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Market Creation in Emerging Economies:

Marketing Implications for Neglected and Underutilized Crop Species

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ABSTRACT

Marketing literature dedicates growing attention to markets in emerging economies (EEs) as growth opportunities for multinational corporations. Simultaneously, subsistence marketplace literature delivers an increasingly detailed picture about the structures and functions of such markets. However, marketing implications that address indigenous entrepreneurs to create and improve businesses remain underrepresented in research. To address this knowledge gap, this paper presents an exploratory study to develop a new marketing model for neglected and underutilized crop species (NUCS) in EEs. The study shows that in Benin (West Africa), cultural and demographic heterogeneity causes the occurrence of various markets on different development stages. Thus, each stage poses specific challenges on market creation and improvement. From a strategic marketing perspective, this paper adjusts traditional marketing instruments to develop a market creation model for NUCS. The results serve as guidance for entrepreneurs and policy makers to create and develop income opportunities by promoting NUCS products.

Keywords: Market creation, Emerging economies, Market heterogeneity, Food value chain, Marketing Instruments, 4A-framework

Introduction

The economies of many developing countries are fragmented in disconnected marketplaces. A lack of sufficient infrastructure, facilitating technologies, legal frameworks and institutional regulations may originate this fragmentation (Anderson, Markides, & Kupp, 2010) . According to Sheth (2011), market fragmentation results in large variances of products and services available on single marketplaces and thus prevents economies of scale. This causes large deviations in quantity, quality and price of available products and eventually diminishes economic growth. Focusing on the food sector, market fragmentation consequently reduces food security, which remains a key challenge in many developing countries (Dansi et al., 2012).

According to marketing literature, market fragmentation can be reduced by using marketing instruments to create and develop markets (Kotler & Keller, 2009). Authors from this stream of literature define markets as "an intersection of supply and demand" (Casson & Lee, 2011, p. 13), where buyers and sellers transact over particular products (Kotler & Keller, 2009). According to Sarasvathy & Dew (2005), markets consist of three components: (1) institutions, (2) suppliers and (3) demanders. Market institutions connect the supply and demand sides of markets and moderate their transaction costs (e.g. by providing infrastructure). By moderating transaction costs, market institutions determine the boundaries of profitable economic exchange and consequently the market size (Brouthers, 2013; Sarasvathy & Dew, 2005). Business historians like Tedlow (1996) or Fullerton (1988) describe examples, how governmental investments in infrastructure or technological innovations expanded institutional boundaries and allowed entrepreneurs to serve larger markets. By supplying formerly disconnected marketplaces with standardized products that fulfilled consumer preferences, entrepreneurs advanced the occurrence of unified markets in Europe and the United States (Tedlow,1996). In marketing literature, measures to develop markets within institutional boundaries are referred to as marketing instruments (Kotler & Keller, 2009).

Taking a marketing perspective, we define market creation as a two-stage process: (1) establishing an institutional context that enables economic exchange and (2) market development through entrepreneurial activities. Acknowledging, that institutional boundaries constitute the potential size of markets, we focus on the second stage of the process to develop marketing implications that reduce market fragmentation. Thus, in this paper we answer the emerging research question ***"How can western marketing instruments unify markets and increase food security in emerging economies?"***

The necessity to adjust existing marketing perspectives to the context of EEs receives increasing attention in marketing literature. Among others, authors like Prahalad & Hart (2002) and Sheth (2011) propose the 4A-framework to develop markets in EEs. By adjusting traditional marketing instruments to the "bottom of the economic pyramid" (BOP), the framework is developed to support multi-national cooperations (MNCs) entering and remaining in EEs. However, none of the mentioned studies provides a theory based and systematic approach to apply the 4A-framework on the context of EEs. Therefore, we need a detailed picture of market process and the conditions of market actors in EEs, to select Western marketing concepts that respond to these specific characteristics. By using a "bottom-up" approach, authors like Viswanathan, Rosa, & Ruth (2010) and Chikweche & Fletcher (2010) among others, provide micro-behavioural insights about consumers and entrepreneurs who live close to or under the monetary poverty line and mostly transact on informal markets in EEs. Literature on subsistence marketplaces provides important information about the way, that entrepreneurs and consumers in EEs engage in market interactions and cope with resource scarcity and poor infrastructure (Nakata & Viswanathan, 2012). While both streams of literature add relevant insights about marketing in EEs, important questions remain unanswered. Although the 4A-framework proposes suggestions, how to adjust marketing instruments to the context of EEs, concrete and theory based implications are missing. In addition, market creation in EEs is perceived as a challenge for MNCs trying to serve new markets (Kolk et al., 2014). Thereby, the approach neglects the possibility to promote and support indigenous economies as an opportunity to improve the life standard in EEs. Furthermore, explanations about the conditions and behaviour of market actors in EEs is often context specific. This complicates the derivation of implications on the theoretical midrange, which would allow a more abstract understanding of marketing processes in EEs (Ingenbleek, 2014).

Our study responds to these shortcomings by evaluating the market creation potential of neglected and underutilized crop species (NUCS) in EEs. According to Dansi et al. (2012), NUCS play a crucial role in the food security and income generation of small-scale producers in EEs. Exploiting the nutritional, medical and economic potential of these plants is an opportunity to promote indigenous economies and combat malnutrition (Ayenan & Ezin, 2016; Chivenge et al, 2015). However, until now NUCS are not prioritized by policy makers in EEs and just recently receive attention from research (Ayenan & Ezin, 2016). To derive suitable marketing implications for NUCS, we use the 4A-framework as the basic structure of our theoretical approach. We analyse the small-scale production of NUCS, by extending the

framework with further literature on supply chain management. By applying the 4A-framework on NUCS, we shift the perspective from MNCs to small-scale entrepreneurs. To derive more concrete implications, we test the validity of Western marketing theories in the context of EEs. By using this approach, our marketing implications addresses primary indigenous entrepreneurs in EEs instead of MNCs.

We use qualitative stakeholder interviews, to apply our extended 4A-framework on the value chain of the Kersting's Groundnut (KG) in Benin. Categorized as a NUCS, KG is a highly nutritious and widely consumed food crop from West Africa that provides substantial income for rural population (Dansi et al., 2012). However, despite its cultural value and popularity, production and commercialization of the plant are neglected in the market planning of Beninese policy makers. Thus, cultivation of KG is decreasing and the plant disappears gradually on local markets (Ayenan & Ezin, 2016). Because of its unregulated and informal value chain and small-scale production, KG is a suitable product to assess the adverse effects of market fragmentation in EEs. Furthermore, Benin constitutes an appropriate research context, because the country shows many characteristics typical for EEs, especially in West Africa (Nguyen & Dizon, 2017). The cultural and demographic composition of the population is complex, consisting of 42 ethnic groups with different languages, cultural habits and religious affiliations (Benin Population, 2018). In addition, accessibility of basic infrastructure, resources and education varies significantly within the country.

