationship between the two (Cano et al., 2004; Kirca et al., 2005).

However, similar to many other marketing theories, the market orientation–performance relationship confronts a challenge when applied to emerging markets (Burgess & Steenkamp, 2006). Meta-analyses that assess the impact of cultural moderators (e.g., Cano et al., 2004; Ellis, 2006; Kirca et al., 2005) indicate that the relationship weakens in cultures that differ from high-income countries, like the United States or northwestern Europe. Direct tests of the relationship in the formal sectors of emerging markets report mixed findings including positive and negative significant effects of market orientation on performance and insignificant effects (Burgess & Nyajeka, 2007; Ellis, 2005; Grewal & Tansuhaj, 2001; Subramanian & Gopalakrishna, 2001; Tse et al., 2003). These results question the generalizability of one of marketing’s most fundamental relationships.

The existing studies provide a limited insight in the generalizability of the market orientation–performance relationship because they capture a relatively small proportion of the potential variance in emerging markets (Burgess & Steenkamp, 2006). In particular, they focus on formal sectors in emerging markets (i.e., institutional contexts that are most comparable to those in high-income countries), which can tell us little about the generalizability of the relationship to informal sectors. Yet informal sectors (1) make up a significant proportion of the economy in emerging markets (41% of gross national income; Schneider, 2004); (2) can attract multinational companies, in that growth opportunities in emerging markets often rely on mass markets of consumers who make their living in informal sectors (Prahalad & Hammond, 2002); and (3) constitute an institutional environment that differs greatly from high-income countries (e.g., Joshi et al., 2009). Hence, to better understand the generalizability of the market orientation–performance relationship, additional theoretical and empirical work in informal economies of emerging markets should be conducted.

We extend the market orientation literature by theorizing about how the institutional environment of informal economies influences the market orientation–performance

relationship. Drawing on Narver and Slater's (1990) three-component conceptualization of market orientation, we formulate specific hypotheses for customer and competitor orientations and interfunctional coordination, predicting that the latter two are contingent on population density of the informal economy. We then test our proposed relationships in a setting that offers the greatest theoretical stretch for generalizability: the informal economy of pastoralists in East Africa (notably, Ethiopia). Pastoralists herd livestock and have a mobile lifestyle, which allows them to use marginal agricultural lands that are not suitable for permanent crop production but can support temporary grazing (Koocheki & Gliessman, 2005). This way of life is practiced by some 200 million people in the world (WISP, 2007), uses approximately 25% of the Earth, and accounts for 10% of global meat production (FAO, 2001). In this setting, we undertake extensive qualitative research to operationalize the market orientation and performance constructs. We test our hypotheses in a quantitative study conducted in two pastoral areas that systematically differ in population density. In one area, we also confirm our conclusions with a follow-up study to measure performance eight months after our initial data collection.

Our study has both theoretical implications for the generalizability of the market orientation–performance relationship and practical implications regarding the application of value creation strategies to economic sectors that have experienced a minimum impact of modern business and only recently been recognized for their market potential (Prahalad & Hammond, 2002). Our findings outline whether companies entering such markets can depart from fundamental marketing concepts. In addition, our study has implications for policy makers who seek development opportunities by integrating informal sectors to formal markets and export channels (Bigsten et al., 2004; Maertens & Swinnen, 2009).

We begin by describing informal economies, and then offer hypotheses about the effects of different components of market orientation on performance in this context. Next, we describe our data collection and operationalization methods, followed by the empirical results. We conclude with a discussion and implications for theory, management practice, and development.

## **4.2 Background**

### *4.2.1 Generalizability of the market orientation–performance relationship*

The institutional environments of emerging markets are considerably different from those of high-income countries, which raise questions about the generalizability of marketing theories that have been insufficiently tested in these contexts (Burgess & Steenkamp, 2006). The

relationship between market orientation and performance appears positive and significant in empirical generalizations (Cano et al., 2004; Kirca et al., 2005), but the strength of the relationship may differ across cultures. The relation between market orientation and performance is stronger in cultures that emphasize low uncertainty avoidance and low power distance (Kirca et al., 2005), but it is not affected by individualism/collectivism (Cano et al., 2004; Kirca et al., 2005). Ellis (2006) also shows that the relationship weakens with greater cultural distance between a focal country and the United States. Because emerging markets are often characterized by higher uncertainty avoidance and power distance (Hofstede, 2001), the market orientation–performance relationship likely is weaker in emerging markets.

In Table 4.1 we provide an overview of market orientation studies in emerging markets. The evidence from studies conducted in Asia and Africa is not conclusive: Studies find positive, negative, and insignificant effects. Furthermore, research has not addressed heterogeneity within and between emerging markets. Considering the vast number of tests of the market orientation–performance relationship (Kirca et al., 2005), the number of studies conducted in emerging markets is relatively small. Furthermore, within these emerging markets, studies mainly focus on large and medium-sized firms embedded in a network of formal institutions (e.g., Peng & Luo, 2000) and located in and around cities with relatively well-developed infrastructure. Thus it covers only a small portion of the variance that marks emerging markets (Sheth, 2011). We still suffer from a limited understanding of the full generalizability of the market orientation–performance relationship, because the relationship has not been tested in informal economies.

**Table 4.1** Empirical market orientation–performance relationship studies in emerging markets

<b>Study</b>	<b>Country</b>	<b>Context</b>	<b>Method</b>	<b>Relevant results on market orientation-performance relationship</b>
Appiah-Adu (1998)	Ghana	Large manufacturing and service firms	Survey questionnaire on 78 managers	Positive effects under the conditions of high competitive intensity and low market dynamism.
Appiah-Adu (1999)	Ghana	Modern foreign and domestic manufacturing companies	Survey questionnaire on 114 managers	Positive main effect of customer orientation.
Bhuiyan (1997)	Saudi-Arabia	Several branches of nine different banks located in major metropolitan areas	Personal interviews with 92 bank managers	No significant effects.
Bhuiyan (1998)	Saudi-Arabia	Manufacturing companies located in two industrial cities in Saudi Arabia	Survey questionnaire on 115 CEOs	Positive main effect. Positive moderating effects of competitive intensity, and technological turbulence.
Burgess & Nyajeka (2007)	Zimbabwe	Harare retailers in the apparel, automotive parts, electronics, footwear, furniture, sporting goods, and supermarket sectors	Personal interview with 161 managers	Positive main effect.

**Table 4.1** (continued)

<b>Study</b>	<b>Country</b>	<b>Context</b>	<b>Method</b>	<b>Relevant results on market orientation-performance relationship</b>
Deng & Dart (1999)	China	State owned and private/collective firms	Personal interviews with 282 company managers	Positive main effects of customer orientation, competitor orientation, and interfunctional coordination.
Ellis (2005)	China	Exporters of locally made manufactured goods.	Personal interviews in 57 firms	No significant effects.
Grewal & Tansuhaj (2001)	Thailand	Small and medium sized firms	Survey questionnaire on 120 managers	Positive effect before an economic crisis, and negative effect after a crisis.
Lai (2003)	China	Quality oriented firms in Hong Kong	Survey questionnaire at 342 firms	Positive main effects of market intelligence generation, market intelligence dissemination, and responsiveness to market intelligence.
Mavondo (1999)	Zimbabwe	Food manufacturing businesses in the industrial areas of Harare, Bulawayo, Gweru, and Mutare	Survey questionnaire on 176 managers	Positive main effect for marketing effectiveness. No significant effect for return on assets.
Ngai & Ellis (1998)	Hong Kong	Textiles and garment industries	Survey questionnaire at 73 firms	Positive main effect.
Osugwu (2006)	Nigeria	Manufacturing and service companies operating in Lagos	Survey questionnaire at 697 firms	Positive main effect.

**Table 4.1** (continued)

<b>Study</b>	<b>Country</b>	<b>Context</b>	<b>Method</b>	<b>Relevant results on market orientation-performance relationship</b>
Sin et al. (2000)	China	Companies in Beijing	Survey questionnaire at 210 managers	Positive main effects for sales growth, and customer retention. No significant effects for return on investment, and market share.
Singh (2003)	India	Firms with a formal marketing department in New Delhi, Bombay, and Calcutta	Personal interviews with 138 managers	Positive main effects for return on investment, and customer retention. No significant effect for foreign market presence. Positive moderating effects for competitive intensity, and market dynamism.
Subramanan & Gopalakrishna (2001)	India	Domestic and multinational manufacturing and service firms	Survey questionnaire at 162 firms	Positive main effects for growth in revenue, success in new products, and ability to retain customers.
Tse, Sin, Yau, Lee, & Chow (2003)	China	Business companies located in Hong Kong with operations in both mainland China and Hong Kong.	Survey questionnaire at 573 firms	Positive main effects of customer orientation, competitor orientation, and interfunctional coordination.

#### *4.2.2 Informal economies*

An informal economy includes all activities unregulated by formal institutions, in a legal and social environment that influences similar activities (Castells & Portes, 1989). The characteristics of informal economies differ from formal economies with respect to their regulatory, cultural, and socioeconomic institutional subsystems (Burgess & Steenkamp, 2006).

In particular, the regulatory subsystem in a formal economy establishes formal rules that ensure people's conformity to maintain stability, order, and continuity (Burgess & Steenkamp, 2006). Governments and legislation by definition exert a very limited influence on informal economies though (Castells & Portes, 1989). Thus they cannot enforce property rights, trade laws, or other institutional features that may protect buyers or sellers from opportunism by business partners (Hitt et al., 2000). The structure of regulatory institutions and their enforcement tactics can define the rewards and profit-maximizing opportunities of actors (Aron, 2000).

Furthermore, informal economies tend to be characterized by resource scarcity (typically a factor of the socioeconomic institutional subsystem). Resource scarcity implies limited access to infrastructure, information, capital, and knowledge (e.g., Jimenez, 1995; Sheth, 2011; World Bank, 2005). Because informal economic sectors are not formally registered, they generally cannot claim formal rights for the use of scarce resources (e.g., Bigsten et al., 2004). When resources such as agricultural land, fishing grounds, and water become more valuable, it is relatively easy for organizations in the formal economy to gain control, leaving actors in the informal economy with the "left-overs" (e.g., Sandbrook, 1986).

Informal economies tend to be highly embedded in the cultural institutional subsystem. Through this embeddedness, members view themselves as collective group entities and aim to fulfill group goals and achieve a shared way of life (Burgess & Steenkamp, 2006). This characteristic relates logically to resource scarcity; to cope with resource scarcity, actors become more dependent on one another (e.g., Woolcock & Narayan, 2000; Losby et al., 2002). Thus relatively fewer bounded organizations appear in informal economies, whereas relatively more individual actors are connected on the basis of personal relationships, regardless of any organizational boundaries (e.g., Woolcock & Narayan, 2000; Bhagavatula, 2009).

Finally, we note a distinction between two types of informal economies: rural areas with low population density versus overpopulated metropolises. Most emerging markets exhibit an increasing divergence between rural and urban areas, and many people from rural areas move

to cities hoping for new opportunities (e.g., Epstein & Jeph, 2001; Twumasi-Ankrah, 1995). People in more densely populated areas experience closer geographic proximity and engage more in social networks, face-to-face interactions, and information circulation (Harrison, 1992; Tiffen, 1995). Rural areas thus create sparse networks, in which actors are distant from one another and have little contact, while urban areas represent dense networks with a lot of communication among actors (e.g., Podolny & Baron, 1997). These factors also might influence the market orientation–performance relationship, as we outline next.

### **4.3 Theory**

The market orientation concept began with articles by Kohli and Jaworski (1990) and Narver and Slater (1990). Kohli and Jaworski (1990) define market orientation as organizationwide market information processes pertaining to the acquisition, dissemination of, and responsiveness to market information; Narver and Slater (1990) regard it as a combination of three behavioral components: customer orientation, competitor orientation, and interfunctional coordination. Because the latter approach translates relatively more easily into the contexts characterized by organizations without formal boundaries, we adopt this conceptualization. We will formulate hypotheses about the three individual components. In this respect, we follow recent studies that also differentiate the effects of different market orientation components on outcomes (e.g., Frambach et al., 2003; Gatignon & Xuereb, 1997; Han et al., 1998; Voss & Voss, 2000). More specifically, we predict a direct impact of customer orientation on performance and a conditional impact of competitor orientation and interfunctional coordination, depending on population density (see Figure 4.1).

Customer orientation refers to “the sufficient understanding of one’s target buyers to be able to create superior value for them continuously” (Narver & Slater, 1990, p. 21-22). Being the core concept of market orientation (Han et al., 1998), customer orientation facilitates resource deployment to create superior value for customers (Slater, 1997), which should lead to satisfaction, loyalty, and financial performance (Kirca et al., 2005). This process may be challenged by two characteristics of informal economies though: the limited impact of regulatory institutions and resource scarcity. Without regulatory institutions, actors may be unable to appropriate the value they create for customers, because they lack any protections against malpractice or opportunism (Hitt et al., 2000). Furthermore, resources are needed to create value, but if they are not readily available, the critical success factor in the market may shift from combining resources to simply obtaining resources. In that situation, the customer-oriented combining of resources is no longer the success factor in the market, but rather the



mere control over scarce resources is likely to lead to higher performance (Pfeffer & Salancik, 1978).

Despite these challenges, Licht, Goldschmidt, and Schwartz (2005) argue that the embedded network structure of informal economies encourages actors to comply with the unwritten laws of fair business relationships, even in the absence of strong regulatory institutions. In addition, these actors might see opportunities where others do not. Even in conditions of resource scarcity, actors that are highly customer oriented might therefore create more value out of available resources than their non–customer-oriented counterparts (Day & Nedungadi, 1994). As Sheth (2011, p.173) stated: “If necessity is the mother of invention, then resource shortage is the father of innovation.” Thus we hypothesize that despite the challenges of informal economies, customer orientation has a positive effect on performance:  
*Hypothesis 1: Customer orientation positively influences performance in informal economies in emerging markets.*

Competitor orientation is an understanding of “the short-term strengths and weaknesses and long-term capabilities and strategies of both the current and the key potential competitors” (Narver & Slater, 1990, p. 21-22). In informal economies, the relationship between competitor orientation and performance may be weaker, due to weak regulatory institutions and resource scarcity (see also the argumentation for hypothesis 1). In addition, the effect of competitor orientation may be weaker in informal economies because of the high level of embeddedness, which emphasizes mutual solidarity and reciprocity rather than rivalry (Schwartz, 1992). For example, from a competitor orientation perspective, the members of the Gurung tribe in rural Nepal would compete with each other on the markets for foodstuffs and other goods. In practice though, neighbors, friends, and relatives continuously provide assistance to one another, and refusing requests for help is unthinkable, because the tribe considers such tactics harmful for security, belonging, and nurturance (McHugh, 1989). Thus the concept of competitors may be meaningless in such a culture.

We again consider a counterargument though. In Kohli and Jaworski’s (1990) approach, a competitor orientation has both sense (information acquisition about competitors) and response (responding to competitors’ actions) functions. The response function clearly might be meaningless in some informal economies, but the sense function would still be meaningful. A competitor orientation enables actors to acquire information from “competitors” by observing them at marketplaces, talking to them, and talking about them (e.g., Foster & Rosenzweig, 1995). Such tactics might be particularly helpful in information-scarce

environments, such as informal economies in thinly populated environments, where the only information available about customer wants and needs is often indirect information that passes through second- or third-tier network linkages. A well-developed information sensing competence may help prevent so called structural holes in these contexts, in which actors become completely dependent on one other actor for their information (Burt, 1992). Therefore, in environments with a low population density, competitor orientation should lead to performance.

*Hypothesis 2:* When population density is low, a higher competitor orientation leads to better performance in informal economies in emerging markets.

Finally, interfunctional coordination involves “the coordinated utilization of company resources in creating superior value for target customers” (Narver & Slater, 1990, p. 22). Similar to a competitor orientation, its positive effect may be challenged by weak formal institutions and resource scarcity, as well as by embeddedness. In the absence of formal organizations with departmental boundaries, established procedures, and communication processes, interfunctional coordination must involve two or more network actors that undertake specialized activities to jointly create value for a customer. Tiffen (1995), for example, describes a case study in Kenya in which people meet in shops, bars, and churches to exchange market information, coordinate their activities, and determine their roles to ensure their specialized contribution. As Tiffen (1995) argues, this process of interaction, coordination, and specialization requires a minimum level of population density, because it cannot function in weakly populated environments. We thus hypothesize a positive effect of interfunctional coordination only in densely populated areas.

*Hypothesis 3:* When population density is high, greater interfunctional coordination leads to better performance in informal economies in emerging markets.

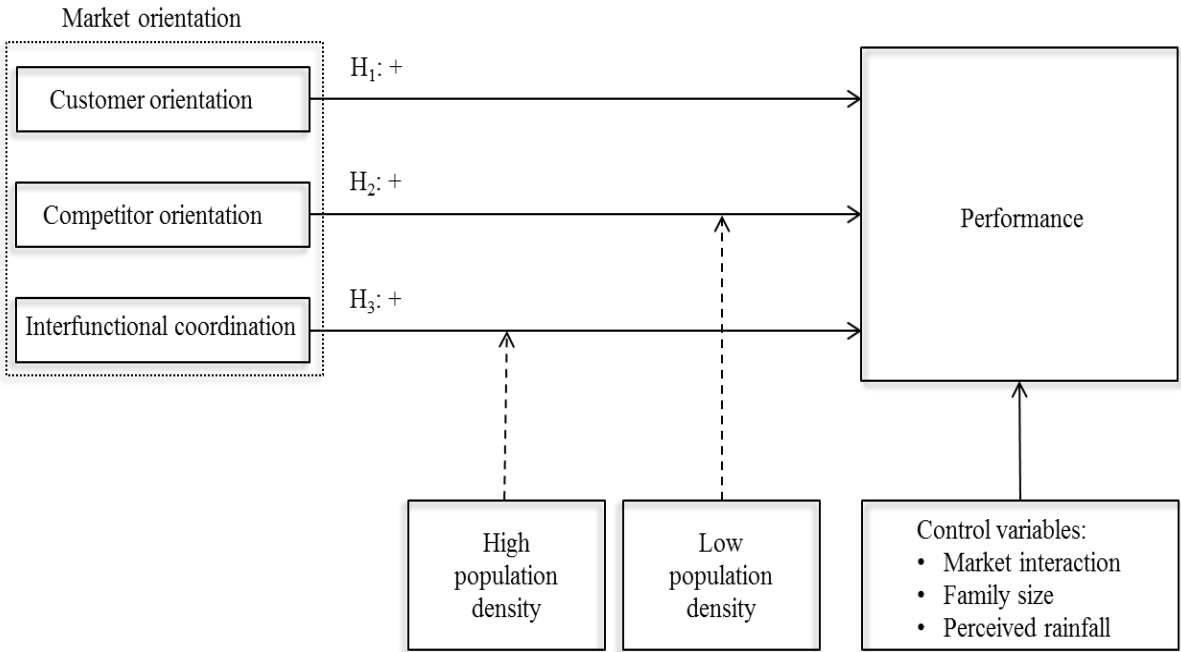


Figure 4.1 Conceptual framework

4.4 Method

4.4.1 Data collection

4.4.1.1 Study context and selection. To test the generalizability of the market orientation–performance relationship, we searched for a context represented by an informal economy, marked by a lack of regulatory institutions, resource scarcity, and high level of embeddedness. The pastoralist economy in the Horn of Africa fits these criteria (e.g., Galaty & Johnson, 1990). Pastoralists herd livestock such as cattle, camels, goats, and/or sheep. Their resource scarcity is guaranteed; they must continuously search for water and pasture for their livestock (which helps make lands that are not suitable for crop production economically viable). Their cultures are typically characterized by embeddedness and relations based on reciprocity. Formal institutions are generally weak, and though they may have some formal relationships with local and national governments, pastoralists largely govern themselves through traditional structures led by clan elders. Customary rules and laws determine how they manage and use their scarce resources. The predominance of such customary rules, rather than formal regulations, also indicates that pastoralists engage in an informal economy. They manage their herds to fulfill in their own needs and may sell livestock at livestock markets, where they rely on the services of clan brokers who connect them to traders. These traders function in the formal sector and have connections with exporters and slaughterhouses.

Ethiopia has the largest number of pastoralists in the Horn of Africa, which contains the largest population of pastoralists in the world (ECHO, 2007). Ethiopia alone hosts more than 12 million pastoralists (more than 12% of the total population of the country) (Getahun, 2008). Within Ethiopia, substantial differences distinguish the pastoralists in terms of climate, vegetation, geographic location, and ethnicity (Unruh, 2005). We use this extreme context as a natural laboratory (Burgess & Steenkamp, 2006) to test the generalizability of the market orientation–performance relationship.

To ensure we collected meaningful data, we conducted a prestudy that featured desk and qualitative research. Our desk review involved a survey of related literature on pastoralism and marketing practices. The qualitative prestudy included 138 individual interviews, 14 focus group discussions, and 28 field observations across different regions with (ecologically, demographically, and ethnically) heterogeneous groups of pastoralists, including various livestock marketing chain members: pastoralists, brokers, traders, slaughterhouses, and exporters. We also contacted experts on pastoralism for their opinions. The desk search and qualitative analysis helped us determine our unit of analysis, select the areas for stratified sampling, and generate specific market orientation and performance scales to fit this context.

In Ethiopia, we selected the Yabello in the Southern Borana area and Kereyu Fentale (hereafter, Fentale) in the Rift Valley to represent pastoralists; these groups exhibit considerable differences in their population density. The Fentale area has an estimated population density of 70 people per km<sup>2</sup>, whereas Yabello has only 19 people per km<sup>2</sup> (CSA, 2007). The actual difference is probably larger though, in that Fentale is located near the main road between Ethiopia's capital Addis Ababa and its main (foreign) seaport Djibouti, and its economic and social life centers around this main throughway.

*4.4.1.2 Questionnaire development and pretesting.* Market orientation research generally focuses on strategic business units as the unit of analysis, because at this level, strategic marketing decisions are made (e.g., Webster, 1992). Because pastoralists are not organized into corporate structures, previous studies use different units of analysis, such as common grazing catchment, village (e.g., Kamara et al., 2003), or household (e.g., Roth, 1991) levels, which do not necessarily pertain to marketing decisions. Our qualitative prestudy revealed that pastoralists make their livestock market decisions at the household level and that the male head of the household is primarily involved in the actual livestock selling and buying. Therefore, we use the household level as our unit of analysis and the household head as the key respondent.

We designed a questionnaire in English which we then discussed with an expert with field research experience in the two geographic areas for feedback. After incorporating his suggestions, we asked a certified translator to Oromiffa, the local language spoken in both areas, to translate the English questionnaire. Another translator then translated the questionnaire back to English, to verify the correct interpretation of the questions.

Surveying pastoralists is challenging though, because no formal sampling frame or contact information exists, and their mobility makes them difficult to trace (Scarpa et al., 2001). We therefore relied on the services of five professional enumerators in each area (10 total) to pretest and collect the data. All enumerators were professionally involved in working with the pastoralists; they attempted to maintain relationships between the pastoralists and local governments. They all lived in the area of the data collection, shared cultural backgrounds and languages with the respondents, and had completed tertiary education levels. These enumerators received five days of training about the data collection. After the training, they conducted two rounds of questionnaire pretesting in which they interviewed a total of 12 pastoralists (two rounds of three respondents in each area).

*4.4.1.3 Sample and interview procedure.* Because the two selected areas are very large (Fentale is 1,169 km<sup>2</sup>, Yabello is 5,523 km<sup>2</sup>), we selected specific strata to prevent systematic biases and sampled the pastoralists on a convenience basis, carried out as randomly as possible within these strata. Using insights from our prestudy, strata varied in terms of distance to the main road, occurrence of additional activities for income (like farming), and conflicts with formal sector activities (like plantations being established in areas that are traditionally used for grazing). As confirmed by local enumerators, we chose four research sites in each area. Because we had no information that the strata are considerably different in terms of size in the populations, the number of respondents sampled from each stratum is about equal. Interviews took place in grazing fields. Prior to the interview visits, we sent messages to the community by contacting community members in the market. The enumerators also explained the purpose of the survey before starting each interview session. Respondents were assured of their anonymity and the confidentiality of their information. We also explained that the information would be used only for research purposes. All interviews in Fentale were conducted before 1:00 PM, after which pastoralists often congregate to chew Kahat, a stimulant. Interrupting this social event would be considered inappropriate. Furthermore, most pastoralists are low-literate, so written scale items in a questionnaire may be confusing. Therefore, we replaced a traditional five-point Likert-type scale with five sticks of increasing worth, such that stick 5 is worth five times as much as stick 1. Pastoralists

responded to the multi-item questions by picking sticks (stick 1 = “strongly disagree,” stick 5 = “strongly agree”). To ensure that respondents understood the procedure, they practiced before the start of the interviews. The interviews took an average of one hour; respondents often wanted to explain their answers, and interrupting is not polite in this culture.

In the Fentale area, we conducted a second data collection round eight months later, for two reasons. First, the mobility in this area is seasonally determined, with much less mobility in the rainy season because of the relatively easy access to pasture land and water, whereas it increases significantly in the dry season. Greater mobility in turn decreases the population density of the area. Thus we conducted the first round of data collection in the dry period but performed the second round just after the rainy season. Second, collecting data pertaining to our dependent variable at a later time decreases the potential for single-source bias (Rindfleisch et al., 2008). Using multiple respondents at time t1 was not an option, because in households the oldest son (i.e., the most logical second respondent) often left to search for pasture with part of the household’s herd. Even in the rainy season, it remains a challenge for enumerators to find the pastoralists within a reasonable distance. We managed to obtain data at t2 from 71 of the original 130 respondents (55%).

#### *4.4.2 Operationalization and measurement*

Using the transcripts from the qualitative prestudy, the first and second authors each identified a list of items to measure customer orientation, competitor orientation, and interfunctional coordination. We compared these lists and discussed any differences; we used the same technique to identify performance measures and the control variable, namely, perceived rainfall. To validate the multi-item measures, we used conventional methods, including exploratory factor analysis and Cronbach’s alpha (Churchill, 1979), and dropped any items that loaded on multiple factors and/or had low loadings. In order to assess if the retained items were significantly contributing to constructs being measured, we imputed the three market orientation constructs into a confirmatory factor analysis model using LISREL 8.7 (Jöreskog, & Sörbom, 2004)<sup>1</sup>. To examine the three market orientation constructs for discriminant

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<sup>1</sup> All factor loadings were significant ( $t > 1.96$ ). The model fit statistics such as Comparative fit index (CFI) was .95, Goodness of Fit Index (GFI) and Adjusted Goodness of Fit Index (AGFI) were .91 and .87, respectively; and Root Mean Square Error Approximation (RMSEA) was .073. The error covariance of item 3 and item 7 for customer orientation, and item 1 and item 5 for competitor orientation were set free (Lattin et al., 2003).

validity, we assess the pairs of constructs in two-factor confirmatory models (e.g., Bagozzi et al., 1991) using LISREL 8.7 (Jöreskog, & Sörbom, 2004)<sup>2</sup>.

After purification, we measured customer orientation with five items that refer to practices valued by buyers, such as improved breeding (alpha = .86). These items jointly reflect doing business based on understanding customers and satisfying their needs by creating customer value, as in Narver and Slater's (1990) original scale. Competitor orientation is measured by four items pertaining to the collection of and response to information about other suppliers in the livestock market (alpha = .77). For interfunctional coordination, we use five items related to collaboration and information sharing with other actors in the network (alpha = .79). Pastoralists represent specialized livestock producers ("production") who can build on others' knowledge about breeding and fattening (i.e., "R&D") and who rely on (clan) brokers to connect them with buyers in the market ("marketing").

Market orientation literature uses objective and subjective approaches to measure performance (Kirca et al., 2005). Subjective measures often rely on comparisons with close competitors or with stated objectives (e.g., Gatignon & Xuereb, 1997; Jaworski & Kohli, 1993). Because objective performance data do not exist for informal economies, we turn to such subjective measures and develop a formative scale of performance indicators that refer to prior expectations about increasing herds, ability to send children to school, ability to engage in other economic activities like crop farming and petty trading, and income generated from livestock production. We generated these indicators from our prestudy. The combination of performance measures reflects the pastoral context, for which performance represents a combination of monetary and nonmonetary achievements that can be both market- and subsistence-based. For the scale items, factor loadings and Cronbach's Alpha's we refer to the appendix 4.1.

Our analysis also includes three control variables. First, *market interaction* refers to the extent to which pastoralists are involved in selling and buying. According to development economists, market interaction is a driver of development (e.g., Timmer, 1997). By including this variable, we recognize that the integration of pastoralists with the market, rather than market orientation components, might drive performance. We measured market interaction by

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<sup>2</sup> We ran each model twice: constraining the covariance between the two constructs and the variances to 1 and then removing the constraint. We examined the chi-square difference and changes in the comparative fit index (CFI) (Byrne, 1998). For all models, the chi-square values are significantly lower for unconstrained models than for the constrained models, and they exceed the critical values ( $\Delta\chi^2 > 3.84$ ) in all tests. The CFI values for the constrained models are lower, suggesting poorer fit.

the number of livestock sold and bought by pastoralists within one year (e.g., Gabre-Madhin, 2009; Jaleta & Gebremedhin, 2011). Second, *family size* refers the number of people in a pastoralist household, which we use to control for the finding from prior studies that pastoralism is labor intensive and that bigger families thus perform better (e.g., Fratkin, 1989; Sperling, 1987). Third, *rainfall* measures the amount of rain, as perceived by a pastoralist, according to six items ( $\alpha = .78$ ). Pastoralists depend heavily on rain to support their livestock (Smith et al., 2001). We thus control for performance differences due to rain. Finally, we measure population density with a dummy variable that distinguishes between the two areas (1 = Yabello, 0 = Fentale). Table 4.2 shows means, standard deviations, and correlations of the variables.



**Table 4.2** Means, standard deviations, and correlations

Variables	Mean	SD	Yabello		Fentale		1	2	3	4	5	6	7	8	9	
			Mean	SD	Mean	SD										
1 Customer orientation	3.01	1.09	2.57	1.30	3.35	.72	1									
2 Competitor orientation	3.67	.98	3.02	.90	4.18	.69	.49 <sup>a</sup>	1								
3 Interfunctional coordination	1.77	.78	1.58	.85	1.91	.69	.17 <sup>a</sup>	.14 <sup>b</sup>	1							
4 Perceived rainfall	1.67	.62	1.70	.67	1.64	.57	-.05	-.04	.06	1						
5 Family size	8.10	4.34	8.61	4.12	7.70	4.48	-.03	.04	-.08	-.10	1					
6 Market interaction	21.59	15.58	18.47	13.49	23.88	16.81	.15 <sup>b</sup>	.14 <sup>b</sup>	.03	-.09	.19 <sup>a</sup>	1				
7 Area dummy	.56	.49	N.A	N.A	N.A	N.A	.36 <sup>a</sup>	.59 <sup>a</sup>	.21 <sup>a</sup>	-.05	-.10	.18 <sup>a</sup>	1			
8 Performance t1	3.14	.87	2.95	.89	3.29	.82	.37 <sup>a</sup>	.19 <sup>a</sup>	.13 <sup>b</sup>	.09	.08	.07	.20 <sup>a</sup>	1		
9 Performance t2	3.39	.83	N.A	N.A	3.39	.83	.19	-.09	.35 <sup>a</sup>	-.03	.04	-.04	.13	N.A	1	

<sup>a</sup>  $p < .01$ , <sup>b</sup>  $p < .05$ , two tailed significance, N.A. = Not applicable

#### 4.4.3 Data analysis

We test our hypotheses using ordinary least squares regression models. Specifically, we use the following model (model 1) to analyze the data at t1:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + \beta_9 X_9 + \varepsilon,$$

where Y is performance (dependent variable);  $\beta$ s are the parameter estimates; and X1–X3 denote customer orientation, competitor orientation, and interfunctional coordination, respectively. In turn, X4 corresponds to the area dummy; X5–X7 correspond to the three control variables, namely, family size, market interaction, and rainfall, respectively; and X8 and X9 correspond to the multiplicative interaction terms between the area dummy and either competitor orientation or interfunctional coordination. Model 2 and model 3 are estimated for Yabello and Fentale, respectively. Separate estimates are important to uncover any within country heterogeneity (Burgess & Steenkamp, 2006). Model 4 is identical to model 3 in that it reports the results for Fentale, except that it uses the performance measure at t2, shortly after the rainy season in Fentale. Except for the dummy variable, we mean centered the independent variables before inputting them (Aiken & West, 1991). We inspected our findings for multicollinearity. The highest variance inflation factor in our models was 3.49 for competitor orientation in the first model; thus multicollinearity is unlikely to be a problem in our analyses (e.g., Hair et al., 1995).

#### 4.5 Results

The results are reported in Table 4.3. Hypothesis 1 predicted a positive effect of customer orientation. The effect of customer orientation on performance is significant in both models 1–3 at t1 and the model 4 in t2. Together this presents strong support for the hypothesis, because the first three models show that the effect is consistent across the two areas while the findings from model 4 suggest that the effect holds when the independent and dependent variables are measured with a time interval.

In H2 we predicted a positive effect of competitor orientation when population density is low. This hypothesis can be tested in the Yabello area that represents a low population density. However, this anticipated effect is not supported. The multiplicative term between the area dummy for population density and competitor orientation in model 1 is not significant, nor is the effect of competitor orientation in the model 2 for Yabello. We cannot test this hypothesis at t2, which features data only from the more densely populated Fentale

area. However, in line with the underlying rationale for this hypothesis, the effects of competitor orientation in Fentale are not significant at either t1 or t2 (models 3 and 4).

Hypothesis 3 predicted a positive effect of interfunctional coordination on performance under the condition that population density is high. We can test this hypothesis by examining the effect of interfunctional coordination in the densely populated Fentale area. The hypothesis is supported, because in model 1 the multiplicative term between interfunctional coordination and the area dummy is positive and significant at  $p < .1$ . The same effect can also be obtained from model 3, showing a positive and significant main effect of interfunctional coordination on performance, while this main effect is clearly not significant in the thinly populated Yabello area (the  $\beta$  for interfunctional coordination is .00 in model 2). This finding presents strong support for hypothesis 3 because the evidence is obtained in the dry season with a slightly lower population density in the Fentale area because of greater mobility of the pastoralists. In model 4, with performance measured at t2 shortly after the rain season, the effect size of interfunctional coordination is indeed higher (.38,  $p < .01$  in model 4 as compared to .15,  $p < .05$  in model 3). This suggests that in times when population density is higher, the effect of interfunctional coordination on performance becomes stronger, just like the theory predicted.

**Table 4.3** Standardized regression coefficients for market orientation components on performance

Variables	Model 1		Model 2		Model 3		Model 4	
	T1, both regions (N = 232)		T1, Yabello (N = 102)		t1, Fentale, (N = 130)		t2, Fentale (N = 71)	
	Beta	t-value	Beta	t-value	Beta	t-value	Beta	t-value
Customer orientation	.36 <sup>a</sup>	5.08	.30 <sup>a</sup>	2.90	.40 <sup>a</sup>	4.48	.28 <sup>b</sup>	2.24
Competitor orientation	-.04	-.35	-.02	-.26	-.05	-.56	-.06	-.40
Interfunctional coordination	-.02	-.25	.00	.00	.15 <sup>b</sup>	1.71	.38 <sup>a</sup>	3.07
Area dummy	.09	1.07						
Family size	.12 <sup>b</sup>	1.81	.15 <sup>c</sup>	1.53	.09	1.09	.08	.68
Market interaction	-.01	-.12	.01	.12	-.01	-.06	-.08	-.71
Perceived rainfall	.12 <sup>b</sup>	1.85	.22 <sup>b</sup>	2.22	.06	.69	.05	.38
Competitor orientation × area	.03	.31						
Interfunctional coordination × area	.12 <sup>c</sup>	1.38						
F-statistics (df)	F(9, 222), 5.25 <sup>a</sup>		F(6, 95), 3.19 <sup>a</sup>		F(6, 123), 3.97 <sup>a</sup>		F(6, 64), 2.62 <sup>b</sup>	
R <sup>2</sup> (Adj.R <sup>2</sup> )	.18 (.14)		0.17 (.12)		.16 (.12)		.20 (.12)	

<sup>a</sup> p < .01, <sup>b</sup> p < .05, <sup>c</sup> p < .10, one tailed significance.