In the following text, we first explain the literary foundation of this study and elaborate a theoretical approach. Afterwards, the research context, applied methodology and utilized collection method are presented. By comparing findings from three significantly different parts of Benin, we derive crucial and context specific market creation factors of the KG value chain. We analyse the identified factors by using traditional marketing and supply chain literature. Thereby, we increase the abstract level and elevate our case specific findings closer to the theoretical midrange. Following, marketing implications for NUCS products in EEs are presented and exemplarily applied on the case of the KG value chain. The findings and limitations of our research are summarized in a conclusion, before the thesis ends with a potential perspective on future market research in EEs. The goal of this thesis is to support entrepreneurs and policy makers in EEs to untie the market potential of NUCS and thus strengthen indigenous industries.

2. Theoretical Background

In the following chapter, we first explain the process of market creation from the perspective of Western marketing literature and provide a short description of traditional marketing instruments. Afterwards, we use empirical insights from literature on marketing and subsistence marketplaces, to illustrate contextual differences between EEs and high-income markets. Following, we present the 4A-framework and its key challenges for market creation in EEs.

2.1 Marketing & Market Development

According to Ansoff's growth-vector matrix, market development is one of the strategic options that companies can use to achieve economic growth (Webster, 1988). In marketing literature, market development is defined as the process of adjusting a present product, service or business model in order to enter formerly untapped markets (Ansoff, 1957). To create desired consumer responses, markets are developed through the marketing mix, a set of tactical marketing instruments (Kotler & Armstrong, 2010). These instruments are classified according to the 4P-categorization: promotion, product, place and price (Perreault & McCarthy, 2002). *Promotion* activities use communication channels to supply consumers with product information and thereby generate awareness (Kotler & Keller, 2009). *Product* as a marketing instrument refers to value propositions offered to consumers. According to Grunert & van Trijp (2014), consumers only accept and demand products that fulfil their needs and meet their aspirations. The *place* instrument is used to ensure consistent product availability on target markets by selecting distribution channels and establishing transport structures (Armstrong & Kotler, 2015). Finally, *price* is the marketing instrument that determines "what must be provided by a customer in return for the product" (Schindler, 2012). Pricing strategies usually focus on two opposite goals, selling "cheap" products with low margins in large quantities or offering "expensive" products with high margins and low turnovers (Thompson, Strickland, & Gamble, 2008). However, scholars like Anderson and Billou (2007) or Prahalad (2002) question the usefulness of the 4P categorization in the context of EEs. To gain a better idea about that context, the next section presents insights about EEs from literature on marketing and subsistence marketplaces.

2.2 Characteristics of Emerging Economies Challenging Market Creation

According to Burgess & Steenkamp (2006), EEs expose significant departures from assumptions of western marketing theories and therefore challenge existing perspectives on market creation and development. This assumption is illustrated by numerous examples of MNCs, which fail to enter or remain in EEs by applying strategies developed for high-income

markets (Anderson et al., 2010). Burgess & Steenkamp (2006) identified several significant differences when comparing the institutional context of high-income markets and EEs. According to the authors, high-income markets are largely homogenized regarding level of income, household size, education and life standard. In contrast, the institutional context of EEs is characterized by permanent uncertainties, caused by rapid economic, political and social change. In addition, the population of many EEs exposes a large demographic and cultural heterogeneity (Burgess & Steenkamp, 2006). Especially between the rural and urban population of EEs huge differences regarding income level, access to education or provision of basic infrastructure like piped water and electricity can be detected (Viswanathan et al., 2010).

Because of this heterogeneity, Sheth (2011) argues that consumers in EEs can perceive value propositions completely differently, depending on their location, cultural values and affiliation to social networks. Thus, market heterogeneity complicates the development of standardized products that are acceptable to all consumers. However, product standardization is necessary to determine production resources and processes and eventually increasing production quantities to achieve scale economies (Sheth, 2011). Standardized and increased production is furthermore constrained by the chronic shortage of resources in many EEs, that results in fluctuating production quantities and quality (Sheth, 2011). Resource scarcity also affects purchasing decisions of consumers, because their low disposable income forces them to make-or-buy trade-offs. By producing and maintaining a large amount of everyday goods at home, consumers create an unbranded competition for standardized products (Sheth, 2011). Especially populations living in remote locations like urban slums or rural areas are affected by insufficient infrastructure, high illiteracy level and precarious income opportunities. To cope with these challenges, many consumers in EEs are deeply embedded in social networks like extended families or village communities. These networks have a strong influence on the psychological make-up of their members and access to products and information (Chikweche & Fletcher, 2010). Therefore, markets in EEs are to a large extent governed and structured by socio-political institutions instead of legal frameworks. Market actors take advantage of their social networks to establish business monopolies and create market entry barriers to reduce competition (Sheth, 2011). Because of the high illiteracy level and limited distribution of communication media, promotion activities in EEs face different challenges than in high-income countries (Viswanathan et al., 2010). Authors of subsistence marketplace literature and marketing argue, that marketing implications must respond to the characteristics of EEs.

Therefore, Prahalad & Mashelkar (2010) in line with Sheth, (2012) and other scholars, promote the 4A-framework as a suitable tool to develop marketing implications for EEs.

2.3 The 4A-Framework

According to Prahalad & Mashelkar (2010), Sheth (2011) and Anderson & Markides (2007), poor consumers in EEs constitute a profitable business opportunity for MNCs. While the individual disposable income of these consumers is low, they possess large combined purchasing power due to their vast number. This number is expected to grow further in the future, increasing the attractiveness of such consumers for MNCs (Ireland, 2008). However, this promising consumer segment remains often unserved, because MNCs are not able to adjust their western marketing strategies to the conditions of EEs. Based on the 4P categorization presented in section 2.1, Sheth (2011) defines 4 key challenges, that MNCs must solve to enter and remain in EEs. These challenges are labelled as awareness, acceptability, availability and affordability and build the foundation of the 4A-framework.

Awareness is a marketing principle that determines to which degree consumers acknowledge product characteristics (Anderson & Markides, 2002). Creating awareness is a key challenge in EEs, because the limited access to communication media, remote location and high illiteracy level of many consumers impede the distribution of product information (Payaud, 2014). *Acceptability* focuses on functional and psychological needs of consumers in EEs, but also on their lifestyles and cultural values. Therefore, product acceptability can vary between consumers, based on their social-cultural environment and individual demographic characteristics (Ampuero & Vila, 2006; Kim, Lee, Kwak, & Kang, 2013). This accounts especially for EEs that expose a high market heterogeneity. *Availability* is the challenge to cope with poor transport infrastructure, disconnected marketplaces and absence of formal distribution channels like supermarkets. Finally, *affordability* refers to the ability and willingness of consumers in EEs to pay for a product. To be affordable, product prices and maintenance costs must be adjusted to the low and inconsistent income of many consumers in EEs (Anderson & Markides, 2007).

The key challenges defined by Sheth (2012) and colleagues are useful orientation points when developing marketing implications for EEs. However, the framework does not provide a concrete theoretical approach to solve these challenges. In addition, mutual relations between key challenges are recognized but not further explained (Prahalad & Mashelkar, 2010). As illustrated in this chapter, the 4A-framework shows large similarities with the 4P-categorization of marketing instruments. While the 4A-framework is a relatively new concept, a large body of traditional marketing theories exists for each instrument. Because of their similarities, we assume that theories for marketing instruments are applicable on the respective key challenges of the 4A-framework. Applying Western theories allows as a structured analysis of each challenge and thus determines more concrete requirements on marketing implications for EEs. In the following chapter, we develop a theoretical approach that helps to identify and explain

mutual relations between key challenges. Focusing on these mutual relations may increase the efficiency of marketing implications by activating synergy effects that affect multiple challenges simultaneously.

3. Theoretical Approach

In the following section, we implement selected marketing theories in the 4A-framework and explain mutual relations between key challenges. Afterwards, we apply our extended 4A-framework on the KG value chain to formulate case specific research questions, which are presented in Table 1.

3.1 Creating Awareness

We implement word of mouth (WOM) marketing in the 4A-framework to respond to characteristics like influential social networks, high illiteracy level and limited access to communication media. WOM marketing focuses on social networks as distribution channels for product information (Li & Du, 2011). Social networks are often influences by opinion leaders, that are perceived as trustworthy information sources, due to their education or hierarchic position in society (Li & Du, 2011). To increase product awareness, it is thus necessary to identify social networks and their opinion leaders and adjust promotion activities on the specific needs and values of different networks. By providing product information, awareness determines consumers' ability to evaluate the potential of offerings to fulfil needs and aspirations. Thereby, awareness has a direct influence on product acceptability.

3.2 Achieving Acceptability

We use literature on consumer behaviour and product development as a guideline, to identify factors that define product acceptability of consumers in EEs. Grunert & van Trijp (2014) and Li, Jervis & Drake (2015) argue that product acceptability depends on several extrinsic and intrinsic product factors. Extrinsic factors include product characteristics like packaging, branding or pricing of a product, while intrinsic factors are product inherent (e.g. nutrients or cultural values). The more extrinsic and intrinsic factors products satisfy, the more acceptable they are (Li, Jervis & Drake, 2015). Thereby, acceptability enhances consumers' willingness to pay and in turn, how they perceive the affordability of a product (Kotler & Armstrong, 2010). As illustrated in section 2.2, consumers in EEs constantly cope with resource scarcity, unpredictable product availability and fluctuating income. Therefore, they have to ensure, that their purchasing decisions fulfil at least basic needs like sufficient nutrients, long storability and

low price (Chikweche & Fletcher, 2010). To be acceptable in EEs, products must reduce consumers' purchasing risk by providing standardized attributes like consistency in quality, price and availability (Beck & Kenning, 2015; Kotler & Keller, 2009). Applying the concept of extrinsic and intrinsic factors on consumers in EEs, we reveal further mutual relations between key challenges. While awareness determines consumers' ability to accept a product, affordability (price) and availability (market presence) shape acceptability.

3.3 Ensuring Availability

As illustrated above, product availability is often unstable in EEs and forces consumers to buy large quantities as soon as a product is available (Chikweche & Fletcher, 2010). To stabilize availability, market supply of products must be increased. As explained in section 2.2, productions scales and thus available product supply in EEs are constrained by permanent resource scarcity and product variations. This accounts especially for NUCS like KG, due to their particularly small scale production, informally structured value chain and missing institutional support (Ayenan & Ezin, 2016; Dansi et al., 2012). The 4A-framework focuses on the demand side of market creation, and thus does not provide a supplier perspective on the process. To include this perspective and identify factors that define the efficiency of supply chains, we apply Porter's diamond model on the value chain of KG. The diamond model is used to evaluate and compare the competitiveness of industrial sectors within and between national economies (Porter, 1990). We reduce the scale of the model to make it applicable on the context of informal food value chains in EE. To analyse the KG supply chain, industrial sectors of the model are represented by different agricultural value chains in Benin. Within these sectors, individual producers take the role of companies in Porter's model.

Porter (1990) defines four attributes that determine the competitiveness of an industrial sector: (1) firm strategy, structure and rivalry, (2) factor conditions, (3) related and supporting industries and (4) demand conditions. *Firm strategy, structure and rivalry* defines the way, how companies are organised, define their corporate objectives and face competition. According to Porter (1990), companies with an advanced management and clearly defined goals are more competitive. Additionally, a competitive environment forces companies to improve and innovate to succeed in the market. *Factor conditions* include different production inputs, that may or may not are available and thereby promote or impede the competitiveness of a sector. Porter (1990) distinguishes between basic resources like soil, climate or minerals and advanced resources like knowledge, infrastructure and capital. The factor of *related and supporting industries* evaluates the support that a sector receives from supplying companies and governing

institutions (Porter, 1990). While suppliers enhance innovation by developing advanced input factors for companies, institutions improve contextual conditions like sufficient infrastructure and legal frameworks. *Demand conditions* relate to factors that determine the potential of a market like market size, growth and sophistication. According to Porter (1990), companies that supply large and growing markets are more competitive. Supplying sophisticated markets with strict consumer requirements forces companies to improve and innovate, increasing their competitiveness further. Strengthening supply chains results in larger supply quantitates and eventually a more consistent product availability. By ensuring market presence, product availability directly influences consumers' awareness through curiosity (Dowling, 2004). In addition, products become more acceptable, if they are constantly available and thus reduce consumers' purchasing risk. Increasing supply quantities furthermore reduces the market price, thus products become affordable for more consumers.

3.4 Increasing Affordability

As elaborated in the previous text, the perception of product affordability is largely determined by consumers' willingness to pay. However, especially in EEs, consumption patterns of consumers are additionally shaped by their limited ability to pay (Anderson & Markides, 2007. Thus, prices must be reduced to enable more consumer to buy products, for example by increasing supply, reducing production costs or providing smaller purchasing units (Prahalad & Mashelkar, 2010).

By applying our theoretical approach on the KG value chain in Benin, contextual research question emerge which are presented in Table 1. In the next chapter, we explain the design of our study and the methods we used to collect data that allows us to answer these research questions.