#### 4.6 Discussion

This study extends knowledge on the generalizability of the market orientation–performance relationship beyond high-income countries and formal sectors in emerging markets to informal economies. To do so, we have tested the effects of customer orientation, competitor orientation, and interfunctional coordination on performance among a sample of pastoralists, collected in two areas of Ethiopia. Consistently across the two areas and two time periods, we find that customer orientation—the core of a market orientation constellation—leads to superior performance. Therefore, the marketing concept that suggests that creating value for customers is the primary concern of any seller is generalizable to an institutional context that is (on first sight) almost incomparable to the high-income countries that host most market orientation studies.

We predicted that competitor orientation would make a positive contribution in sparsely populated informal economies, but the data do not support this claim. In the sparsely populated Yabello area of Ethiopia, it is unlikely that the absence of the hypothesized effect is caused by study design characteristics. Rather we find a possible explanation for this result in our qualitative prestudy. Several informants mentioned their use of mobile phones to obtain market information. They called family members or friends who stayed close to market places and checked prices from time to time. The diffusion of mobile phones thus may explain the absence of a competitor orientation–performance relationship in this informal economy characterized by embedded networks. This finding also is not exceptional; other studies have questioned the added value of competitor orientation through component-wise analyses (e.g., Frambach et al., 2003; Ingenbleek et al., 2010; Voss & Voss, 2000). The congruency between our study in an informal economy in an emerging market and these studies in high-income countries may lie in the fact that markets in high income-countries like markets in informal economies, increasingly take the shape of network economies (e.g., Urban, 2005; Vargo & Lusch, 2004). The bottom-line implication is that with companies becoming specialized network players, competitor orientation will decreasingly contribute to performance.

For interfunctional coordination, our hypothesis was supported, in that both models (model 3 and model 4) showed a significant effect of interfunctional coordination in densely populated environments. The findings suggest that coordination in networks of informal economies across different actors with specialized roles creates value for customers. Coordination depends though on the existence of a sufficiently dense network. In modern organizations in high-income countries this network is created top-down by management that puts different departments together in one bounded-organization, provides them with the

facilities to communicate and encourages the collaboration through incentives. On the other end of the spectrum, situations in which the network is very thin, interfunctional coordination no longer contributes to performance. The positive effect of this market orientation component is therefore not fully generalizable. It rather is contingent on network density that may be created either formally or informally.

The findings from this study in an informal economy remind us of the fact that customer value is not necessarily created in formal bounded companies. It is, however, always created in networks of people with specific skills and knowledge, that are connected through network ties, leading to jointly-shaped competencies from which value is created for a third party. Whereas interfunctional coordination refers to the sharing of information and coordination of tasks between actors, customer and competitor orientation refer to the perspective that actors share in their efforts to create value.

#### **4.7 Implications, limitations, and direction for further research**

##### *4.7.1 Managerial implications*

First, the study demonstrates that customer orientation is important to increase performance in the informal economies of emerging markets as it is in the formal economies. This may imply that irrespective of the economic environment (i.e., formal versus informal economy), establishing a customer-oriented culture contributes to performance. This is particularly important to companies that plan investments in informal economies in emerging markets, like base of the pyramid segments. If these companies traditionally run their business with the marketing concept as their main business philosophy they can extend this philosophy to the new markets that they enter. Their customer focus may help to find customer-oriented counterparts among suppliers, distributors and/or other stakeholders, with whom they jointly can create customer value.

Second, companies investing in emerging markets should realize that a competitor orientation may not be very effective because rivalry has little or no meaning in embedded cultures. Building network relationships with the motivation to “beat the competition” may therefore sound irrelevant to potential collaborators in emerging markets. Employing a competitor orientation for the sake of information gathering only, is probably not necessary with the current spread of information technologies in most emerging markets.

Third, the findings imply that within emerging markets value creation processes differ between densely populated and sparsely populated networks. Interfunctional coordination between suppliers, distributors, financiers (microcredit organizations), nongovernmental

organizations and other stakeholders in the network is much more effective in densely populated urban areas as compared to thinly populated rural areas. Customer value creation strategies at the bottom of the pyramid (Prahalad & Hammond, 2002) should therefore differ between densely populated and sparsely populated areas. This implication is, however, probably not restricted to companies entering emerging markets, but is also important for companies that operate in other network markets with small and highly specialized actors (such as some high-technology environments).

### *4.7.2 Policy implications*

Development policies increasingly see *market integration* as a way to improve the welfare and productivity of sellers in the informal economies (e.g., von Braun, 1995; Pendleton & Howe, 2002). Our study shows, however, that mere market interaction in itself is not an effective means to do so, unless a *market-oriented* process of customer value creation is adopted. Development policies should therefore not only focus on creating access of sellers to markets, but also on establishing a market-oriented mindset among sellers.

### *4.7.3 Limitations and direction for further research*

This study is limited in several ways. First, although we systematically selected the context for our study, the data are collected in one country and as such the findings may be considered country specific. Second, we test for the market orientation–performance relationship among only pastoralists. The reported findings could be context specific, even within informal economies that operate in Ethiopia. We cannot confirm that they apply to other product sellers from informal economies, even in the same country. Third, our study is for the greater part based on cross-sectional data, with performance data collected in one region at a second time period. Data collected across additional time periods on both dependent and independent variables might reveal further consequences of market orientation. For example, panel data may show fluctuations in the level of market orientation and parallel increases and decreases in people’s livelihoods.

Further research thus should explicate the specific institutional contexts that influence the market orientation–performance relationship of informal economies. One viable extension would be to conduct studies of informal economies in massive metropolises of emerging markets, such as Beijing, Mumbai, Cairo, or Mexico City. Conducting such studies will serve to test the generalizability of market orientation–performance relationships across the urban (more impact of modern business) versus the rural (less impact of modern business) divide,

which is common in the emerging markets. In addition, these major metropolises provide an interesting context for qualitative studies that deepen our understanding of the contributions of different network actors are aligned in the process of customer value creation. Research also might focus on how customer-oriented mindsets can be developed in informal economies. These studies may examine the roles of different actors, like governmental and nongovernmental organization as well as formal companies like exporters and companies targeting base of the pyramid segments that can potentially be instrumental in market-driven processes of change.

### **4.8 Conclusion**

This study extended the evidence on the market orientation-performance relationship from high income countries and formal sectors in emerging markets to informal sectors in emerging markets. Customer orientation represents a key competence that sellers in informal economies can adopt to enhance their performance. Competitor orientation, however, doesn't contribute to performance in informal economies. Competitor orientation may be only effective only in cultures with high autonomy. The effectiveness of interfunctional coordination depends on network density, with interfunctional coordination being more effective in dense networks. All in all, the results show that creating value for customers should be the primary concern for sellers in the informal economies as much as in the formal economies.



**Appendix 4.1** Construct items, loadings, and alpha values

<b>Item</b>	<b>Customer orientation (alpha = .86, eigenvalue = 3.18)</b>	<b>Factor loadings</b>
1	We do nothing to increase the quality of our livestock that we want to sell. (R)	.76
2	We increase the quality of our livestock that we are planning to sell in the market.	.88
3	We breed with livestock that will give us the quality traders are looking for.	.83
4	We always prefer to keep the best livestock for ourselves. (R)	Dropped
5	We sell our livestock only when we could not get income from other sources. (R)	Dropped
6	We raise livestock that the market wants.	.70
7	We always search for better breeds to satisfy traders and exporters.	.81

<b>Item</b>	<b>Competitor orientation (alpha = .77, eigenvalue = 2.63)</b>	<b>Factor loading</b>
1	What other livestock suppliers are doing in the market does not bother to me. (R)	.77
2	We always check what other livestock suppliers are doing on the market.	.69
3	Knowing the livestock type that others are supplying to the market is important to us.	Dropped
4	We always decrease or increase our market price following other suppliers.	.76
5	We are not interested in what other pastoralists are doing in the market. (R)	.65

**Appendix 4.1** (continued)

<b>Item</b>	<b>Interfunctional coordination (alpha = .79 , eigenvalue = 2.85)</b>	<b>Factor loadings</b>
1	Our broker will tell us when prices for our livestock are good.	.78
2	We collaborate very closely with our broker.	.88
3	Our broker advises us for best breed and fattening to increase quality of our livestock.	.76
4	Brokers withhold important market information from us. (R)	.62
5	We talk to community members on how to improve the quality of our livestock.	Dropped
6	We exchange information in the community before going to the market.	Dropped
7	We always contact knowledgeable people (e.g., experts) for market information.	.72

<b>Item</b>	<b>Rainfall (alpha = .78, eigenvalue = 2.89)</b>	<b>Factor loading</b>
1	We can rely on the rain.	.69
2	Rain comes always as we expected.	.72
3	These days rain is not coming as we expected. (R)	.70
4	Unexpected droughts may happen to us. (R)	Dropped
5	Rain always comes at the same time of the year.	.63
6	We assumed that rain would come but it didn't. (R)	.67
7	We are getting less rain fall than we expected. (R)	.75

**Appendix 4.1** (continued)**Performance**

<b>Item</b>	<b>Time 1 (alpha = .70, eigenvalue = 2.14)</b>	<b>Factor loading t1</b>	<b>Factor loading t2</b>
<b>Time 2 (alpha = .63, eigenvalue = 1.97)</b>			
1	Increasing the herd size.	Dropped	Dropped
2	Education of my children.	.81	.77
3	Extra income generated from livestock production.	.75	.73
4	Saving money.	Dropped	Dropped
5	Diversifying different activities (e.g., petty trading).	.52	.69
6	Growing crops in addition to livestock raising.	.74	.51

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(R) stands for reversed item.

## **Adapting to drought in the Horn of Africa by marketing: How market orientation can help pastoralists to adapt to changing climatic conditions**

This chapter is to be submitted for publication as Tessema, W.K., Ingenbleek, P.T.M., & van Trijp, H.C.M.

### **Abstract**

This study uses a semi-experiment to understand how market orientation influences the impact of climatic conditions on pastoralists' intended herd size change. The results show that the three components of market orientation: customer orientation, competitor orientation, and interfunctional coordination play specific roles in this relation. Customer orientation and interfunctional coordination enhance the adaptability of pastoralists, while competitor orientation weakens their adaptability. Drawing on resource dilemma theory, the study further shows that confirmation of the formal forecast by pastoralists' informal methods of forecasting influence pastoralists' intended herd size change. Further the study shows that the effect of market orientation on the relationship between formal forecast and the intended herd size change is stronger when the formal forecast is disconfirmed by the informal forecast. Overall, market orientation has a significant role for pastoralists in changing their herd size to adapt to the changes in climatic conditions. The results imply that policy measures that focus on enhancing the intrinsic motivation of pastoralists for market orientation can contribute to their adaptation to the change in climatic conditions.

## 5.1 Introduction

Severe drought is becoming more frequent due to the changes in climatic conditions particularly in parts of Africa (e.g., Mwebaza, 2009). For example, in 2011 the Horn of Africa was hit by a massive drought that affected more than 12 million people across the region (Cambridge University Press, 2011; FAO, 2011). Such droughts severely affect the livelihoods of agricultural producers, in particular, pastoralists. Recurrent droughts can affect the livelihood and sustainable development of pastoralists (e.g., De Haan, 2000; Blackburn, 2007; Herrero et al., 2010).

Pastoralists live with herds of domesticated animals, which they move to take advantage of natural pasture for grazing (e.g., Koocheki & Gliessman, 2005). In dry environments where rainfall cannot sustain crop-based livelihoods, pastoralism is the dominant way of life for an estimated 200 million people (WISP, 2007). Practiced on 25% of the world's land area, pastoralism provides about 10% of the global meat production (FAO, 2001). Historians argue that pastoralism emerged as agriculture developed. When crop production on lands suitable for agriculture intensified, stimulated by emerging urban areas and the development of irrigation systems, lands that were too marginal for agriculture were left to the cattle for grazing (Spooner, 1971). In this sense, pastoralism itself is an adaptation to natural conditions (Barfield, 1997), by which people exploit lands such as plains, deserts, steppes, mountains, and tundra (Galaty & Johnson, 1990).

Pastoralists tend to build herds during wet years while these herds may be significantly reduced during dry years (Konczacki, 1978; Desta & Coppock, 2002; Davies & Bennett, 2007). For example, Little (1992) reports that pastoralists in northern Kenya lost up to 70% of their herd during the 1984 drought. In order to sustain their livelihood and economic contribution (e.g., protein supply), pastoralists are required to enhance their adaptation to the changes in climatic conditions. One way of adaptation by pastoralists is to sell a part of their herd in advance of the droughts, and buy or reproduce after the droughts when pasture and water are more available. Marketing can facilitate such a process of destocking and restocking. A study by FAO indicated, for example, that given advance forecast for the drought, marketing can increase the ability of pastoralists to transfer their livestock into other assets such as cash (Rass, 2006). A cash income that is generated from advance livestock selling in turn can be reinvested to livestock after the drought (Rass, 2006).

To date, however, policy makers in pastoralism apply marketing predominantly as a short term, ad-hoc solution by strengthening the sale of livestock during the occurrence of droughts (e.g., Morton & Barton, 2002; Watson & Binsbergen, 2006). They therefore

overlooked that marketing is also a competence with a strategic focus on customer value creation (e.g., Hunt & Morgan, 1995). The marketing literature has addressed this competence in the market orientation concept (Kohli & Jaworski, 1990; Narver & Slater, 1990). Market orientation includes the generation and dissemination of information on customers and competitors as well as the factors affecting them (Kohli & Jaworski, 1990). These factors also include climatic conditions. Market-oriented pastoralists are therefore more likely to know what the market wants, and when responsiveness is required. They will thus be able to sell when the climatic conditions necessitate or demand them to do so.

In this study we examine the role of market orientation in the adaptation of pastoralists to droughts. To date, market orientation is studied largely in relation to the performance of formal companies (e.g., Kirca et al., 2005). By examining the contribution of market orientation to the adaptation of pastoralists to droughts we therefore extend the market orientation literature into the domains of public policies for sustainable use of natural resources, and to smallholder agricultural producers. In order to understand the role of market orientation, we build on resource dilemma theory, which was previously introduced to the marketing and public policy literature (e.g., Shultz & Holbrook, 1999) but has not yet been related to market orientation. Empirically we conduct a semi-experiment on 232 pastoralists from Ethiopia.

In the following sections, we first provide the conceptual framework and hypotheses to our study. Next we offer a description of the method of our study. Finally, we present the empirical results, discussion, and implications.

## **5.2 Conceptual framework and hypotheses**

The conceptual framework of the study is shown in Figure 5.1 It is important that pastoralists adapt to the changes in climatic conditions by changing their herd size because it sustains their livelihood and the supply of animal based proteins for the growing urban populations in the developing world (e.g., Ash & Smith, 2003; Delgado et al., 1999). Herd size change refers to the decrease or increase of livestock. Because different types of livestock have different impacts on the natural environment, ecologists recommend taking those impacts into account in range management (e.g., Wilson & MacLeod, 1991; Bagchi & Ritchie, 2010).

Research has shown that if pastoralists know in advance that droughts will occur, they are more likely to decrease their herd by selling to minimize losses (e.g., Khan, 1994; Turner & Williams, 2002; Holtzman & Kulibaba, 1994). At the same time if pastoralists know in advance the occurrence of rain, they are more likely to increase their herd by breeding or by

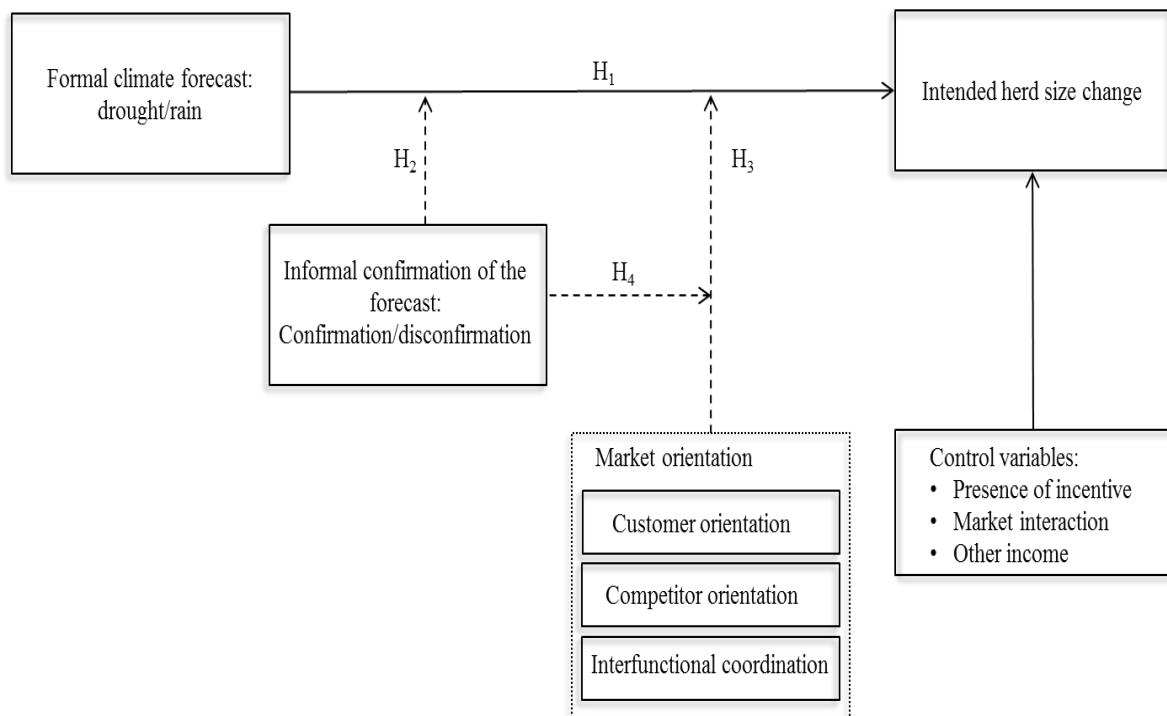
buying from the market. Ecologists have therefore emphasized the importance of formal forecast information on climatic condition (hereafter, formal forecast) to enhance pastoralists' adaptation to the changes in climatic condition through herd size change (e.g., Ziervogel & Zermoglio, 2009; Galvin et al., 2004). With formal forecast we refer to the meteorological information that is provided to pastoralists (at least three months in advance) by formal institutions like weather forecast stations. In line with the above argumentation, we hypothesize:

*Hypothesis 1:* Formal forecasts that predict drought (rain) will lead pastoralists intend to decrease (increase) their herd size.