Table 1: Summary of Key Challenges in Emerging Economies, Related Marketing Literature and Case Specific Research Questions

Key Challenges	Related Marketing Literature	Case Specific Research Question
	Awareness	
Create awareness through social networks, market presence and pricing	WOM-Marketing (Li & Du, 2011) Social networks have a strong influence on the psychological makeup and access to information of customers in EEs	How do social networks influence the awareness and acceptability of KG?
	Push-Strategy (Dowling, 2004) High product presence and availability on markets generates customer curiosity and thus awareness	Which factors constrain a constant market presence of KG?
	Reference Price (Pennings, 2002) The regular consumption of a product is only considerate when its price complies to the customers reference price	How do stakeholders of the value chain perceive the price of KG?
	Acceptability	
Fulfil consumer preferences in a heterogeneous market	New Product Development (Grunert & van Trijp, 2014) Intrinsic factors like product compability or complexity shape consumer acceptability Drivers of Liking (Li, Jervis & Drake, 2015) Extrinsic factors like price, branding and packaging influence consumer acceptability	Which intrinsic/extrinsic factors do stakeholders of the KG value chain evaluate?
	Availability	
Ensure constant product availability on fragmented marketplaces	Transaction Cost Theory (Gatignon & Anderson, 2003) Transaction costs determine the boundaries of profitable exchange between suppliers and demanders	What is the actual market size for KG?
	Pull Strategy (Dowling, 2004) High product acceptability motivates consumers to demand distribution channels to gain access to the product	Which transaction costs constrain the market size of KG?
	Affordability	
Increasing the affordability of a product	Willingness to Pay (WTP) (Li, Jervis & Drake, 2015; Pennings, 2002) WTP of a product depends on product attributes, customers reference price and available substitutes	Which factors influence consumers WTP in the case of KG?

Source: Developed by the Author

4. Methodology & Methods

4.1 Case Selection

We design our study based on the concept of multiple-case studies discussed by Yin (2013), to reveal the effect of market heterogeneity by comparing multiple cases. To do so, we separate the 12 departments of Benin, our respective study context, into three different zones that each constitute an individual case (Eisenhardt, 1989; Yin, 2013). Within each case, we collect qualitative data by conducting interviews with stakeholders of the KG value chain. Analysing each zone as an individual case allows us, to observe how market heterogeneity and fragmentation shape the perception and state of the KG value chain in each zone (Eisenhardt, 2016). Benin is a suitable study context for this research, because the demographic and cultural heterogeneity of its rapidly growing population, economic dependency on agriculture and inconsistent provision of basic infrastructure reflect conditions predominant in many EEs (Nguyen & Dizon 2017). Table 2 illustrates which characteristics we use to define the different zones. KG is a suitable unit of analysis to assess effects of market heterogeneity and fragmentation, because the crop is consumed throughout the country and thus enables insights from each zone (Dansi et al., 2012; Yin, 2013). In addition, the KG value chain is neglected by policy makers and does not receive institutional support, thus production and commercialisation of KG remain informal, unregulated and on low scale (Adu-Gyamfi et al, 2011; Ayenan & Ezin, 2016).

Table 2: Case Selection Based on Demographic, Geographic and Cultural Characteristics

Zone	Departments	Area	Climate	Population	Ethnies	Religion
South	Atlantique; Littoral; Mono; Ouémé	6,198km² (5.4% of the country)	Humid tropical zone	3,523,875 (35% of total population)	Fon; Yoruba; Goun; Adja	Mostly catholic Christs
Center	Collines; Kouffo; Plateau; Zou	24,842km² (21.65% of the country)	Humid tropical zone	2,936,757 (29% of total population)	Fon; Nago	Mostly catholic Christs
North	Alibori; Atacora; Borgou; Donga	83,723km² (72.95% of the country)	Continental dry zone	3,548,117 (36% of total population)	Bariba; Peuhl; Dendi; Ditamari	Mostly Muslims

Source: Developed by the Author Based on Faure & Volkoff (1998) & INSAE, (2016)

4.2 Case Description

The **south zone** of Benin contains three of the four largest cities of Benin, namely Cotonou, Abomey-Calavi and Porto Novo. While Porto Novo is the capital of the country, Cotonou constitutes the economic centre and the main campus of the National Universities of Benin is located in Abomey-Calavi. The south is densely populated with a high urbanization rate, widely covered access to public services like electricity and piped water and a developed transport infrastructure (Nguyen & Dizon 2017). Because the financial and industrial sectors are located in this zone, it has the highest income level in Benin, with less than 30% of the population living below the poverty consumption threshold of $1.25 per day (World Bank, 2015). The **central zone** consists of rural and urban areas and constitutes a transition area between the south and north zone in terms of access to public services, transport infrastructure and income level (Babah Daouda, Ingenbleek, & van Trijp, 2016). The mains source of income in this area are agricultural products like legumes and maize (Fadina & Barjolle, 2018). The **north zone** is characterised by remote rural areas and a small number of urban centers. While the number of inhabitants is comparable to the south, the area of the north zone is more than 13 times larger. The low population density impedes the provision of comprehensive public services and infrastructure, which in turn constrain economic activities. The largest part of the population is employed in the agricultural sector, which is dominated by cotton production (Nguyen & Dizon 2017). However, the north zone is the poorest region of Benin, with more than 70% of its population living below the poverty consumption threshold (World Bank, 2015).

We expect that comparing the two extreme cases (south and north zone) may show significant effects of market heterogeneity, while comparing each of them with the central zone may reveal more subtle differences. By comparing collected data we want to clarify, how market heterogeneity and fragmentation influence stakeholders on different stages of the value chain and thus the marketing potential of KG.

4.3 Respondent Selection and Data Collection

Qualitative interviews with experts and stakeholders of the KG value chain served as primary data sources of information. Additionally, observations that provided further insights in the different cases were recorded in notebooks. We conducted interviews by using a semi-structured interview guide, which was structured according to the four key challenges of the 4A-framework. We formulated several questions for each challenge to gain a better understanding, how they affect stakeholders from different zones and stages of the value chain. Before we started our interviews, we contacted experts and used their comments and

suggestions to further adapt our questions to the different zones and stages of the KG value chain. Interviews lasted approximately 45 minutes and were recorded with a dictation device. Depending on the language skills of respondents, interviews were conducted in French, English or Fon, a widely spoken indigenous language in Benin. During our field research, a local leader, who spoke Fon and further indigenous languages, accompanied us. When respondents spoke French or English, the first author interviewed them. If respondents were not able to speak French or English, the local leader conducted the interviews. A local NGO employee, who spoke French and Fon, transcribed the interview records into French. (Eisenhardt, 1989). Afterwards, the first author translated all transcripts in English. In total, we conducted 28 interviews during our field research. 21 respondents were stakeholders from different stages of the value chain and seven respondents were experts from research institutes and NGOs. We selected stakeholders depending on the different stages we could identify in each zone. Table 3 provides a short description of the interviewed stakeholders and their stage in the KG value chain, structured from south to north.