However, pastoralists may not always sell a part of their herd in times of drought because they may be driven by short-term self-interests (e.g., Hardin, 1968). They may, for example, think that keeping a larger herd during drought gives them more security so that a part of their herd still survives after the drought as a basis to rebuild their herd. Meanwhile they may hope that others will decrease their herd and that the natural environment thus remains relatively unchanged. But if all pastoralists are not responding to the drought by selling a part of their herd, natural resources can be overused. Hardin (1968), in his famous Tragedy of Commons thesis, stated that when pastoralists pursue short-term benefits from increasing their herd size at the expense of the long-term preservation of communal resources, sustainability is in jeopardy. The choice whether or not to change the herd size can therefore be approached as a resource dilemma to pastoralists.

Resource dilemma refers to a situation in which a group shares a scarce natural resource from which the individual members can harvest, and the group runs the risk that excessive harvest leads to the depletion of the resource (Van Dijk et al., 1999). Van Vugt (2009) distinguished four different directions to avert resource-dilemmas towards greater cooperation, of which two seem particularly relevant in the context of pastoralists. First, by providing information policy makers can reduce the uncertainty of people on their environment. In the context of pastoralists, this uncertainty essentially comes down to whether the climate forecast provided to them by formal institutions is perceived as credible or not. Second, by providing incentives for responsible use, policy makers can make use of people's self-enhancement motivations: the need to improve oneself and increase one's resources. The other two directions (strengthening belonging by improving one's sense of community and increasing the acceptance of common's rules and institutions), are less relevant in the context of pastoralists because East African pastoralists rely on strong

traditions that advocate sense of community and respect for clan elders that may set rules for responsible use of common resources (e.g.; Swift, 1991; Little & David, 1987; Beyene, 2010). Given the recent problems with the potential overuse of natural resources by pastoralists during unexpected heavy droughts (e.g., Speranza, 2010; Blench & Marriage, 1999), providing information and incentives may however increase the responsible use of natural resources. Our framework therefore includes an informational factor (informal confirmation of the forecast) and a variable of self-enhancement (market orientation), as well as the interaction between them.



**Figure 5.1** Conceptual framework of the study

### 5.2.1 Informal confirmation of the forecasts

Through information, resource users can better understand the physical, social, and economic consequences of their behaviour. If such information is perceived as more reliable the behavioural change towards cooperation is stronger (Van Vugt, 2009). Consistent with the context of pastoralists we propose that the effect of formal forecast on pastoralists’ intended decision to change their herd size, is moderated by the *informal confirmation of the forecast*.

Informal forecast refers to the traditional climate forecast made by pastoralists using their traditional knowledge systems. Traditional knowledge systems are developed over centuries, and include traditional techniques like astronomy, studying the belly of a goat, bird



singing, seasons, growth patterns of flowers, and animal behaviors (Aklilu & Wekesa, 2002). For example, wise-men so-called *Hayyuu* of Borana pastoralists in Ethiopia correctly forecasted the worst drought that devastated the Horn of Africa in 2011 (IRIN, 2011). Those pastoralists who followed the advices of *Hayyuu* sold a part of their herd before the drought and were able to minimize their herd loss and damage to the ecology (IRIN, 2011). Both systems can therefore play a role in providing information to pastoralists (Luseno et al., 2003; Esipisu, 2012).

If the formal forecast is not confirmed by the informal forecast of traditional knowledge system, pastoralists may consider the forecast as uncertain; limiting their cooperation for herd size change (e.g., van Dijk, et al., 1999). Hence, scientists argued that formal forecast should be integrated with informal (traditional) forecast to be effective in the context of pastoralists (e.g., Borad & Agrawala, 2000; Ziervogel, 2004; Rarieya & Fortum, 2010). Based on this we hypothesize as follows:

*Hypothesis 2:* The effect of formal forecast on intended herd size change is stronger if the informal forecast confirms, and weaker if it disconfirms, the prediction of the formal forecast.

### 5.2.2 *The role of market orientation*

Market sensing, like the search for market information, sharing market information within an organization, and responding to the market in, for examples, the design and supply of products to customers, are core processes that are exercised by market-oriented firms (e.g., Day, 1994; Kohli & Jaworski, 1990). Market-oriented firms therefore respond better to the requirements of buyers than firms that are less market-oriented (e.g., Ruekert, 1992). Market orientation is conceptualized by Narver and Slater (1990) as three behavioral components: customer orientation, competitor orientation, and interfunctional coordination.

Customer orientation refers to ‘the sufficient understanding of one’s target buyers to be able to create superior value for them continuously’ (Narver & Slater, 1990, p. 21-22). In the context of pastoralists, customer orientation means doing business through practices such as raising improved breeds or fattening which are valued by buyers. Competitor orientation is an understanding of ‘the short-term strengths and weaknesses and long-term capabilities and strategies of both the current and the key potential competitors’ (Narver & Slater, 1990, p. 21-22). Being competitor oriented can help pastoralists to know what other pastoralists are doing in the market because they observe, and discuss actions of other pastoralists in the market.

Interfunctional coordination involves ‘the coordinated utilization of company resources in creating superior value for target customers’ (Narver & Slater 1990, p. 22). This concept is less straight forward to apply in the pastoralists’ context because formal organizations with departmental units are absent. Communication processes, and coordination between specialized functions in the creation of customer value must therefore involve two or more network actors. Pastoralists make use of (clan) brokers, who can be relatives (such as clan brokers) living in or around market places, to facilitate market information to pastoralists who are largely in the field to feed livestock. For example, brokers advise pastoralists which breed type is in demand by buyers, and which livestock type is more profitable. Similarly, pastoralists can build on other pastoralists’ knowledge about breeding and fattening. We see interfunctional coordination therefore as the coordination between pastoralists (‘production’), information acquisition and use through brokers (‘marketing’), and knowledge of other pastoralists about breeding and fattening (‘R & D’).

We expect that pastoralists that are more market-oriented create more customer value than their non-customer-oriented counterparts, just like other market actors would (e.g., Slater, 1997). Market-oriented pastoralists are more likely to produce what buyers value. As a consequence, in times of dry periods, market oriented pastoralists offer the value that the market demands and they can sell more easily as compared to their non-market-oriented counterparts. In times of rain, they subsequently are better able to benefit from the market and thus increase their production. This means that a higher degree of market orientation represents also a higher degree of self-enhancement when natural resources are used responsibly.

Because a market orientation is inherently focused on long-term advantage by creating customer value rather than short-term gains, it is also an intrinsic motivation to conserve. Literature on resource-dilemma has questioned the effectiveness of economic incentives as a solution to resource-dilemma because they may in fact undermine this intrinsic motivation to conserve (Van Vugt, 2009; Frey & Jegen, 2001; Frey & Oberholzer-Gee, 1997; Deci et al., 1999). For example, a meta-analysis study conducted by Deci et al. (1999) showed the existence of the detrimental effects of extrinsic rewards on intrinsic motivation. Importantly, market orientation in theory would not be prone to this undermining effect of economic incentives. When a forecast predicts that the climatic situation demands herd size change, pastoralists with a higher market orientation are therefore more willing and able to change their herd through markets than those who are less market-oriented. Because all three

components of market orientation contribute to value creation (e.g., Narver & Slater, 1990), we hypothesize as follows:

*Hypothesis 3:* The higher: (a) customer orientation, (b) competitor orientation, and (c) inter-functional coordination, the stronger the relationship between formal forecast and intended herd size change.

The combination of self-enhancements and long-term focus that is embedded in a market orientation becomes particularly important in situations when the climate forecast is uncertain (in our case when the formal climate forecast is not confirmed by the informal forecast). Social psychologists have found that uncertainty tends to promote overuse of natural resources because most users are optimistic about the future and underestimate the damage that they are doing to the environment (Opatow & Weiss, 2000; Biel & Garlinc, 1995). Whereas in situations of certainty the informational intervention may therefore be strong enough by itself to generate responsible behaviors, under conditions of uncertainty that is very unlikely. In these uncertain conditions, the role of market orientation therefore becomes more important to ensure responsible use of natural resources. Thus, we hypothesize:

*Hypothesis 4:* If informal forecasts disconfirm the formal forecasts, the stronger the moderating effects of (a) customer orientation, (b) competitor orientation, and (c) inter-functional coordination, on the relationship between formal forecast and intended herd size change.

In order to assess whether market orientation indeed plays a different role in the resource dilemma than an economic incentive, this study will systematically assess the presence of an economic incentive for selling livestock of good quality (i.e., the establishment of a quality assessment center at the market that can remove the information asymmetry between buyers and sellers on the quality class of the livestock). We therefore include the presence of incentive as a control variable in our framework. In addition, the framework includes market interaction and other income as control variables. *Market interaction* refers to the extent to which pastoralists are involved in selling and buying of livestock. By including this variable, we recognize that the integration of pastoralists with the market (e.g., Davies, 2008; Fratkin & Mearns, 2003; Williams & Turner, 2002), rather than market orientation components, might drive intended herd size change. *Other income* refers to the extent to which pastoralists are involved in other activities such as crop farming and livestock trading

besides the pastoral domain of livestock raising. Other sources of income may make pastoralists less dependent on the livestock market, and hence they may feel less pressure to sell (Bayer & Waters-Bayer, 1989).

## 5.3 Method

### 5.3.1 Overview of the study

We conducted a semi-experiment among pastoralists in Ethiopia to test our hypotheses. The semi-experiment manipulates the formal forecast, informal confirmation of the forecast, and presence of incentive variables. The market orientation components are measured directly as characteristics pertaining to pastoralists themselves.

Following advises of marketing researchers focusing on emerging markets (Arnould, 2001; Burgess & Steenkamp, 2006), we conducted a prestudy that featured desk and qualitative research in preparation of the main study. Our desk review involved a survey of related literature on pastoralism and marketing practices. The qualitative prestudy included 125 individual interviews, 14 focus group discussions, and 28 field observations across different regions, including pastoralists, brokers, traders, slaughterhouses, and exporters. We also interviewed 13 experts, like policy makers and development experts. The desk search and qualitative analysis helped us to create a deeper understanding of the research context, design the stimuli for the semi-experiment, determine our unit of analysis, select the areas for stratified sampling, and generate specific market orientation scales to fit the context of pastoralists.

### 5.3.2 Participants and design

Participants in the semi-experiment are 232 male pastoralists (with age  $M= 39.14$ ,  $SD= 12.54$ ) in two areas of Ethiopia. Our qualitative prestudy revealed that the male head of the household is primarily involved in the actual livestock selling and buying. Therefore, we use the household level as our unit of analysis and the household head as the key respondent. Eight experimental conditions following a 2 (Formal forecast: drought versus rain)  $\times$  2 (Informal confirmation of the forecast: confirmed versus not confirmed)  $\times$  2 (Presence of incentive: present versus not present) within subjects repeated measures design were used. The three market orientation components (customer orientation, competitor orientation, and interfunctional coordination), and the two control variables (market interaction, and other income) are measured directly.

### 5.3.3 Procedure

Respondents rated eight scenarios; first the four drought scenarios and then four rain scenarios. The scenarios were read to subjects one by one and immediately after each scenario respondents answered questions on herd size change given that scenario (see Appendix 5.1 for an example scenario). Formal forecast was manipulated by stating that government workers and NGOs working in the area of the pastoralists predicted a specific climatic condition (prolonged drought or rain). The scenario also read the consequences of these conditions in terms of the availability of pasture and water and the consequences that the state of these resources are likely to have on the herd (that animals may become weak, thin, poor in quality and possibly even die in times of drought, or that the resources are suitable for breeding, and fattening or to make it attractive for the market and potentially sell at higher prices).

*Manipulation of informal confirmation of the forecast.* In conditions where the informal forecast (from the traditional knowledge system) confirms the formal forecast, it was read to pastoralists that the formal forecast provided by government agents and NGOs, is confirmed by wise-men so-called *Hayyuu* in their community. In the remaining conditions it was read that the formal forecast is disconfirmed by wise-men.

*Manipulation of presence of incentive:* In conditions with the presence of incentive, it was read to pastoralists that a quality certification bureau established by exporters in their market, would grade the livestock quality that they offer to the market. The quality grading is made for free on request of pastoralists. The quality certification bureau will grade livestock either as top quality, medium quality or poor quality. It was also read that the quality certificate can help pastoralists improve the quality of their livestock and bargaining power to get higher prices. In the remaining conditions it was read to the pastoralists that there is no quality certification bureau to grade the livestock quality that they offer to the market.

### 5.3.4 Data collection

*5.3.4.1 Study context and selection.* Ethiopia has the largest number of pastoralists in the Horn of Africa, which contains the largest population of pastoralists in the world (ECHO, 2007). Ethiopia alone hosts more than 12 million pastoralists (Getahun, 2008). Within Ethiopia, substantial differences distinguish the pastoralists in terms of climate, vegetation, and geographic location (Unruh, 2005). In Ethiopia, we selected the Yabello in the southern Borana area and Kereyu Fentale (hereafter, Fentale) in the Rift Valley, because they jointly represent sufficient variation on these characteristics.

*5.3.4.2 Questionnaire development and pretesting.* We designed a survey questionnaire in English which we then discussed with an expert with field research experience in the two geographic areas for feedback. After incorporating his suggestions, we asked a certified translator to Oromiffa, the local language spoken in both areas, to translate the English questionnaire. Another translator then translated the questionnaire back to English, to verify the correct interpretation of the questions.

We used the services of five professional enumerators in each district (10 total) to pretest and collect the data. All enumerators were professionally involved in working with the pastoralists; they are assigned to maintain relationships between the pastoralists and local governments. They all lived in the area of the data collection, shared cultural backgrounds and languages with the respondents, and had completed tertiary education levels. These enumerators received five days of training about the data collection. After the training, they conducted two rounds of questionnaire pretesting in which they interviewed a total of 12 pastoralists (two rounds of three respondents in each area).

*5.3.4.3 Sample and interview procedure.* Because the two selected areas are very large (Fentale is 1,169 km<sup>2</sup>, Yabello is 5,523 km<sup>2</sup>), we selected specific strata to prevent systematic biases and sampled pastoralists on a convenience basis, carried out as randomly as possible within these strata. Using insights from our prestudy, strata varied in terms of distance to the main road, occurrence of additional activities for income (like farming), and conflicts with formal sector activities (like plantations being established in areas that are traditionally used for grazing). As confirmed by local enumerators, we chose four research sites in each area. Because we had no information that the strata are considerably different in terms of size in the populations, the number of respondents sampled from each stratum is about equal.

Interviews took place in grazing fields. Prior to the interview visits, we sent messages to the community by contacting community members in the market. The enumerators also explained the purpose of the survey before starting each interview session. Respondents were assured of their anonymity and the confidentiality of their information. We also explained that the information would be used only for research purposes. All interviews in Fentale were conducted before 1:00 PM, after which pastoralists often congregate to chew Kahat, a stimulant. Interrupting this social event would be considered inappropriate.

Most pastoralists are low-literate, so written scale items in a questionnaire may be confusing. Therefore, we replaced a traditional five-point Likert-type scale with five sticks of increasing worth, such that stick 5 is worth five times as much as stick 1. For multi-item questions of the market orientation components: customer orientation, competitor orientation,

and interfunctional coordination, pastoralists responded by picking sticks (stick 1 = “strongly disagree,” stick 5 = “strongly agree”). To ensure that respondents understood the procedure of using sticks, they practiced before the start of the interviews.

### *5.3.5 Operationalization and measurement*

To measure the dependent variable, pastoralists were asked to rate their intended herd size change for camels, cattle, goats, and sheep (for each livestock type). Pastoralists’ are reluctant to share precise livestock numbers, because, in their culture, sharing these numbers is often seen as bringing bad luck (e.g., Dahl & Hjort, 1976; Sperling, 1987; Gefu, 1992). We therefore used Likert-type scales to measure intended herd size change. We extended our five sticks to an eleven point scale to get a response from pastoralists on their intended herd size change. Pastoralists therefore rated their intended herd size change using 11 point Likert type scale (-5= most likely to decrease, +5= most likely to increase). If a pastoralist intends to decrease, for example a cattle, then he was asked by how much (5= high decrease, 1= low decrease; we represent high decrease as -5 and low decrease as -1). Similarly, if a pastoralist responds to increase a herd, then he was asked by how much (5= high increase, 1= low increase; we represent high increase as +5 and low increase as +1). If a pastoralist responds as no change in herd size for a specific scenario, we represent by a zero.

Next, we converted the scores of camels, cattle, goats and sheep into Tropical Livestock Unit (TLU). TLU (250 kg live weight) is used as a common unit to describe livestock numbers of various species present in the rangeland (Janhke, 1982; Turner, et al., 2005; Taddesse et al., 2002). We converted the responses of pastoralists for camels, cattle, goats, and sheep by multiplying them by respective TLU conversion factors (Davies & Bennett, 2007; Janhke, 1982)<sup>1</sup>. Then, we summed up the four livestock types to form an index for intended herd size change.

Following Narver and Slater (1990), we used multi-item measures for the three market orientation components: customer orientation, competitor orientation, and interfunctional coordination. To validate the multi-item measures for the three components of market orientation, we used conventional methods, including exploratory factor analysis and

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<sup>1</sup> In range ecology, TLU is a measure of tropical ruminant forage demand as well as grazing pressure (on the resources) for different livestock types (Le Houerou 1989; Turner, et al., 2005). It therefore measures herd size in terms of burden for the natural resources (pasture and water). TLU conversion factors for matured livestock is for a camel = 1, for a cow = 0.7, for a goat or sheep = 0.1 (Davies & Bennett, 2007; Jahnke, 1982).