Table 3: Descriptions of Interviewed Stakeholders Structured from South to North

Respondent	Gender	Stage of value chain	Region
	South Zone		
Anne (Tra1)	Female	Trader	Cotonou
Jeanne (Tra2)	Female	Trader	Cotonou
Hortense (Con1)	Female	Consumer	Cotonou
Peggy (Con2)	Female	Consumer	Cotonou
Marceline (Proc1)	Female	Processor	Cotonou
Georgina (Proc2)	Female	Processor	Cotonou
	Central Zone		
Elise (Prod1)	Female	Producer	Zogbodomey
Virgine (Prod2)	Female	Producer	Djidja
Nicolas (Prod3)	Male	Producer	Aklampa
Theodore (Prod4)	Male	Producer	Glazoué
Martial (Prod5)	Male	Producer	Aplahoué
Zacharie (Prod6)	Male	Producer	Djidja
Antoinette (Tra3)	Female	Trader	Glazoué
Theophile (Tra4)	Male	Trader	Bohicon
	North Zone		
Anissa (Con3)	Female	Consumer	Parakou
Fazimathou (Con4)	Female	Consumer	Parakou
Janette (Con5)	Female	Consumer	Kalélé
Tahirou (Con6)	Male	Consumer	Nikki
Charlotte (Proc3)	Female	Processor	Natitingou
Constance (Proc4)	Female	Processor	Parakou
Donoudje (Tra5)	Female	Trader	Parakou

Source: Developed by the author

We used different methods to select and approach potential respondents, depending on their stage in the KG value chain. KG producers mostly lived in rural areas that were hard to reach. To ensure, that the time intense and exhausting travels to remote farmer communities

pay off and provide appropriate interviews, we contacted producers through a local NGO. The NGO coordinator is an influential figure of the agricultural sector in Benin and enjoys a high reputation among farmers. By using his extensive network of contacts, the coordinator facilitated our search enormously and increased the willingness of producers to participate in interviews. To select stakeholders from remaining stages, we visited open-air markets, supermarkets, restaurants and street sellers. We approached consumers by asking pedestrians on markets and other public places to participate in our interview. While it was not difficult to find respondents in urban centers, inhabitants of rural areas often refused to participate, especially in the north zone. To contact KG processors, we relied on information of the NGO coordinator, who proposed several restaurants and street sellers in each zone. Interviewing KG processors, which were all female, proved to be challenging, because respondents often had to serve customers or manage their restaurants at the same time. We identified KG traders, by visiting marketplaces and checking the offerings of vendors. Depending on the region, searching for KG traders was more or less time consuming and successful. Identified traders were mostly women who operated businesses of varying size, reaching from selling small quantities on the roadside to owning stalls on central markets and offering a wide range of products in large quantities.

Interviews usually started with explanations about the goal of the interview and our study. We continued by asking for background information of respondents like name, age and profession. Subsequently, informants were asked about their general knowledge of KG and how their involvement in the value chain. Depending on which stage respondents belonged to, we continued with specific questions formulated for the respective stage. When interviewing consumers, we focused on their product knowledge, preferences and consumption patterns. To get a better idea how the KG value chain is structured, questions to traders and processors mostly addressed their supply chain, client base and business challenges. Producer interviews deepened our understanding of the value chain and provided additional information about plant characteristics and cultivation methods. After finishing the interview, respondents received a monetary compensation of $8.5 for their commitment.

Interviewed experts worked for research institutes and NGOs and were all involved in the “Project Doyiwé”. Doyiwé is the common name of KG in Fon language, which is widely spoken in the south and central zone. The project aims to strengthen the KG value chain by identifying consumer preferences, improving market access for producers and providing more resilient and higher yielding KG varieties. Expert interviews were the first ones we conducted

during our stay in Benin. By providing in-depth knowledge about the KG value chain, expert interviews allowed us to gain a comprehensive understanding of the traditional value, current challenges and future market potential of the crop. Table D1in the Appendix provides a brief description of the interviewed experts.

4.4 Analysis

We started our analysis by conducting a within-case analysis of each zone (Eisenhardt, 2016). Therefore, we first grouped transcripts based on the zone where we conducted the interview. Afterwards, we group transcripts from the same zone according to the different stages of the KG value chain. We read transcripts from the same zone and stage multiple times to gain a clear understanding of the content (Eisenhardt, 1989). Subsequently, we mark text passages and statements that relate to our theoretical approach. We use the key challenges of the 4A-framework (e.g. ensuring availability) as existing categories to assign highlighted information (Germeten 2013). Within each category, we sub-divide information based on additional theories of our theoretical approach (e.g. drivers of liking) or bottom-up insights (e.g. consumption patterns of consumers). Then we analyse each category to detect similarities or divergences in statements and check related transcripts for confirmation. Afterwards, we determine causes, processes and consequences of identified similarities and divergences (e.g. what reduces the availability of KG and how does that affect the consumption patterns of consumers) to highlight mutual relations between (sub)categories. In a second round, we compare detected patterns between different stages of the KG value chain from the same zone, to detect cross-stage similarities and divergences in statements. Based on these insights, we revise identified patterns and relations, as it is a common process in qualitative data analysis (Eisenhardt, 1989). Following these within-case analysis, we conduct a cross-case analysis by comparing the findings from all three zones. This analysis reveals significant differences in the perception and state of the KG value chain across zones. In the next chapter, we present our findings from each zone separately, before we discuss them in chapter 6.

5. Findings

Our analysis reveals significant differences in the perception and state of the KG value chain across zones. Thereby, it confirms the influence of market heterogeneity and fragmentation on market creation, discussed in literature of subsistence marketplaces and marketing (Prahalad & Mashelkar, 2010; Sheth, 2011; Viswanathan & Rosa, 2010). This chapter presents findings from the within-case analysis of each zone to clarify, how market heterogeneity shapes the KG

value chain. We structure our findings according to the key challenges of the 4A-framework discussed in section 2.3. The quotation tables can be found in the Appendix.

5.1 South Zone

The south zone mostly consist of densely populated, urban areas. Arable land is scarce and impedes commercial agriculture in the south zone. The land scarcity probably also affects KG production, since we were not able to locate KG producers in this part of Benin. Therefore, we focused on consumers, traders and processors when selecting respondents in the south zone.