Cronbach's alpha (Churchill, 1979), and dropped any items that loaded on multiple factors and/or had low loadings. In order to assess if the retained items were significantly contributing to constructs being measured, we imputed the three market orientation constructs into a confirmatory factor analysis model using LISREL 8.7 (Jöreskog, & Sörbom, 2004)<sup>2</sup>. To examine the three market orientation constructs for discriminant validity, we assess the pairs of constructs in two-factor confirmatory models (e.g., Bagozzi et al., 1991) using LISREL 8.7 (Jöreskog, & Sörbom, 2004)<sup>3</sup>.

After purification, we measured customer orientation with five items that refer to practices valued by buyers, such as improved breeding (alpha = .86). These items jointly reflect doing business based on understanding customers and satisfying their needs by creating customer value, as in Narver and Slater's (1990) original scale. Competitor orientation is measured by four items pertaining to the collection of and response to information about other suppliers in the livestock market (alpha = .77). For interfunctional coordination, we use five items related to collaboration and information sharing with other actors in the network (alpha = .79). For the scale items, factor loadings and Cronbach's Alpha's we refer to the appendix 5.2.

Our analysis also includes two control variables, market interaction and other income. We measured market interaction by the number of livestock sold and bought by pastoralists within one year (e.g., Jaleta & Gebremedhin, 2011). We measure other income by using a dummy variable (1= engaged also in other activities, 0= engaged in livestock production only). Table 5.1 shows means, standard deviations, and correlations for measured variables.

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<sup>2</sup> All factor loadings were significant ( $t > 1.96$ ). The model fit statistics such as Comparative fit index (CFI) was .95, Goodness of Fit Index (GFI) and Adjusted Goodness of Fit Index (AGFI) were .91 and .87, respectively; and Root Mean Square Error Approximation (RMSEA) was .073. The error covariance of item 3 and item 7 for customer orientation, and item 1 and item 5 for competitor orientation were set free (Lattin et al., 2003).

<sup>3</sup> We ran each model twice: constraining the covariance between the two constructs and the variances to 1 and then removing the constraint. We examined the chi-square difference and changes in the comparative fit index (CFI) (Byrne, 1998). For all models, the chi-square values are significantly lower for unconstrained models than for the constrained models, and they exceed the critical values ( $\Delta\chi^2 > 3.84$ ) in all tests. The CFI values for the constrained models are lower, suggesting poorer fit.



**Table 5.1** Means, standard deviations, and correlations for measured variables

Variables	Mean	SD	1	2	3	4	5	6
1 Customer orientation	3.01	1.09	1					
2 Competitor orientation	3.67	.98	.49 <sup>a</sup>	1				
3 Interfunctional coordination	1.77	.78	.17 <sup>a</sup>	.14 <sup>a</sup>	1			
4 Market interaction	21.59	15.58	.15 <sup>a</sup>	.14 <sup>a</sup>	.03	1		
5 Other income	.59	.49	.24 <sup>a</sup>	.46 <sup>a</sup>	.25 <sup>a</sup>	.08 <sup>a</sup>	1	
6 Total herd size change (in TLU)	1.42	3.40	.03	-.03	-.02	.07 <sup>a</sup>	-.04	1

<sup>a</sup>  $p < .01$  two tailed significance

Note: Correlation between total herd size change and manipulated variables is -.53 for formal forecast, -.08, informal confirmation of the forecast, and .02 presence of incentive, respectively. Correlation coefficients between the manipulated variables as well as with other measured variables are zero.

### 5.3.6 Data analysis

We test our hypotheses using a regression model, which may ease the interpretation of the complex interaction terms of continuous and manipulated variables as compared to repeated measures analyses of variance (e.g., Aiken & West 1991). We use an effects coding scheme (Bech & Gyrd-Hansen, 2005; Cohen & Cohen, 1983) for manipulated variables, coding the first level as + 1 and the second level as -1. Using effects coding is preferred to dummy coding to estimate unbiased parameter for constant term of a regression model (Bech & Gyrd-Hansen, 2005). The model can be specified as:

$$Y = \beta_0 + \beta_1 D_1 + \beta_2 D_2 + \beta_3 D_3 + \beta_4 D_4 + \beta_5 X_1 + \beta_6 X_2 + \beta_7 X_3 + \beta_8 X_4 + \beta_9 X_5 + \beta_{10} X_6 + \beta_{11} X_7 + \beta_{12} X_8 + \beta_{13} X_9 + \beta_{14} X_{10} + \beta_{15} X_{11} + \beta_{16} X_{12} + \beta_{17} X_{13} + \beta_{18} X_{14} + \epsilon,$$

where Y is the intended herd size change (dependent variable);  $\beta_s$  are the parameter estimates; D1 and D2 are respectively variables for formal forecast (coded as +1 for drought and as -1 for rain), informal confirmation of the formal forecast (coded as +1 for confirmation and as -1 for disconfirmation). X1–X3 denote customer orientation, competitor orientation, and interfunctional coordination, respectively. In turn, D3 represents the control variable on the presence of incentive (coded as 1 for present and as -1 for absent), D4 corresponds to the control dummy variable on other income (coded as 1 when the respondent has also other sources of income and coded as 0 when the responded relied for his income only on the

livestock); X4 corresponds to the control variable on market interaction. X5 is the interaction of formal forecast and informal confirmation of the forecast; X6-X8 the two-way interactions of formal forecast and the three market orientation components; X9-X11 the two way interactions of informal confirmation of the forecast and the market orientation components; and X12-X14 the three way interactions of formal forecast, informal confirmation of the forecast and the market orientation components.

Because our respondents are included eight times in the data set (once for each experimental condition), we subtracted the mean of the respondent over all eight conditions from their scores on the dependent variable, intended herd size change. This is recommended to remove potential biases caused by the repeated measures design for the field experiment (e.g., Schaninger & Buss, 1986; Cleaver & Wedel, 2001). Except for the manipulated variables and a dummy (control) variable, we mean centered the independent variables before inputting them (Aiken & West, 1991). We inspected our findings for multicollinearity. The highest variance inflation factor in our models was 1.560 for competitor orientation; thus multicollinearity is unlikely to be a problem in our analyses (e.g., Hair et al., 1995).

In addition, we ease the interpretation of the findings by running regression models for specific experimental conditions, i.e., one on the experimental conditions for drought, and one on the experimental conditions for rain. The results of the full model and these models on rain and drought respectively can be found in Table 5.2 Next, we split these models further in specific models for confirmation and disconfirmation within the rain and drought conditions. The results of these models can be found in Table 5.3. This approach eases the interpretation because the potential number of interactions is reduced without changing the estimates other than possible rounding differences (Aiken & West, 1991).

## 5.4 Results

### 5.4.1 Hypotheses testing

Hypothesis 1 predicted that rain forecasts would lead pastoralists to increase their herd size and that drought would let them to decrease the herd size. This hypothesis is supported since the effect of formal forecast in the full model is significant (-1.79,  $p < .01$ ). The direction of the parameter is as expected, as can be found in the separate models for rain and drought in Table 5.2. The constant in the model with the rain condition is positive (1.75,  $p < .01$ ) suggesting an increase of the herd size, while the constant in the model for drought is negative (-1.75,  $p < .01$ ) suggesting a decrease of the herd size.

Hypothesis 2 suggested that a confirmation of the formal forecast by informal forecasting techniques would strengthen the effect of the formal forecast on the intended herd size change. This hypothesis is supported because the parameter for the interaction between formal forecast and informal forecast confirmation of the forecast in the full model is significant ( $-.66, p < .01$ ) and because confirmation of the formal forecast leads indeed to a herd size increase in the rain condition ( $.92, p < .01$ ) and a decrease in the drought condition ( $-.41, p < .01$ ).

Hypothesis 3 suggests that the effect of the formal forecast is also strengthened by the market orientation components. Hypotheses 3a on customer orientation and 3c on interfunctional coordination are in that respect supported. In the full model the interaction effects of formal forecast and customer orientation ( $-.15, p < .01$ ), as well as interfunctional coordination ( $-.29, p < .01$ ) are significant. In the rain and drought conditions, these effects are also significant and in the expected directions ( $.14, p < .1$  and  $-.14, p < .05$  for customer orientation in the rain and drought models respectively, as well as  $.29, p < .01$  and  $-.29, p < .01$  for interfunctional coordination). Hypothesis 3b on competitor orientation shows however an opposite effect. The effect in the full model is significant, but its direction is opposite to the effects of customer orientation and interfunctional coordination ( $.20, p < .01$ ). Thus, Hypothesis 3b is rejected. A closer look in the models on rain and drought, show that competitor orientation weakens the decrease of the herd size in the drought condition ( $.22, p < .01$ ), and weakens the increase of the herd size in the rain condition ( $-.22, p < .05$ ). We will return to this finding in the discussion section.

Hypothesis 4 suggests that the role of market orientation is strengthened when the formal forecast is disconfirmed by the informal forecast. This hypothesis is partially supported. In the full model, the three-way interaction effects of formal forecast, informal confirmation of the forecast and customer orientation ( $.10, p < .05$ ) as well as interfunctional coordination ( $.13, p < .05$ ) are significant, but the effect with competitor orientation is not ( $-.06, p > .1$ ). The models on rain and drought (Table 5.2) suggest that these effects can be ascribed to the rain condition because the two-way interactions of the informal confirmation of the forecast and customer orientation ( $-.14, p < .1$  for rain and  $.06, p > .1$  for drought) as well as interfunctional coordination ( $-.24, p < .05$  for rain and  $.02, p > .1$  for drought) are significant in the rain condition only. The results reported in Table 5.3 in the model on rain and disconfirmation of the formal forecast, subsequently show that these effects are in the predicted direction, i.e., that customer orientation ( $.29, p < .05$ ) as well as interfunctional coordination ( $.53, p < .01$ ) both strengthen the increase in herd size.

#### 5.4.2 *Other results*

The results in the full model show a significant direct effect of informal confirmation of the formal forecast (.25,  $p < .01$ ) that was not predicted by the hypotheses. This effect suggests that pastoralists may also respond directly to the recommendations of their wise men, regardless of the predictions by formal forecasts. This finding confirms previous studies that concluded that traditional institutions are influential among pastoralists in East Africa (e.g., Swift, 1991; Beyene, 2010; Mwangi & Ostrom, 2009).

In addition to the hypothesized relationships, we find no significant effect on the control variable presence of an incentive. It is noteworthy to mention that we tested our models with additional two-way and three-way interaction effects including presence of incentive and any other combination of the substantive variables in our study. None of the effects was significant. This reaffirms that the benefits provided by a market orientation can't be copied by providing economic incentives. Also the controls on other income and market interaction are not significant in the full model. Market interaction is however significant in the drought model (-.01,  $p < .05$ ). According to the results in Table 5.3, it helps to decrease the herd size in a drought condition that is confirmed by the informal forecast (-.02,  $p < .01$ ). In the drought condition with confirmation by the informal forecast, the impact of the market orientation components is also relatively weak, suggesting that if there is little uncertainty about the drought forecast, market orientation is not really necessary to adapt but mere interaction with the market (either with a market-oriented mindset or not) is enough to foster adaptation.

Finally, we examined how pastoralists intend to change their herd size for each livestock type in TLU (respectively cattle, camels, goats, and sheep) as well as the total herd size when formal forecast and informal confirmation of the forecast are provided. The F-test (one-way ANOVA) models showed significant formal-informal confirmation of the forecast effects ( $F = 290.01$ ,  $p < .001$  for total herd size;  $F = 464.72$ ,  $p < .001$  for cattle;  $F = 267.20$ ,  $p < .001$  for camels,  $F = 216.61$ ,  $p < .001$  for goats; and  $F = 277.45$ ,  $p < 0.001$  for sheep) (see appendix 5.3). Post-hoc SNK tests also showed significant mean-herd size differences across the four conditions (for total as well as for each livestock type). The effect of total herd size change in the analyses reported above is still for the greater part dedicated to the changes in cattle and sheep. To this respect, pastoralists show lesser degree of herd reduction for a drought forecast for camels and goats while they are more inclined to reduce for cattle and sheep. A logical explanation is that cattle and sheep will be more affected by the announced change in climatic conditions than camels and goats. Cattle and sheep are more susceptible to these changes as they depend on ground pasture which quickly depletes in times of drought and restores in

## Chapter 5

times of rain. Camels and goats depend less on ground pasture because they browse leaves from trees and bushes (e.g., Holy, 1980; Kassahun, et al., 2008).

**Table 5.2** Unstandardized regression coefficients for the relationship between market orientation components, formal forecast, and informal confirmation of the forecast on changes in the intended herd size

Variables	Full model		Rain		Drought	
	B	t-value	B	t-value	B	t-value
(Constant)	0.00	0.00	1.75 <sup>a</sup>	13.44	-1.75 <sup>a</sup>	-18.03
Formal forecast	-1.79 <sup>a</sup>	-37.40				
Informal confirmation of the forecast	0.25 <sup>a</sup>	5.31	0.92 <sup>a</sup>	11.97	-0.41 <sup>a</sup>	-7.16
Customer orientation	0.00	0.00	0.14 <sup>c</sup>	1.66	-0.14 <sup>b</sup>	-2.22
Competitor orientation	0.00	0.00	-0.22 <sup>b</sup>	-2.27	0.22 <sup>a</sup>	3.05
Interfunctional coordination	0.00	0.00	0.29 <sup>a</sup>	2.86	-0.29 <sup>a</sup>	-3.84
<i>Two-way interaction terms</i>						
Formal forecast × informal confirmation of the forecast	-0.66 <sup>a</sup>	-13.86				
Formal forecast × customer orientation	-0.15 <sup>a</sup>	-2.91				
Formal forecast × competitor orientation	0.20 <sup>a</sup>	3.55				
Formal forecast × interfunctional coordination	-0.29 <sup>a</sup>	-4.71				
Informal confirmation of the forecast × customer orientation	-0.04	-0.79	-0.14 <sup>c</sup>	-1.72	0.06	0.99

**Table 5.2** (continued)

Variables	Full model		Rain		Drought	
	B	t-value	B	t-value	B	t-value
Informal confirmation of the forecast × competitor orientation	0.01	0.14	0.07	0.76	-0.05	-0.78
Informal confirmation of the forecast × interfunctional coordination	-0.11 <sup>c</sup>	-1.74	-0.24 <sup>b</sup>	-2.40	0.02	0.29
<i>Three-way interaction terms</i>						
Formal × informal confirmation of the forecast × customer orientation	-0.10 <sup>b</sup>	-1.97				
Formal × informal confirmation of the forecast × competitor orientation	0.06	1.08				
Formal × informal confirmation of the forecast × interfunctional coordination	-0.13 <sup>b</sup>	-2.09				
<i>Control variables</i>						
Presence of incentive	0.05	1.08	0.10	1.24	0.01	0.16
Other income	0.00	0.00	0.07	0.38	-0.07	-0.51
Market interaction	0.00	0.00	0.01	1.53	-0.01 <sup>b</sup>	-2.05
F-statistics (df), significance	F(18, 1837), 92.75 <sup>a</sup>		F(10, 917), 17.24 <sup>a</sup>		F(10, 917), 8.33 <sup>a</sup>	
R <sup>2</sup> (Adj.R <sup>2</sup> )	.48 (.47)		.16 (.15)		.08 (.07)	

<sup>a</sup> p < .01, <sup>b</sup> p < .05, <sup>c</sup> p < .1 two-tailed significance

**Table 5.3** Unstandardized regression coefficients for the relationship between formal forecast and informal confirmation of the forecast, and market orientation components on changes in the intended herd size

Variables	Formal forecast: Rain				Formal forecast: Drought			
	Informal confirmation of the forecast: Confirmed		Informal confirmation of the forecast: Disconfirmed		Informal confirmation of the forecast: Confirmed		Informal confirmation of the forecast: Disconfirmed	
	Beta	t-value	Beta	t-value	Beta	t-value	Beta	t-value
Constant	2.66 <sup>a</sup>	14.09	0.84 <sup>a</sup>	4.67	-2.21 <sup>a</sup>	-16.14	-1.29 <sup>a</sup>	-9.40
Customer orientation	-0.01	-0.12	0.29 <sup>b</sup>	2.53	-0.06	-0.75	-0.21 <sup>b</sup>	-2.40
Competitor orientation	-0.16	-1.15	-0.28 <sup>b</sup>	-2.09	0.16	1.56	0.29 <sup>a</sup>	2.76
Interfunctional coordination	0.05	0.36	0.53 <sup>a</sup>	3.77	-0.28 <sup>a</sup>	-2.63	-0.30 <sup>a</sup>	-2.80
<i>Control variables</i>								
Incentive	0.13	1.12	0.07	0.62	-0.06	-0.71	0.08	0.93
Other income	0.08	0.29	0.06	0.24	0.02	0.11	-0.16	-0.82
Market interaction	0.01 <sup>b</sup>	1.90	0.00	0.22	-0.02 <sup>a</sup>	-2.88	0.00	-0.03
F-statistics (df), significance	F( 6, 457), 1.04		F(6,457), 3.12 <sup>a</sup>		F( 6, 457), 2.13 <sup>a</sup>		F( 6, 457), 3.31 <sup>a</sup>	
R <sup>2</sup> (Adj.R <sup>2</sup> )	.02(0.00)		.05 (0.04)		.04 (0.02)		.042 (0.03)	

<sup>a</sup> p < .01, <sup>b</sup> p < .05, two-tailed significance;



### 5.5 Discussion

In this study the role of marketing in enhancing the adaptation of pastoralists to the changing climatic conditions (i.e., drought versus rain) is analyzed. To this respect, the study examined the extent to which market orientation (an incentive for self-enhancement) contributes to pastoralists' adaptation to the changing climatic conditions. To do so, we tested the effects of customer orientation, competitor orientation, and interfunctional coordination on the relationship between formal forecast and the intended herd size change. In addition we also tested informal confirmation of the forecast and its interaction with market orientation on their influence to the relationship of formal forecast and the intended herd size change. The findings are summarized in Table 5.4. Note that in Table 5.4 + (-) refers to a factor that stimulates (weakens) responsiveness to an announced change in climatic conditions and not to an increase or decrease of the herd size. We discuss the findings below.

**Table 5.4** Factors that strengthen or weaken the response to an announced change in climatic conditions

<b>Formal forecast</b>	<b>Formal forecast is confirmed by the informal forecast</b>	<b>Formal forecast is disconfirmed by the informal forecast</b>
Predicted rain		Customer orientation (+) Interfunctional coordination (+) Competitor orientation (-)
Predicted drought	Market interaction (+) Interfunctional coordination (+)	Customer orientation (+) Interfunctional coordination (+) Competitor orientation (-)

As predicted in hypothesis 4, we expected that the effects of market orientation would be stronger when the climate forecast is disconfirmed by the informal forecast techniques of pastoralists themselves. We predicted that competitor orientation would, just like customer orientation and interfunctional coordination, increase the cooperation of pastoralists in the resource dilemma that they face when they are informed about an upcoming drought. Surprisingly, the results show an opposite effect, meaning that when pastoralists should sell in order to preserve natural resources, they will increase their herd (or at least decrease less) and when they can increase the herd because rain is predicted, they will sell (or increase less). This indicates that a higher competitor orientation of pastoralists increases speculative

behavior in that they use the expected drought for personal gains. As such, competitor orientation has a detrimental effect on sustainable resource utilization by pastoralists. This conclusion casts further doubt about whether a competitor orientation is a valid component of a market orientation. Apparently, it does not contribute to long-term value creation, but rather to short term speculation. In that respect our study adds to previous findings that questioned the role of competitor orientation in innovativeness and business performance (e.g., Frambach et al., 2003; Ingenbleek, Frambach, & Verhallen, 2010; Tessema et al., 2012; Voss & Voss, 2000).

When formal forecasts are confirmed by informal forecasts, thus creating a relative certainty for pastoralists with regard to the expected climatic conditions, the effects of market orientation are not significant (except for interfunctional coordination when drought is predicted). In a situation where drought forecast is confirmed by the informal forecasting technique, the control variable market interaction showed a significant effect. Apparently, in this situation market interaction is in itself a sufficient condition to ensure that pastoralists respond. In other words: the only pastoralists that will not respond are those that don't interact with markets, for examples because they are too far away from the nearest market or are refrained from contacts with potential buyers (or brokers that can connect them to those buyers). When drought is predicted, the urgency to respond is much higher than when rain is predicted. The significant effect of interfunctional coordination in the drought model with confirmation can therefore be explained from the fact that interfunctional coordination taps the network contacts that pastoralists have with brokers and other people that can facilitate a fast, efficient and profitable exchange.

Finally, we should discuss the findings on the presence of an incentive, which showed no influence on intended herd size change in any of the conditions. For a condition in which drought is confirmed, this is logically explained by the other finding showing that access to markets without further intrinsic or extrinsic motivation is enough for pastoralists to respond. However, the findings in the conditions where the formal climate forecast is disconfirmed are more remarkable. In these conditions, customer orientation and interfunctional coordination, representing factors that contain intrinsic motivations to respond have a significant effect. Adding an external motivation in the form of an incentive, that strengthens pastoralists' negotiation position on the market, doesn't make a significant contribution to the responsiveness of pastoralists to predicted changes in climatic conditions. This finding suggests that providing economic incentives alone without facilitating pastoralists' intrinsic motivation will not help to enhance their adaptation to the changing climatic conditions. This

emphasizes that market orientation (as customer orientation and interfunctional coordination) strengthens the response to a resource dilemmas because it combines the economic benefits with an intrinsic motivation to respond that can't be replaced by an external incentive.

### **5.6 Policy implications, limitations, and direction for further research**

#### *5.6.1 Policy implications*

The findings of this study have several implications for policy makers that aim to strengthen the responsiveness of pastoralists to climatic forecasts. In order to do so, policy makers should first integrate formal and informal forecasts. Pastoralists appear highly responsive when the formal forecasts on changes in climatic conditions are confirmed by pastoralists' own informal forecasts. Policy makers must make sure that forecast information from the formal and informal sources are aligned as much as possible. To this respect, it is crucial to bring people together that provide the formal and informal forecasts. This may require a mechanism, such as a forum that brings together "formal" meteorologists and "informal" wise-men, to reconcile when there is contradictory forecast information from the two sources to pastoralists.

However, even if pastoralists receive unambiguous messages from different sources, they should be enabled to respond by the availability of and access to markets where they can sell and buy livestock. Weak markets and market institutions can limit the market integration and thus adaptation of pastoralists to the changing climatic conditions (e.g., Verbeke et al., 2009). According to McPeak (2005), difficulties to find a sufficient and affordable supply of good quality livestock on the market to restock during rain, are the main reasons for limited destocking during drought. Thus, policy makers need to alleviate the constraints that arise from weak markets to facilitate both the destocking and restocking.

Next, although an alignment of formal and informal forecasts is important, it is unlikely that a complete integration of the different sources will be achieved in the near future. As a consequence, policy makers should be prepared that pastoralists will often remain confronted with contradicting information, thus creating uncertainty. Our study showed that in these conditions, market orientation becomes particularly important to foster adaptation to changing climatic conditions. Policy makers should therefore support and encourage pastoralists to enhance customer orientation and interfunctional coordination (hereafter referred to a market orientation, thus excluding competitor orientation). A proactive approach based on pastoralists' intrinsic self-enhancement motivation, i.e., market orientation helps to sustain livestock production by pastoralists; as it helps to minimize livestock losses due to the

drought. Pastoralists with higher market orientation raise livestock of better breeds (and fatten livestock that they want to sell). This enables them to sell more easily before droughts than other pastoralists with lower market orientation. Thus, policy makers need to strengthen and support pastoralists' marketing practice as a competence to adapt to the changing climatic conditions by changing their herd size. To this respect, policy may focus on measures that facilitate the sharing of market knowledge (like a mobile phone network) and measures that improve the responsiveness of pastoralists to that market knowledge like training in fattening and experience sharing with fattening operators, or other pastoralists. Stimulating the development of customer orientation and interfunctional coordination seems almost inevitable for policy makers as the presence of an incentive in the market (by an outside party), is not necessarily a factor to influence responsiveness to changes in climatic conditions.

#### *5.6.2 Limitations and direction for further research*

The research approach that we have taken here is not without its limitation. The study tests the relationship of market orientation components, and the formal forecast and the informal confirmation of the forecast on the intended herd size change. Though significant results are shown, the study is based on a semi-experimental design in which the dependent variable is based on cross-sectional data on intended herd size change rather than the actual herd size change. The external validity of the findings would benefit from a longitudinal study that measures the actual herd size change of pastoralists. To this respect, conducting research on a panel of pastoralists immediately after the rain and after the dry period for several time periods further increases our insights in the relationship between the market orientation and actual herd size change.

Though the study shows the first empirical evidence on the market orientation's contribution to the sustainable utilization of the natural resources, its relevance beyond the pastoralists' context is not yet tested. This may limit the generalizability of the findings to other smallholder agricultural producers. Thus, research also might analyze relationship between market orientation and adaptation to the changes in climatic conditions to other smallholder agricultural producers beyond the pastoralists' context. To this respect, research might test how market orientation of smallholder agricultural producers (e.g., crop farmers) influences their adaptation to the changes in climatic conditions through changes in their crop varieties, timing of planting, and diversification.

## **5.7 Conclusion**

This study shows that market orientation enhances the adaptation of pastoralists in terms of herd size change to the changes in climatic conditions. The two components of market orientation: customer orientation and interfunctional coordination increase the adaptation of pastoralists in intended herd size change due to formal forecast about the changing climatic conditions. Further, the study shows that market orientation strongly influences the relationship between formal forecast and the intended herd size when there is disconfirmation of the formal forecast by the informal. When the drought forecast is confirmed by the informal forecast, the study shows that market interaction by itself is a sufficient condition for pastoralists to respond to the predicted climatic condition. The study also shows that integrating the formal and informal confirmation of the forecasts enhances pastoralists' response in terms of changing their herd size.

In conclusion, the present study shows that, given the availability and access to markets by pastoralists, marketing can play a role in the sustainable utilization of the natural resources such as pasture and water by pastoralists. Pastoralists with higher market orientation will destock before droughts and restock when there is rain. Pastoralists with higher market orientation therefore change their herd size by adapting to the availability of pasture and water. This in turn helps them to manage effectively their pasture and water from overexploitation. Thus, there should be a policy support that facilitates the sharing of market knowledge and measures that improve the responsiveness of pastoralists to that market knowledge to enhance market orientation of pastoralists. From the domain of the public policy there is therefore a unique contribution of market orientation to manage resource dilemma situation of pastoralists, because external incentive without the intrinsic motivation of pastoralists does not help to the adaptation of pastoralist to the changing climatic conditions. Thus, market orientation helps to solve Hardin's (1968) classic resource dilemma of pastoralists because enhanced market orientation by pastoralists facilitates their effective destocking and restocking of livestock depending on the ecological conditions.

**Appendix 5.1** Description and an example of scenarios

The following descriptions are imaginary future scenarios. We are going to ask you about your decision to decrease or increase different types of your livestock. ‘There are two scenarios in this part of the questionnaire: “occurrence of drought” and “occurrence of rain for sufficient pasture and water” in the coming year. The drought will cause degradation and scarcity to pasture and water for your livestock. Because of the drought, your livestock may become weak, thin and poor in quality; and they may even die. On the other hand, occurrence of rain will help you to breed your livestock to increase the herd size. You can also make your livestock fat and attractive to sell at higher price in the market.

In both scenarios, there is **information from experts** regarding the occurrence of drought and rain. The information of experts could sometimes be confirmed but other times not **confirmed by the wise-men (Hayyuu)** in your area (village). The **quality certificate** issuing bureau could be present sometimes and another times not present. Please check carefully which of the above elements are available in each part of the scenario to make your decision either to decrease, increase or not to take any action on your herd size.

**Condition 1:** Imagine that experts from the Government and NGOs working in your area say that prolonged drought is going to occur in the next year. The drought will cause degradation and scarcity to pasture and water for your livestock. Wise-men from your community with whom you discussed this issue confirm that this indeed will happen. Because of the drought, your livestock may become weak, thin and poor in quality; and they may even die. Except for this drought you should not consider other significant changes. Exporters are not involved in your market to establish quality certification bureau.

Please indicate to what extent you are likely to decrease or increase different types of your livestock?

---

Cattle

Most likely to decrease -5 -4 -3 -2 -1 0 + 1 + 2 + 3 + 4 + 5 Most likely to increase

Camels

Most likely to decrease -5 -4 -3 -2 -1 0 + 1 + 2 + 3 + 4 + 5 Most likely to increase

Goats

Most likely to decrease -5 -4 -3 -2 -1 0 + 1 + 2 + 3 + 4 + 5 Most likely to increase

Sheep

Most likely to decrease -5 -4 -3 -2 -1 0 + 1 + 2 + 3 + 4 + 5 Most likely to increase

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**Appendix 5.2** Construct items, loadings, and alpha values

<b>Item</b>	<b>Customer orientation (alpha = .86, eigenvalue = 3.18)</b>	<b>Factor loadings</b>
1	We do nothing to increase the quality of our livestock that we want to sell. (R)	.76
2	We increase the quality of our livestock that we are planning to sell in the market.	.88
3	We breed with livestock that will give us the quality traders are looking for.	.83
4	We always prefer to keep the best livestock for ourselves. (R)	Dropped
5	We sell our livestock only when we could not get income from other sources. (R)	Dropped
6	We raise livestock that the market wants.	.70
7	We always search for better breeds to satisfy traders and exporters.	.81

<b>Item</b>	<b>Competitor orientation (alpha = .77, eigenvalue = 2.63)</b>	<b>Factor loading</b>
1	What other livestock suppliers are doing in the market does not bother to me. (R)	.77
2	We always check what other livestock suppliers are doing on the market.	.69
3	Knowing the livestock type that others are supplying to the market is important to us.	Dropped
4	We always decrease or increase our market price following other suppliers.	.76
5	We are not interested in what other pastoralists are doing in the market. (R)	.65

## Appendix 5.2 (continued)

<b>Item</b>	<b>Interfunctional coordination (alpha = .79 , eigenvalue = 2.85)</b>	<b>Factor loadings</b>
1	Our broker will tell us when prices for our livestock are good.	.78
2	We collaborate very closely with our broker.	.88
3	Our broker advises us for best breed and fattening to increase quality of our livestock.	.76
4	Brokers withhold important market information from us. (R)	.62
5	We talk to community members on how to improve the quality of our livestock.	Dropped
6	We exchange information in the community before going to the market.	Dropped
7	We always contact knowledgeable people (e.g., experts) for market information.	.72

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(R) stands for reversed item.



**Appendix 5.3** An F-test (one way ANOVA test) for the intended herd size change for four livestock types and total (in TLU)

<b>Herd size in TLU</b>	<b>Conditions based on formal-informal forecasts</b>				<b>Df</b>	<b>F</b>	<b>Sig.</b>	<b>N</b>
	<b>Drought – drought</b>	<b>Drought – rain</b>	<b>Rain – drought</b>	<b>Rain – rain</b>				
Total	-0.7797	0.0381	2.2843	4.1207	1855	290.01	<0,001	232
Cattle (0.7)	-1.0271	-0.5242	0.8483	1.9197	1831	464.72	<0,001	229
Camels (1.0)	0.4441	0.8158	1.6667	2.5261	1219	267.20	<0,001	154/152
Goat (0.1)	0.0058	0.0454	0.2000	0.3111	1807	216.61	<0,001	226
Sheep (0.1)	-0.0687	-0.0254	0.1678	0.2818	1689	277.45	<0,001	212/211
<b>Unweighted</b>								
Cattle (0.7)	-1.4673	-0.7489	1.2119	2.7424	1831			
Camels (1.0)	0.4441	0.8158	1.6667	2.5261	1219			
Goat (0.1)	0.058	0.454	2.0000	3.111	1807			
Sheep (0.1)	-0.687	-0.254	1.6780	2.818	1689			

## Discussion, conclusion and implications

The thesis has presented one literature study and three empirical studies on marketing and sustainability of pastoralist marketing and production systems. This final Chapter reflects on the findings and contributions of these chapters and presents the main conclusions and implications. It first discusses the contributions of the thesis in the light of the major debates on marketing and sustainability. Next, it summarizes the key findings from the foregoing chapters, followed by a concise description of the main conclusions. Subsequently, it discusses the limitations and implications for policy makers, managers, theory, and future research.

### 6.1 Discussion

The present thesis took as starting point a long-lasting debate, both in policy and academic circles on whether the pastoral system is sustainable or not (e.g., Lesorogol, 2005; Warren, 1995). Chapter 2 concludes from the recent literature that this question has no unequivocal “yes or no” answer, but rather it has more nuances in that “it depends”. More specifically, the thesis argues that the pastoral system is not sustainable or unsustainable in itself, but rather that it depends on the strategic intent of pastoralists operating in the system. With regard to the market, it argues that marketing can facilitate sustainability of the pastoral system. By doing so, it breaks through the stereotype that marketing and sustainable development would be inherently un-reconcilable. Such prejudice builds on a biased perception of what marketing is, emphasizing the short-term bias of marketing tactics in focusing on short-term returns on investments, rather than appreciating the more strategic marketing focus of the core marketing concept in terms of continuity of the business. As Chapter 3 has shown, this makes the difference between mere market interaction and true market orientation. Although others already have argued for a central role of marketing to improve the sustainability of pastoralist system (e.g., Amanor, 1995; Fratkin & Mearns, 2003; Turner & Williams, 2002), the specific contribution of this thesis is that it has explored the role of marketing in ensuring sustainability in more depth and rigor enabled by concepts and methods from the mainstream marketing literature.

As such, this thesis fits within two currently ongoing debates on the role of marketing in relation to development, i.e.; (1) the debate on the sustainability of pastoralism, (2) the role of marketing and marketing research in emerging economies.

### *6.1.1 The sustainability of pastoralism*

The thesis builds on contemporary insights into the broader definition of sustainability, including its social, economic and ecological dimensions (Dale, 2001; Brundlandt, 1987; Serageldin, 1996). It argues that the pastoralist system is crucial in economic terms to cater for the increasing demand for proteins of an animal nature across the globe. This economic importance of the pastoral system cannot be ignored if one realizes that across the globe 10 % of the meat-based protein demand is supplied through the pastoralist production system (FAO, 2001). In a country like Ethiopia with a pastoralist population of more than 12 million (more than 12% of the total population of the country) (Getahun, 2008), the pastoralist (livestock production) system contributes a value of approximately 35 % to the national economy in terms of agricultural gross domestic production (Davies & Hatfield, 2007). The pastoralist system does so through exploiting natural resources that through their limited availability and concentration are too poor to allow sedentary or localized crop-based agricultural production. The mobile lifestyle of pastoralists enables them to take advantage of the available natural resources to cater for the growing demand for animal-proteins. In addition, with respect to the social dimension of the sustainability concept, the pastoral lifestyle is central to ensuring a livelihood for about 200 million families across the globe (WISP, 2007). Such livelihood contribution comes not only from ensuring adequate nutritional supply for subsistence but also as a source of cash income to facilitate sources of livelihood development (such as allowing children access to the educational system). The pastoral system therefore makes important contributions to the livelihood of pastoral as well as non-pastoral populations.

However, all these social and economic benefits can only be secured if they are sustainable in the long-term. In that respect, Hardin (1968) already expressed that pastoralists are pushed between their own short-term urgencies and the long-term perspective of the system as a whole. This balance does not come naturally, and has led the pastoralist system to become anecdotal as a key example of the ‘Tragedy of the Commons’, essentially arguing that if push comes to shove, pastoralists will be biased towards their personal short-term interest, rather than the long-term

societal interest, leading to depletion of the communal resources for own short-term personal interest. Such a simplified and biased view on the pastoralist system, only emphasizing the ecological dimension of sustainable development, would by definition lead to a prejudiced conclusion: pastoralist system by its very characteristics and the very nature of human behaviour would by definition not be sustainable.