5.1.1 Awareness

Most respondents in the south zone were familiar with KG. The crop is mostly consumed during Christmas and New Year as expert 2 explains "*...we consume a lot for end of the year ceremonies...".* To prepare KG, small stones and other foreigner bodies are sorted out, before the kernels are boiled for several hours. Depending on the recipe, various types of meat, vegetables and spices are added. The dish is traditionally served, with bread or "gari", a widespread dish in West Africa made of boiled cassava flour (e.g. Con1 and 2 in Table A1 in the Appendix). Boiling KG was the only preparation method indicated by respondents, however the plant can be further processed as illustrated by expert 7 (*"Another way of eating it is some sort of cake (...) also they use it to make a type a Sandwich, to spread it as a paste on bread.").* Informants described different types of KG, that varied in colour (white, beige, red and black), grain size and cooking attributes (e.g. Con2 and Proc1 in Table A1 in the Appendix). However, we could only find vendors offering white KG when visiting markets in the south. Our observation is confirmed by expert 7 who explained *"Now, white KG is what they prefer, is what is marketed. Nobody sells the black, nobody sells the red, we have never seen it (on the market).".* Nevertheless, the white KG we found on markets always contained a small amount of black or red grains. The black occurs during the production of white KG and is unable to germinate as expert 6 illustrates *"If they sow the white color variety there are some black colored seeds that they get (...) when they reseed the black seeds it does not germinate..."*

Processors and consumers state, that the product characteristics of white KG are not consistent and vary depending on their origin (e.g. Proc1 and Con2 in Table A1 in the Appendix). Expert 7 underpins this assumption by explaining, that *"Among these variants, they come out spontaneously. Nobody breeds them, nobody brought them there, they are just there.*

They are local varieties." . However, most respondents identified the central region of Benin as the main production area (e.g. Con2 in Table A1 in the Appendix), while expert 2 adds that KG *"is also growing in Togo, Burkina, Nigeria,..."* Tra2 indicates the existence of a "fake" KG, which looks almost identical and is used by scammers to cheat on clients (e.g. Tra2 in Table A1 in the Appendix). As expert 3 states, especially during Christmas "*...other things are sold as KG, so there is contamination, a fraud around the resource and this is justified simply because it is expensive and we mix it a little to make profit..."*.). During the interview, Tra2 was able to organize a sample of "fake" KG. Our observations confirm, that it is almost impossible for non-experts to differentiate both crops as illustrated in pictured E1 in the Appendix.

5.1.2 Acceptability

KG is highly accepted and strongly demanded in the south zone as confirmed by expert 3 "*...everyone likes it, you're not going to see anyone who can tell you, we do not like it*." Consumers appreciate especially the appealing taste and high protein content of the crop (e.g. Con1 and 2 in Table A2 in the Appendix). Expert 7 confirms this perception and explains that "*The reason why the price is like that and we continue to buy is, that it's nice, it's very tasty*.". Therefore, consumers try to ensure a regular consumption of KG as Con2 explains "... *I have to eat it maybe once every two weeks."*. Processors and traders perceive KG is a profitable business because of its strong demand as Proc2 declares *"We sell more KG than other beans*.". However, two factors revealed as most constraining the consumption of KG. First, the preparation is time demanding and thus does not suit the living conditions of the urbanized population as expert 2 explains "...*consumers don't have enough time to wait for a long cooking period, they need something quick."* For traders and processors the time intense winnowing of foreigner bodies is perceived as an afflicting process (e.g. Tra2 in Table A2 in the Appendix). Second, KG experiences an ongoing price increase, as Tra4 states *"...the price of KG changes on the market and becomes more expensive than in previous years.",* Consequently, the crop becomes less affordable for a growing number of consumers, as illustrated by expert 7 "...*I mean people with average income, they have not been able to afford it last Christmas."*

5.1.3 Availability

Although KG is a seasonal product that is harvested in December, respondents indicate a permanent presence on markets in the south, which our observations confirm (e.g. Con1 in Table A3 in the Appendix). During the harvest season, Tra2 sends an intermediary to the center of Benin, where she buys large quantities of KG from farmers to build stocks (e.g. Tra2 and Proc1 in Table A3 in the Appendix). During our stay from early March until the end of April,

we observed that many market women were offering KG. In addition, the crop can be found in many restaurants and is often offered by women selling cooked food on the roadside.

However, consumers and experts agree, that the total quantity of KG available on the market is constantly decreasing as Con2 explains "…*we notice it that we have a continual reduction in the amount of KG that arrives in our markets."*. According to traders, the ongoing price increase of KG prevents them from buying large quantities and building stocks (e.g. Tra2 in Table A3 in the Appendix). Furthermore, the crop is vulnerable to pest attacks caused by bruchid beetles as expert 7 stated *"The specific name for those which damage beans like KG it is bruchids"*. Consequently, available quantities of KG are further reduced, because most traders do not possess sufficient storage facilities and materials to avoid pest attacks.

5.1.4 Affordability

Caused by decreasing availability of KG, the price of the crop is constantly raising as described by expert 3 *"The supply is low and so the demand is high, the price must be high."* While Con1 is willed to pay around $2.6 per kilo KG, the observed and indicated market prices ranged from $3 to $3.5 (e.g. Con1in Tab A4 in the Appendix). Although all selected respondents were able to purchase KG at least for Christmas, we assume that the consumption of KG becomes increasingly unaffordable for the majority of the population. Expert 3 confirms this consumption "*...it's about $3.5 per kilogram. What I find very expensive for communities that hardly have $1 every day..."* The price raise also has a negative effect on traders, who cannot afford to purchase large quantities of KG anymore. Consequently, they are forced to buy small quantities more often. Because transaction costs like transport and intermediaries remain on a high level, the commercialization of KG becomes less profitable for traders (e.g. Tra2 in Table A4 in the Appendix). In combination with the vulnerability to pest attacks, respondents perceive trading KG more and more as a financial risk.

5.1.5 Resume

The white KG is a highly accepted and strongly demanded food product in the south of Benin. While respondents emphasize the traditional value of the crop as an integral component of important festivities, KG is offered and consumed throughout the year. A stronger consumption is mostly prevented by the continuous price raise, which is caused by decreasing quantities of KG available on the market. In addition, consumers in urbanised areas cannot afford the time consuming preparation of the crop.

5.2 Central Zone

To find out why the production of KG is constantly decreasing, we went to the center of Benin. As mentioned above, the central zone is the only area in Benin, where the production of KG takes place. Therefore, we focused on producers and traders when conducting interviews and take a supplier perspective on the four key challenges, which partly diverges from the consumer perspective of the 4A-framework. We modify the terminology of the key challenges awareness, acceptability, availability and affordability respectively to production knowledge, willingness to produce, production potential and production costs.