The present thesis, based on evidence from Ethiopia, takes a more positive view on the pastoralist system, acknowledging the social and economic dimension, in addition to the ecological dimension. It essentially finds that the three dimensions can be balanced if pastoralists adapt a long-term strategic perspective towards the market. Pastoralists are therefore not a victim of the system, but rather driving forces in aligning their personal livelihood, their economic contribution and the adequate management of ecological resources. Throughout the thesis, we argue that strategic intent of pastoralists is central in managing the balance between the different dimensions of sustainable development and that facilitating a market orientation among pastoralists can help to increase the sustainability of their performance. We operationalize this market orientation of pastoralists as a strategic perspective on the creation of customer value in terms of anticipating and reacting on changing conditions in the exchange network. In essence, we argue that the concept of market orientation has a central role to play in determining the sustainability of the pastoralist system.

In doing so, the thesis shows evidence that marketing and sustainable development are not ‘contractions in terms’. Rather, market integration, if pursued with a strategic intent, by definition takes account of potential dynamics in the external environment, and it is exactly this anticipatory and strategic orientation to such changes that makes marketing a viable tool, also for the sustainable development of pastoral system.

### *6.1.2 Marketing and marketing research in emerging markets*

This thesis also fits within the current shift in academic marketing literature from simply assuming that marketing insights obtained from Western, high income economies would translate one-to-one across the globe, including emerging markets (which include according to Burgess and Steenkamp’s (2006) typology also the countries that traditionally often are indicated as developing countries). More and more it is being recognized that the true test of the marketing theory comes from its testing in markets ‘outside the comfort zone’ (Burgess & Steenkamp,

2006; Sheth, 2011). So rather than ‘what marketing theory can do for emerging markets’, the real challenge for marketing theory lies in ‘what emerging markets can do for the further progress or for the further refinement of fundamental marketing theory’. To achieve that goal, an appropriate set of methods that fit the specific research context is inevitable. In that respect, the present thesis also contributes to the fundamental progress in marketing research practice: to what extent can established principles of marketing research, central to the field of marketing theory development, be adjusted and refined to the specific context of emerging markets? In the light of these discussions, the present thesis makes two key contributions to the literature on the role of marketing in emerging economies.

First, in line with present focus on the generalizability of marketing concepts to non-Western economies, the present thesis supports that the market orientation concept (in particular customer orientation), central to strategic marketing thinking, also applies to emerging markets, even when pushed to the extreme as in our case of pastoralists with a mobile lifestyle, where formal institutional arrangements are very weak. However, it shows that the operationalization of the market orientation concept and its underlying dimensions needs to be adjusted to the specific context.

Second, the generalization of marketing theory to the reality of smallholders in emerging markets is far from trivial and straightforward. Emerging markets differ from Western world markets in many aspects, particularly in their level of institutional formalization. The present study shows that smallholders in emerging markets (pastoralists in our case) are in a sense torn between two worlds: the rules and practices of their informal social networks on the one hand, and those of the formal market economies on the other. Chapter 5 illustrates this in the context of potentially conflicting climate forecasts from the formal and informal economies. It shows that in such instances, pastoralists could benefit from their market orientation particularly in times of uncertain situations (as evidenced by conflicting predictions from formal and informal economies). It is particularly in such uncertain situations (from contradictory information) that the entrepreneurship of the pastoralists through market orientation makes the difference. With a certain prediction of drought, market interaction is a sufficient condition to ensure that pastoralists positively respond to the forecast (whereas a certain prediction of rain may not even require markets because pastoralists can simply reproduce their animals). Focus on value creation for customers within the chain (customer orientation), as well as embeddedness in broader

institutional structures (interfunctional coordination) are crucial to the appropriate response of the timely destocking and restocking by pastoralists in uncertain situations about the changing climatic conditions.

## **6.2 Summary of key findings**

The present study aims to answer the following research questions: (1) Is pastoralism in principle a sustainable production system?; If so under which conditions is such system sustainable?, (2) How does marketing relate to the conditions under which pastoralism is sustainable?, (3) Which concepts from the marketing literature can generate insights that potentially contribute to the sustainability of pastoralism?, and (4) How do these concepts empirically relate to the social and economic aspects of sustainability and to the resource dilemma that characterizes the ecological aspect of pastoralists' sustainability? It has answered these questions in four chapters of which the key findings are as follows.

Chapter 2 of this thesis takes inventory of the state of the art of current thinking on the sustainability of the pastoral system. It analyses the literature from 2005 to 2009 and shows that both in academic and policy circles the thinking about the pastoral system has evolved from isolated focus on either the livelihood or ecological dimensions to a broader and more nuanced perspective. Most of the studies acknowledge that the sustainability of the pastoral system depends on how the system is managed, both by individual pastoralists, but primarily by the institutional environment that facilitates it (i.e., management strategies, indigenous knowledge, institutions, and integrated approach in conserving the natural resources and generating income to pastoralists). An increasing role of marketing, as part of the solution rather than as part of the problem, is being recognized. Marketing can facilitate adaptation conditions that enhance pastoralists' sustainability, because selling and buying will help in order to adapt to the changes in climatic conditions through flexible stocking decision.

Chapter 3 delves further in the role of markets and marketing in ensuring sustainability of the pastoral system. It inductively finds that it is not market interaction (or integration) that is important, but rather the strategic intent with which pastoralists operate in markets. Chapter 3 takes market orientation of pastoralists as a central concept, showing that strategic intent in market integration is necessary to balance the full scope of sustainability dimensions. With such a market orientation, pastoralists more carefully design their strategies to ensure that they create

## Chapter 6

customer value, thus building a long-term favourable market position, which makes adaptation to ecological conditions a rational decision to secure their source of income in the long-term. For pastoralists, this requires sense, share and respond processes. Through the sense function pastoralists assess about the (livestock) types, breeds and qualities that buyers want in the market (as well as the time at which the demand for their products becomes high). What is sensed in the market is shared within a pastoralist community. Those pastoralists who use the shared market information for strategic response (selecting breeds, fattening, and raising different types of livestock) to the needs and wants of the buyers aim to get higher prices. Without such a market orientation, pastoralists may indeed become a victim within the supply chain, pushed by social and ecological pressures, rather than taking best advantage of them.

Chapter 4 takes this point further in deductively developing models on the impact of market orientation, as it is developed in the marketing literature, and livelihood performance. Drawing on Narver and Slater's (1990) conceptualization of market orientation, the chapter investigates the roles of customer orientation, competitor orientation and interfunctional coordination, and it examines the moderating role of population density. The results show an unconditional positive effect of customer orientation on livelihood performance which implies that the core of the marketing concept (creating customer value) is unambiguously generalizable to informal economic contexts such as those of pastoralists. Interfunctional coordination appears to have a positive contribution in more densely populated areas. The results show among others that the effect of interfunctional coordination on livelihood performance becomes stronger if more pastoralists return to their homeground (main camp) in the rainy season, thus temporarily increasing the population density. Competitor orientation appeared to have no influence on livelihood performance, neither in densely nor in thinly populated areas. Apparently in informal economies where embedded (network) relationships are important, competitor orientation does not contribute to the creation of customer value, thus not contributing to a better livelihood.

Chapter 5 subsequently examined the role of market orientation in the preservation of natural resources. Pastoralists are not only faced with a resource dilemma between short-term personal livelihood and long-term securing of limited natural resources, they are also pushed between two worlds: that of their informal social network economies on the one hand, and the formal market economy. From a market orientation focus on sense, share and respond, Chapter 5 takes this point further in the context of market information, and specifically that of climate

predictions. If pastoralists are to respond to climate prediction on expected drought or rain, they are confronted with two sources of (potentially contradictory) information, that from the formal system and that from the informal system. This may potentially lead to market information uncertainty, and Chapter 5 explores how market orientation may or may not facilitate an ecologically appropriate response in terms of timely destocking and restocking of herd size. The results show that the role of market orientation is contingent on the certainty of the climate information (whether a formal forecast is confirmed by informal sources or not). When the forecast is uncertain, customer orientation and interfunctional coordination strengthen, and that competitor orientation weakens the adaptation of pastoralists. The opposite effects of competitor orientation suggest that in the context of Ethiopian pastoralists, competitor orientation is not a concept that strengthens the long-term creation of customer value, but rather speculation for short-term personal gains. To anticipate an upcoming drought, policy makers should therefore try to coordinate formal and informal forecasts to create a situation of relative certainty for pastoralists, and ensure that pastoralists have access to markets so that they are able to respond. For those situations in which no complete certainty can be created (which is likely because policy makers can't control all informal forecasts), pastoralists will respond to the formal forecast if they have an intrinsic self-enhancement motivation because they are market-oriented. The results also suggest that replacing this intrinsic self-enhancement motivation by an extrinsic motivation (e.g., provision of incentive), will not be effective.

### **6.3 Conclusion**

In short, this thesis comes to the following conclusions. First, pastoralism is not necessarily unsustainable, but its sustainability depends on the adaptation of the pastoralists to external conditions. Second, marketing can help pastoralists to adapt through strategic selling and buying to strengthen their livelihood and to adapt to natural conditions that demand either destocking because of drought or allow restocking because of rain. Third, in that respect only strategic marketing with a central view on the creation of customer value can contribute to economic, social and ecological sustainability at the same time. Market orientation is in that respect the key concept to implement for the sustainability of pastoralists. Stimulating market interaction in stead of market orientation doesn't necessarily lead to the same positive outcomes. Fourth, a conceptualization of market orientation in terms of customer orientation, and interfunctional



coordination can be appropriate in the pastoralists’ context. As such market orientation theory is not restricted to formal economies with bounded organizations, but generalizable to informal economies. Not all components of a market orientation lead however unconditionally to higher sustainability. These results are summarized in Table 6.1. Note that the effects of sustainability are reported in two categories (livelihood performance indicating the effects of both economic and social aspects studied in Chapter 4 and ecology indicating the role of market orientation in the resource dilemma studied in Chapter 5).

**Table 6.1** Effect of market orientation components on sustainability

<b>Dimension(s) of sustainability</b>	<b>Customer orientation</b>	<b>Competitor orientation</b>	<b>Interfunctional coordination</b>
Livelihood performance (‘People and Profit’)	Positive under all conditions.	No effect.	Positive in areas that are sufficiently densely populated.
Cooperation in resource dilemma (‘Planet’)	Positive if climate information is uncertain.	Negative if climate information is uncertain.	Positive under climate information uncertainty and when a certain drought is predicted.

**6.4 Limitations**

The limitations have been discussed in the separate chapters of this thesis. The main limitations in these chapters are the restriction to selected regions in Ethiopia and cross-sectional nature of most of the data that are analysed. In addition to these specific limitations, we can come back here to show how the domain of sustainability is covered in this thesis. The thesis focussed on key elements such as livelihood performance and cooperation in a resource dilemma. Although these elements capture the most significant problems with respect to the sustainability of pastoralist system, they are not complete in covering the entire domain of sustainable development. Other elements to be included are, for example, the nutritional status, morbidity and lifestyle changes of pastoralists. Future studies could focus more on these other elements within the sustainability concept.

## 6.5 Implications

Pastoralist policy requires a broad sustainability scope. In the past, the sustainability of pastoralists has centred mainly on the natural environment. But this one-sided approach ignores the complex interactions among ecological, social, and economic elements. Policy makers therefore should take a holistic and integrated perspective toward the environment in which pastoralists operate while designing and implementing pastoralist policies. To help pastoralists to live in a sustainable manner, policy should support adaptation. Supporting adaptation is possible along the lines of the market. In that respect pastoralist policy should not just strengthen market integration, but rather market orientation. In order to develop a market-oriented policy for pastoralists, policy needs to look beyond generic measures in terms of volume sold versus consumed by the household (i.e., market integration). Market orientation can potentially increase income benefits for pastoralists, chain members (like exporters), and the government (foreign exchange and taxes), and help pastoralists to establish stronger links with other chain members to enhance their sustainable livestock supply position. To this respect, policy may focus on measures that facilitate the sharing of market knowledge (like a mobile phone network) and measures that improve the responsiveness of pastoralists to that market knowledge like training in fattening and experience sharing with fattening operators, or other pastoralists. Interventions that reduce price fluctuations may help to prevent the speculation with livestock at the market without adding value. More specific recommendations on how policy can foster the market orientation of pastoralists can be found in Chapter 3.

In addition to the implications for policy makers, this thesis has some implications for managers in commercial companies. These include, but are not restricted to, companies in the value chains for meat and live animals based on pastoralist system, like fattening operators, slaughter houses and exporters. Customer orientation is important to increase performance in the informal economies of emerging markets as it is in the formal economies. This is particularly important to companies that plan investments in informal economies in emerging markets, like base of the pyramid segments (Prahalad & Hammond, 2002). In chapter 4 these are discussed in detail.

Finally, this thesis has theoretical implications for the development literature and for the marketing literature. First, the thesis has extended research on market integration to smallholder agricultural producers to the market orientation of pastoralists. Because the marketing literature

draws on a broader range of theories, it offers alternative concepts (such as market orientation) that may provide useful extensions beyond the traditional theoretical scope in the market integration literature. For the marketing literature, our study came across theoretical constraints in the generalizability of market orientation theory. Interfunctional coordination is effective only in densely populated networks. Competitor orientation reflects more of a short-term objective for individual gains rather than a strategic basis for creating customer value.

### **6.6 Directions for future research**

In addition to future studies that emerge from the limitations of this thesis, there are several directions for future research that can contribute to the discussions on marketing and sustainability in emerging markets in general and to the application to pastoralists in particular.

First, this study investigated the role of market orientation in the context of pastoralists. The concept may, however, be equally useful in contexts of other small scale agricultural producers like smallholders. Research may examine how the market orientation of small scale agricultural producers influences their adaptation to changes in natural conditions, such as changes in their crop varieties, timing of planting, and undertaking additional income generating activities, like petty trading. It may also investigate the impact of market orientation on livelihood performance as well as potential mediators of the relationship such as environmental situation (e.g., uncertainty of markets), product quality, and/or compliance with product requirements that are necessary to access high income markets.

Second, the marketing literature may have more to offer to the sustainability of pastoralists, than the market orientation concept only. Future research may explore, for examples, the potential benefits of relationship marketing concepts (e.g., Berry, 1983; Gronroos, 1995; Sheth & Parvatiyar, 1995), concepts from the knowledge-based view of the firm (Grant, 1996), and customer satisfaction models (Anderson & Sullivan, 1993; Szymanski & Henard, 2001).

Third, research could also be directed on identifying the effects of market orientation on changes in the lifestyle of pastoralists. In this regard, sociological research might be conducted to investigate relationships between the higher market orientation of pastoralists and other market integration types with respect to the changes in lifestyle. The outcomes from this type of research could be helpful in designing policies that aim to enhance market orientation while being abreast to pastoralists' culture and lifestyles.

Finally, more in general, interdisciplinary research appears necessary to deal with the research challenges ahead. Input from the social sciences can reveal the adaptation exercises of pastoralists, while ecologists test their actual impact on natural conditions. Economists then are needed to understand whether market conditions stimulate adaptation to sustainable pastoralism or promote unsustainable practices. As the environments that pastoralists confront grow complex and dynamic, all elements of sustainability (ecological, social, and economic) should be addressed in their full breadth to help pastoralists function in a more sustainable manner. Addressing pastoralism from a perspective that covers all elements of sustainability, therefore, can enhance wise use of the natural resources, pastoralists' livelihood, and their contribution to the growing demand for animal protein. The marketing concept may be a continuous source of inspiration in these efforts as the strategic creation of customer value has proven to be a basis to strengthen sustainable development of pastoralist system.



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## Summary

Pastoralists are people who, for their livelihood, depend on livestock raising using the natural pasture. Sustainability of pastoralist production is important for their livelihood as well as to the supply of animal-based protein. However, concerns with the pastoralist production system have also been voiced, particularly, on the ecological implications of the system. As a consequence, sustainability of the pastoral system and pastoralists that operate therein is a central issue in many debates among development practitioners, academics, and policy makers (e.g., Warren, 1995). Central to this debate is whether pastoralists can be expected to adapt their livestock production strategies to the varying availability of natural resources (i.e., pasture and water). The issue of whether and on the basis of what signals pastoralists adjust their herd size to the available pasture and water is still a basic question in the debate to the sustainability of pastoralists. Thus, herd size management in terms of stocking and destocking of livestock by pastoralists has become a central issue in the debate.

The stocking and destocking decision in anticipation of changing external conditions can be conceived of as a marketing challenge to pastoralists, not only contributing to their livelihood and profit, but also to the sustainability of the system. As such, markets (and therefore, marketing) relates not only to economic and social aspects of sustainability, but also to the ecological aspects. The role of marketing in the pastoralist literature, however, has largely been limited to short-term exercise to minimize the livestock losses due to droughts by selling in times of the drought and buying after the drought without much emphasis to the unique potential contributions of marketing to the sustainability of pastoralists. This study therefore investigates whether and how marketing can contribute to the sustainability of pastoralists. For this purpose, four lines of research are explored: (1) Is pastoralism in principle a sustainable production system?; If so under which conditions is such system sustainable?, (2) How does marketing relate to the conditions under which pastoralism is sustainable?, (3) Which concepts from the marketing literature can generate insights that potentially contribute to the sustainability of pastoralism?, and (4) How do these concepts empirically relate to the social and economic aspects of sustainability and to the resource dilemma that characterizes the ecological aspect of pastoralists' sustainability?



## Summary

As the issue of sustainability of pastoralism needs to be examined, Chapter 2 makes literature review on the current thinking on the sustainability of the pastoral system. It analyses the literature from 2005 to 2009 and shows that the thinking about the pastoral system has evolved from isolated focus on either the livelihood or ecological dimensions to a broader and more nuanced perspective. The results indicate that most of the studies acknowledge that the sustainability of the pastoral system depends on how the system is managed, both by individual pastoralists, but primarily by the institutional environment that facilitates it (i.e., management strategies, indigenous knowledge, institutions, and integrated approach in conserving the natural resources and generating income to pastoralists). The role of marketing, as part of the solution rather than as part of the problem to the sustainability of pastoralists, is increasingly being recognized. To this respect, marketing can facilitate adaptation conditions that enhance pastoralists' sustainability, because selling and buying will help in order to adapt to the changes in climatic conditions through flexible stocking decision.