The interviewed farmers originate from the south, west and north of the central zone. However, our interviews revealed that KG is also produced in the east, especially around the city of Kétou. Ethnic and cultural aspects cause the concentration of KG production in the central zone as expert 7 illustrates "*Because like in Ketou, Ketou is Departemen Plateau, when we went there, what we found out is that people that grow Doyiwe there, most of them were from Abomey.",* Consequently, the main trading markets for KG are located in this area. As expert 6 explains, "*Glazoué or Bohicon, it's the two big surrounding markets. Those who come from Glazoué (...) they serve the northern part of the country most of the time."* Although the central zones supplies the entire country, the major part of harvest is sold to the south of Benin or neighbouring countries.

5.2.1 Production Knowledge

Respondents provided a deep product knowledge and were able to identify several types of KG. However, informants indicated the white KG as the only one demanded by the market, especially during festivities (e.g. Prod1 and 4 in Table B1). Thus, farmers focus on the production of white KG, even if other types have favourable attributes as Prod6 explains "*its (red KG) yield was superior to the old variety (white KG) that was grown*". Farmers sow KG at the end of the long rain season in July and August, after the harvest of maize or other cereals. The field residues of these plants are ploughed into the soil and serve as fertilizer for the KG as Prod3 illustrates "*It is these rotting herbs that constitute his own fertilizer"*. The crop can be harvested after 4 months with the end of the "short" rain season in November (e.g. Prod3 and 5 in Table B1). According to respondents, the wet soil facilitates the collection of seeds that grow below the surface. Afterwards, the seeds are dried in the sun and thrashed to separate the seed from its outer layer. Before the seeds are filled in bags for selling or conserved in plastic containers as sowing material, farmers sort out small amounts of stones and other foreigner bodies. According to respondents, the yield quantity of KG is decreasing when the plant is

cultivated on the same farmland for more than 3 years (e.g. Prod3 and 5 in Table B1). Expert 3 confirmed this statement "*If you go over three years, it leaves substances that are no longer facilitate good soil performance".* Because KG is resilient to pest attacks, producers refrain from the use of pesticides. Additionally, farmers have no experience with applying fertilizer, since suitable products are not available in Benin (e.g. Prod5 in Table B1). Our observation was confirmed by expert 2 *"the real problem we have today is that the fertilizer available is only made for cotton."*

5.2.2 Willingness to Produce

Because we focus on KG producers in this chapter, we interpret acceptability differently than for consumers. Since producers not necessarily consume their own products, production conditions and profitability determine acceptability for producers. Thus, it is more likely that producers accept products with favourable production conditions and high profitability.

In the case of KG, all producers emphasize the high market price of KG as motivation to produce the crop like Prod6 explains "*To produce and market the KG allows us to cover many of our expenses."* In addition, the production of KG is perceived as a cultural heritage as Prod3 explains "*We have been producing it since our parents left us the fields*". Further, Prod6 emphasizes the low costs for field maintenance, since KG requires only monthly weeding (e.g. Prod5 in Table B2).

However, respondents indicated several factor that prevent them from increasing the production of KG (e.g. Prod2 to 6 in Table B2). These factors can be categorized in (1) production risks and (2) production costs. Production risks principally comprise the sensitivity of KG to climate conditions and fluctuating quality of available sowing material. All respondents indicated the high sensitivity of KG towards soil humidity as a limiting factor for the production. The plant is neither resilient to droughts nor to heavy rainfall as explained by expert 6 ("*...the drought can cause the fall of the flowers")* and expert 7 ("*If there is a lot of water, it rotts*"). Because climate conditions become less predictable due to ongoing climate change, the risk of harvest losses increases. In addition, producers that are forced to buy sowing material on markets, are unable to assess the quality of offered seeds. Since the quality of available sowing material is fluctuating, producers regularly face crop failure as Prod1 illustrates "*Sometimes we buy that (seeds) at the market and after sowing it does not grow."*

Production costs of KG comprise the costs input factors like seeds, land and labour force, which are necessary for the production of KG. Farmers indicate, that they face higher

costs for field preparation, because the ploughing of plant residues into the soil is four times more expensive and time consuming than ploughing empty fields (Expert 6 "*...ploughing is $0,04 for a 20m ridge (of empty field) while for KG the ploughing is $0,17"*). The cultivation of the plant demands large farming areas, because the yield of KG is already low and further decreasing. As producers state, the necessary farmland is often either not accessible or too expensive (e.g, Prod5 and 6 in Table B2). Because tractors and other facilitating equipment are barely available, the physical and time demanding harvest constrains the cultivation area of KG further. As Prod3 explains "*Hectare is stressful, so we produce at most two or three plots (20m x 100m).".* To increase the production area for KG, producers are dependent on expensive contract harvesters from neighbouring countries because especially young people migrate to urban areas searching for better income opportunities (Nguyen & Dizon, 2017). Thereby, labour force becomes an increasingly scarce production factor as Prod6 states *"...labour force is very difficult to find...".* When poor harvests force producers to sell their entire yield, they cannot keep seeds as sowing material for the next season. The acquisition of new sowing material on the market constitutes an additional challenge for the farmers (e.g. Prod6 in Table B2). Farmers in ultra-remote areas indicate, they rely on a single trader when selling their products who pays them with consumer goods instead of money (e.g. Prod2 in Table B2).

These factors cause, that farmers switch to more resilient crops as expert 2 explains "*...farmers go to Bambara Groundnut instead of KG, which is a bit uncertain for too much or too less rain. While Bambara Groundnut can withstand and gives higher yields."* Especially in the northern part of the central zone, KG competes with cash crops like cotton or cashew nuts, which provide high markets prices, institutional support and established value chains (Expert 2: "*...in areas where they have other activities like cotton, when they have cotton and they have more revenue from cotton, then they shift to cotton.").*

5.2.3 Production Potential

KG is a seasonal crop that can only be harvested once a year as Prod3 describes "*We cannot cultivate the Doyiwé in two seasons. It gows in one season. And that's between June, July until November and it stops there."* Because sowing material on the market is expensive and fluctuating in quality, producers try to store a part of the harvest as sowing material for the next season (e.g. Prod1 and 4 in Table B3). The storage practices are inconsistent and vary between producers. As explained in section 5.1.3, KG is vulnerable to post harvest pest attacks caused by bruchid beetles. To prevent pest attacks, most respondents fill the seeds in plastic containers and add ash, pesticides, peppers or hot sand (e.g. Prod5 in Table B3). According to expert 7,

latter prevents the germination of the seed and is therefore insufficient to conserve sowing material *("...the hot sand, it does not make any sense. You are killing it (the seed).").* To avoid post-harvest losses and ensure cash flow, producers try to sell the disposable harvest entirely in December (e.g. Prod5 in Table B3).