Examining the way how pastoralists market their livestock and which concepts from the marketing literature can help to improve their sustainability is important. To this respect, Chapter 3 investigates inductively the role of markets and marketing in ensuring sustainability of the pastoral system. The inductive case study is based on the evidence from over one hundred interviews with among others pastoralists, experts and channel members, as well as field observations, focus groups, and desk research. Using the inductive case study method Chapter 3 shows that it is not market interaction (or integration) that is important, but rather the strategic intent with which pastoralists operate in markets. Thus, Chapter 3 takes market orientation of pastoralists as a central concept, showing that strategic intent in market integration is necessary to balance the full scope of sustainability dimensions (planet, people, and profit). Chapter 3 shows that with a market orientation, pastoralists require sense, share and respond processes to design their strategies to ensure that they create customer value, thus building a long-term favorable market position which makes adaptation to ecological conditions a rational decision to secure their source of income in the long-term. Through the sense function pastoralists assess about the (livestock) types, breeds and qualities that buyers want in the market (as well as the time at which the demand for their products becomes high). What is sensed in the market is shared within a pastoralist community. Those pastoralists who use the shared market information for strategic response (e.g., selecting breeds, fattening, and raising different types of livestock) to the needs

and wants of the buyers aim to get higher prices. Without such a market orientation, pastoralists may indeed become a victim within the supply chain, pushed by social and ecological pressures, rather than taking best advantage of them.

To enhance the market orientation of pastoralists, through further policy design, it is important to understand the relationship between market orientation and (livelihood) performance for pastoralists. Drawing on marketing literature, Chapter 4 deductively investigates this relationship. The chapter focuses on determining the extent to which market orientation influences the performance of pastoralists. The chapter investigates the roles of customer orientation, competitor orientation and interfunctional coordination, and it examines the moderating role of population density. The positive effect of customer orientation on livelihood performance implies that the core of the marketing concept (creating customer value) is unambiguously generalizable to informal economic contexts such as those of pastoralists. Interfunctional coordination appears to have a positive contribution in more densely populated areas. The results show among others that the effect of interfunctional coordination on livelihood performance becomes stronger if more pastoralists return to their homeground (main camp) in the rainy season, thus temporarily increasing the population density. Competitor orientation however appeared to have no influence on livelihood performance, neither in densely nor in thinly populated areas. This may imply that in informal economies where embedded (network) relationships are important, competitor orientation does not contribute to the creation of customer value, thus not contributing to a better livelihood.

Chapter 5 subsequently examined the role of market orientation in the preservation of natural resources. Pastoralists are not only faced with a resource dilemma between short-term personal livelihood gains and long-term securing of limited natural resources, they are also pushed between two worlds: that of their informal social network economies on the one hand, and the formal market economy. Chapter 5 takes this point further in the context of information on climate predictions. Pastoralists are confronted with two sources of (potentially contradictory) information, that from the formal system and that from the informal system if they are to respond to climate prediction on expected drought or rain. This may potentially lead to information uncertainty and Chapter 5 examines how market orientation may facilitate an ecologically appropriate response of pastoralists in terms of timely destocking and restocking of their herd size. The results show that when the forecast is uncertain, customer orientation and

## Summary

interfunctional coordination strengthen, and that competitor orientation weakens the adaptation of pastoralists. In other words: if the information is uncertain, it will be the market-oriented pastoralists (in terms of customer orientation and interfunctional coordination) that will adapt. The results also show that the effect of market orientation remains if pastoralists can rely on an institution that strengthens their negotiation position. The opposite effects of competitor orientation suggest that in the context of Ethiopian pastoralists, competitor orientation is not a concept that strengthens the long-term creation of customer value, but rather speculation for short-term personal gains. The results imply that to anticipate an upcoming drought, policy makers should try to coordinate formal and informal forecasts to create a situation of relative certainty for pastoralists, and ensure that pastoralists have access to markets so that they are able to respond.

Finally, Chapter 6 presents a discussion, conclusions and implications of the results presented in the thesis. The thesis indicates that marketing can help pastoralists to strengthen their livelihood and to adapt to changing natural conditions through strategic selling and buying of livestock. In that respect only strategic marketing with a central view on the creation of customer value can contribute to economic, social and ecological sustainability at the same time. Thus, the thesis shows evidence that if pursued with a strategic intent marketing is a viable tool also for the sustainable development of the pastoralist system. Market orientation (in terms of customer orientation and interfunctional coordination) is in that respect the key concept. The thesis also contributes to the literature on the role of marketing in emerging economies indicating that market orientation theory is not restricted to formal economies with bounded organizations, but generalizable to informal economies such as pastoralists. To help pastoralists to live in a sustainable manner, policy should support their adaptation along the lines of the market by not just strengthening market integration, but by advocating and facilitating a market orientation.

## **Samenvatting**

(Summary in Dutch)

Pastoralisten zijn mensen die voor hun levensonderhoud afhankelijk zijn van veehouderij op gemeenschappelijke graslanden in de natuur. De productie van pastoralisten is zowel belangrijk voor het levensonderhoud van pastoralisten zelf, als voor de productie van dierlijke eiwitten voor de groeiende bevolking in de steden. Er zijn echter ook bedenkingen bij het productiesysteem van pastoralisten, met name wanneer het gaat om de ecologische implicaties van het systeem. Als gevolg daarvan is de duurzaamheid van het pastorale systeem en de pastoralisten die daarin opereren een centraal thema in discussies onder ontwikkelingswerkers, academici en beleidsmakers (zie bijvoorbeeld Warren, 1995). De centrale vraag in deze discussies is of van pastoralisten verwacht kan worden dat ze de omvang van hun kuddes aanpassen aan de variërende beschikbaarheid van natuurlijke hulpbronnen, zoals grasland en water.

De beslissing om de kudde te vergroten of te verkleinen kan benaderd worden als een marketinguitdaging voor pastoralisten die niet alleen bijdraagt aan het levensonderhoud van en de winst voor pastoralisten, maar ook aan de duurzaamheid van het pastorale systeem. Markten (en dus ook marketing) hebben daarom niet alleen betrekking op de economische en sociale aspecten van duurzaamheid, maar ook op de ecologische aspecten. De rol van marketing in de literatuur over pastoralisme is echter grotendeels beperkt gebleven tot de korte termijn transacties: het beperken van verliezen door in tijden van droogte een deel van de kudde te verkopen en deze weer aan te vullen door middel van aankopen wanneer de droogte voorbij is. De unieke, meer strategische, bijdragen die marketing kan leveren aan de duurzaamheid van pastoralisten zijn daarmee onderbelicht gebleven. Dit proefschrift bestudeert daarom of en hoe marketing kan bijdragen aan de duurzaamheid van pastoralisten. Met dit doel zijn vier onderzoekslijnen verkend: (1) Is pastoralisme in principe een duurzaam productie systeem? Als dat zo is, onder welke condities is het systeem dan duurzaam?, (2) Hoe relateert marketing aan de voorwaarden waaronder pastoralisme duurzaam is?, (3) Welke concepten uit de marketingliteratuur kunnen inzichten opleveren die potentieel bijdragen aan de duurzaamheid van pastoralisme? en (4) Hoe relateren deze concepten empirisch aan de economische, sociale en ecologische aspecten van duurzaamheid van duurzaamheid van pastoralisme?

## Dutch summary

Hoofdstuk 2 geeft een literatuuroverzicht van het huidige denken over de duurzaamheid van het pastorale system. Het analyseert de literatuur van 2005 tot 2009 en laat zien dat het denken over het pastoralistische systeem zich ontwikkeld heeft van een vrijwel exclusieve focus op hetzij de sociale dan wel de ecologische aspecten van duurzaamheid naar een breder en genuanceerder perspectief. De resultaten laten zien dat een meerderheid van de onderzoeken onderkent dat de duurzaamheid van het pastorale system afhangt van de manier waarop het systeem gemanaged wordt zowel door de individuele pastoralisten als vooral ook door de instituties die hen omringen, in de vorm van management strategieën, inheemse kennis, instituties en een geïntegreerde aanpak in het beschermen van natuurlijke hulpbronnen en het genereren van een inkomen voor pastoralisten. De rol van marketing als onderdeel van de oplossing in plaats van als onderdeel van het probleem aangaande de duurzaamheid van het pastorale systeem, wordt ook in toenemende mate erkend. Wat dat betreft kan marketing de aanpassing aan klimatologische condities vergroten in de vorm van grotere flexibiliteit in aankoop- en verkoopbeslissingen.

Het bestuderen van de manier waarop pastoralisten hun vee vermarkten en welke concepten uit de marketingliteratuur kunnen helpen om de duurzaamheid te vergroten is van belang. Hoofdstuk 3 bestudeert daarom op inductieve wijze de rol van markten en marketing in de duurzaamheid van het pastorale systeem. De inductieve case studie is gebaseerd op meer dan honderd interviews met, onder andere, pastoralisten, experts en partijen uit het marketingkanaal, alsmede veldobservaties, focusgroepen en bestudering van secundaire bronnen. De resultaten laten zien dat niet alleen de marktinteractie (of -integratie) van belang is, maar vooral ook de strategische intentie waarmee pastoralisten in markten opereren. Hoofdstuk 3 neemt daarom marktoriëntatie van pastoralisten als het centrale concept en toont dat strategische intentie in marktintegratie noodzakelijk is om tot een balans te komen in de volledige scope van duurzaamheidsdimensies : economisch, ecologisch en sociaal. Het hoofdstuk laat zien dat een marktoriëntatie de pastoralisten de noodzakelijk processen verschaft waarin marktinformatie wordt verzameld, gedeeld en wordt omgezet tot strategische actie. Dit stelt hen in staat om klantwaarde te creëren en daarmee een, op de lange termijn, voordelige marktpositie verwerven die aanpassing aan ecologische condities tot een rationale beslissing maakt om hun inkomensbasis voor de toekomst te waarborgen. De marktinformatie functie stelt pastoralisten op de hoogte over de veesoorten, -rassen en -kwaliteiten die kopers op de markt wensen, en het tijdstip waarop de vraag naar hun producten hoog is. De informatie die in de markt wordt

opgedaan, wordt gedeeld in de gemeenschap van pastoralisten. De pastoralisten die deze informatie op strategisch niveau weten te gebruiken om in te spelen op de wensen van hun potentiële klanten (bijvoorbeeld door rassen te selecteren, vet te mesten en verschillende typen vee te houden) doen dat vanuit het streven om een hogere prijs te realiseren op de markt. Zonder een dergelijke marktorientatie kunnen pastoralisten inderdaad een speelbal worden van de economische, sociale en ecologische omstandigheden, in plaats van daar juist zo goed mogelijk hun voordeel mee te doen.

Teneinde via gericht beleid de marktorientatie van pastoralisten te kunnen verbeteren, is het van belang om inzicht te hebben in de relatie tussen marktgerichtheid en de levensstandaard van pastoralisten. Hoofdstuk 4 beschouwt deze relatie vanuit de marketing literatuur op een deductieve manier in de vorm van een kwantitatief onderzoek. Het bestudeert de rol van klantgerichtheid, concurrentiegerichtheid en interfunctionele coördinatie met een modererende rol voor de mate van bevolkingsdichtheid. De resultaten tonen een positief effect van klantgerichtheid op levensstandaard, hetgeen impliceert dat de kern van het marketingconcept (het creëren van klantwaarde) duidelijk generaliseerbaar is naar de informeel-economische context waarin pastoralisten opereren. Interfunctionele coördinatie blijkt een positieve bijdrage te leveren in de relatief dichtbevolkte gebieden. Dit resultaat impliceert dat het effect van interfunctionele coördinatie op prestaties sterker is wanneer er sprake is van hogere bevolkingsdichtheid, zoals wanneer meer pastoralisten terugkeren naar hun thuisbasis in het regenseizoen. Concurrentiegerichtheid blijkt echter geen invloed te hebben op prestaties, noch in de dichtbevolkte, noch in de dunbevolkte situaties. Dit lijkt te suggereren dat in de informele sectoren van de economie waarin de rivaliteit als gevolg van sterkere sociale inbedding in netwerkrelaties geringer is, oriëntatie op concurrentie geen doorslaggevende factor is in de realisatie van klantwaarde en derhalve niet in de realisatie van betere prestaties.

Hoofdstuk 5 onderzoekt vervolgens in een kwantitatief veldexperiment de rol van marktorientatie in de instandhouding van natuurlijke hulpbronnen. Pastoralisten zien zich niet alleen geconfronteerd met een persoonlijk sociaal dilemma waarin korte-termijn persoonlijke belangen afgewogen moeten worden tegen lange-termijn instandhouding van gemeenschappelijke natuurlijke bronnen, maar ze bevinden zich ook op het raakvlak tussen twee werelden: die van hun informele netwerk en die van de formele markteconomie. Hoofdstuk 5 beschouwt dit fenomeen in de context van informatie over klimatologische verwachtingen.

## Dutch summary

Pastoralisten worden hierin geconfronteerd met informatie vanuit twee, mogelijk tegenstrijdige, bronnen over de te verwachten droogte of regen: die van het formele en het informele systeem. Hoofdstuk 5 bestudeert hoe marktorientatie bij kan dragen aan een gepaste reactie van pastoralisten in de vorm van tijdig vergroten of verkleinen van hun veestapel. De resultaten laten zien dat wanneer de informatie tegenstrijdig is en derhalve de voorspelling onzeker, klantgerichtheid en interfunctionele coördinatie het aanpassingsvermogen van pastoralisten versterken, in termen van het vergroten/verkleinen van hun kudde, maar dat oriëntatie op de concurrentie het aanpassingsvermogen juist verzwakt. Met andere woorden: als de informatie onzeker is dan zijn het de marktgerichte pastoralisten (in termen van klantgerichtheid en interfunctionele coördinatie) die zich aanpassen. De resultaten laten ook zien dat een institutie die de onderhandelingspositie van pastoralisten versterkt, het effect van marktgerichtheid niet opheft. Dit tegenovergestelde effect van concurrentie oriëntatie doet vermoeden dat in de context van Ethiopische pastoralisten, concurrentie oriëntatie niet een concept is dat de creatie van klantwaarde versterkt maar juist het speculeren op de markt bevordert met het doel korte termijn persoonlijke winsten te behalen. De resultaten impliceren dat om een meer gepaste reactie van pastoralisten te entameren in het zich van een aanstaande periode van droogte, het van belang is om de formele en informele klimatologische voorspellingen meer op elkaar af te stemmen om zo de onzekerheid voor pastoralisten te reduceren en tegelijkertijd markttoegang te verzekeren zodat pastoralisten ook daadwerkelijk kunnen reageren op klimatologische informatie.

Tot slot presenteert Hoofdstuk 6 een bespreking van de resultaten van het proefschrift en de conclusies en implicaties. Het proefschrift toont aan dat marketing pastoralisten kan helpen bij het verbeteren van hun levensomstandigheden en bij het aanpassen aan de klimatologische condities door strategische in en verkoop van vee. Wat dat betreft kan alleen strategische marketing, met een centrale focus op het creëren van klantwaarde, tegelijkertijd bijdragen aan de economische, sociale en ecologische duurzaamheid. Het proefschrift laat zien dat, mits gedreven door strategische intenties, marketing een geschikte manier is om de duurzaamheid van het pastorale systeem te verbeteren. Marktorientatie (in termen van klantgerichtheid en interfunctionele coördinatie) is wat dat betreft het kernconcept. Het proefschrift maakt ook een bijdrage aan de literatuur over de rol van marketing in opkomende economieën door aan te tonen dat marktorientatie theorie niet beperkt is tot formele economieën met afgebakende organisaties, maar generaliseerbaar naar informele economieën zoals die van de pastoralisten. Om

pastoralisten te helpen op een duurzame manier te leven, zouden beleidsmakers aanpassing via de markt moeten bevorderen door niet alleen marktintegratie te bevorderen, maar door marktgerichtheid te stimuleren en faciliteren.





## **About the Author**

Workneh Kassa Tessema was born in Gojam, Ethiopia, on September 12, 1970. He completed his secondary education at Chagni in 1989. In the same year he started the study of Business Management at Addis Ababa University and obtained Bachelor of Arts Degree (with distinction) in 1995. Immediately after his graduation he joined Marubeni Corporation of Japan (Addis Ababa office) as an assistant manager. After one year of work experience at Marubeni he joined Haramaya University in October 1996 as an assistant lecturer. He started the study of Management Studies at Wageningen University in 1998. In the year 2000 he obtained his Master of Science degree in Agricultural Economics and Management, specialization in Management Studies. After obtaining his MSc degree he reinstated at Haramaya University as a lecturer. In addition to his teaching and research activities he also served as a dean of the College of Business and Economics for about five years. In August 2007 he started his PhD research at Marketing and Consumer Behaviour group of Wageningen University. His PhD research examines the contribution of marketing to the sustainability of livestock production by pastoralists. The results of this research are described in this thesis. In May 2012 he was reinstated to Haramaya University as a researcher and lecturer.



**Completed Training and Supervision Plan**  
**Workneh Kassa Tessema**  
**Wageningen School of Social Sciences (WASS)**



Wageningen School  
of Social Sciences

Name of the activity	Department/Institute	Year	ECTS*
<b>Project related competences</b>			
Eden Doctoral Seminar On Managerial Issues In Marketing	EIASM	2007	4
Marketing series on marketing strategy and channels (block 1)	MCB	2009	1
Methodological issues in marketing and consumer research (block 2)	MCB	2009	1
Advanced Econometrics	MG3S	2008	6
Econometrics (AEP 21306)	WUR (MSc)	2008	6
Micro-finance and marketing in developing countries (DEC 51806)	WUR (MSc)	2008	6
Long term dynamics of food and human development	WGS	2008	2.5
<b>General research related competences</b>			
Techniques for Writing and Presenting a Scientific Paper	WGS	2008	1.2
Quantitative research methodology	MG3S	2007	4
PhD Research proposal writing	MCB	2008	4
Introductory course	MG3S	2007	1.5
Presentation ' <i>Managing marginal lands: including pastoralists in chains and networks</i> '	International Conference on Management in AgriFood Chains and Networks, WUR	2008	1
<b>Total (minimum 30 ECTS)</b>			<b>38.2</b>

\*One ECTS on average is equivalent to 28 hours of course work

**Abbreviations**

EIASM stands for European Institute for Advanced Studies in Management

WUR stands for Wageningen University and Research

MG3S stand for Mansholt Graduate School of Social Sciences

MCB stands for Marketing and Consumer Behaviour

WGS stands for Wageningen Graduate School

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