5.2.4 Production Costs

All respondents indicate KG as a very profitable crop due to its high selling price and strong market demand (e.g. Prod1 and 4 in Table B4). Furthermore, the plant is resilient to diseases and pest attacks and therefore does not require the application of pesticides. In addition, KG does not demand a lot of field maintenance as Prod5 explains *"In terms of maintenance, weeding (...) is not at all expensive."*

However, producers indicated a number of factors that prevent them from increasing the production of KG. (1) The production is perceived as risky. Because of the high sensitivity of KG towards soil humidity, droughts or heavy rainfalls result in serve harvest and income losses. In addition, producers have no quality assurance when buying sowing material on the market. Therefore, they cannot estimate the germination rate and consequently the expectable harvest yield (see Table B2). To balance these risks, farmers focus on other crops like maize, soybeans or Bambara Groundnut that are more climate resilient and provide predictable yields. (2) Although KG is perceived as profitable, producers describe its production as more expensive than comparable crops. The ongoing price rise for KG increases the purchasing costs for sowing material that producers face when buying seeds on the market. Furthermore, field preparation is more expensive than for other crops (see Table B2). (3) The KG harvest is physically demanding and time consuming. Many producers use basic instruments like pickaxes to collect the seeds, because they cannot afford to borrow or buy more advanced equipment.

5.2.5 Resume

Strong market demand and cultural value of the crop motivate producers to cultivate KG. However, the production is perceived as risky, due to the sensitivity of the crop towards climate change and the fluctuating quality of available sowing material. In addition, field preparation, land demand, labour force and complicated harvest increase the costs of cultivation.

5.3 North Zone

The climate conditions deviate from the central and south zone, for example only one annual rain season exists. Therefore, the north zone exposes a different vegetation and consequently other agricultural products. As our field research revealed. KG cultivation is absent in the north

zone. Because farmers and experts indicate the importance of multiple rain seasons for the cultivation of KG, we assume that climatic conditions cause this absence. Additionally, we observed a stronger difference between rural and urban areas regarding the awareness, acceptability, availability and affordability of KG compared to other zones.

5.3.1 Awareness

In rural areas of the north, people are not aware of KG. According to them, the crop is "something that they eat in the south" (meaning the south & central zone). Respondents explained us that they only got into contact with KG when travelling to the south (e.g. Con5 and 6 in Table C1). In contrast, KG is well known in urban areas. Similar to the other zones, KG is consumed during important festivities (e.g. Con3 and 4 in Table C1). Because of the religious context, important festivities in the north differ from the rest of the country. While KG is in south and central Benin mostly consumed during Christmas, Con4 indicates in the north, KG is prepared for *"...the Ramadan and the Tabaski (the two official holidays in Islam)..."*. In urban areas of the north, KG is prepared in the same like in the other zone, as described by Con3 *"...a first cooking, and we change the water, then a second cooking, and we add the spices. And it is eaten with bread or gari."* Regarding their product knowledge, urban respondents only know the white KG and don't process knowledge about the origin or nutritional value of KG (e,g, Con3 and 4 in Table C1).

5.3.2 Acceptability

Because the rural population does not perceive KG as a part of their culture and consumption habits, the crop is not demanded as underpinned by Con5 "*...we never come to ask (for KG), our preference is spaghetti and rice."* However, the positive consumption experience of KG motivates Con6 to consume the crop more frequently in the future as he states *"No it's not our staple, it's just consumed for fun, and now I can adopt it for holidays."*. KG is perceived as a luxury product in urban areas of the north (e.g. Con3 in Table C2) as Proc4 explains "*the population think that the KG is the food of the rich, because of its high price*.". Still, the crop is well accepted and strongly demanded, especially because of its pleasant taste. Proc3 states that*"Customers like the Doyiwé, some when they come and there are no more, he does not buy anything else…". Y*et, traders and processors recognize a decreasing market demand (e.g. Proc4 and Tra5 in Table C2). Especially the ongoing price increase of constrains KG consumption as Con3 declares that "*Because of its high cost, it is consumed just during festive days."*. Additionally, the time consuming preparation reduces the consumption of KG further as stated by Con4 "*The KG is a bean difficult to bake..."*.

5.3.3 Availability

Corresponding with our observations, Con5 indicates that KG is neither produced *("No, they do not grow it.")* in the north nor available on local markets ("*No, I have never seen it (KG on the market)").* In contrast, KG is available on urban areas markets throughout the year. To ensure a constant availability, traders and processors visit markets in the central zone during harvest season to purchase large quantities of KG and build stocks (e.g. Proc3 and 4 in Table C3). Traders and processors react to the decreasing market demand by reducing their stocks in order to avoid post-harvest losses caused by pest attacks. A remarkable observation was the low presence of KG on urban markets and in restaurants of the north zone. Only a few market women are trading KG in small quantities. In contrast to the south and central zone, dishes containing KG can only be found in upper-middle-class restaurants or gastronomy, which are specialised on dishes from the central region.

5.3.4 Affordability

Observed and indicated selling prices of KG are higher in the north zone than in the rest of Benin (e.g. Proc3 and Tra5 in Table C4). At the same time, the average income of the north zone is lower than in the other zones. Consequently, KG is perceived as a luxury good that is only affordable during important festivities as Con3 illustrates "*No, for lack of means, I could not do the stock, it is the approach of the holidays that I buy it.".* Due to the ongoing price raise, KG becomes increasingly unaffordable for consumers in the north zone, resulting in a retrogressive market demand.

5.3.5 Resume

In summary, we define four distinctive characteristics of the north zone. (1) Awareness, acceptability, accessibility and affordability of KG in rural parts is substantially lower than in urban areas. (2) KG is highly demanded and an integral part of important festivities in urban areas. Occasions for the preparation of KG differ from the south and central zone due to the religious context. (3) KG is more expensive in the north than in the rest of the country. Consequently, the ongoing price increase constraints the consumption of KG stronger than in the south and central zone. (4) KG is only available at specialized traders and restaurants.

6. Discussion

6.1 Case Comparison

As explained in section 4.4, we compare the three zones based on our findings for each main category (awareness, acceptability, availability and affordability). The central zone takes a special position in our comparison, because in this zone, we focused on KG producers to gain a supplier perspective on market creation. As illustrated in Figure 1, comparing the three zones allows to distinguish between different markets for KG and its production area. While the production of KG takes places in the central zone, the north and the south zone constitute the markets. In the production area, KG is perceived as a high risk – high gain product due to climatic sensitivity, production costs and the high market price. When comparing the two market zones, the south zone can be considered as an existing market for KG, where the crop is perceived as a common commodity and strongly demanded. In contrast, consumers in the north zone perceive KG as a luxury product or don't even know about it. When looking deeper in our findings it appears that the north zone can be further divided into two subzones, the peripheral urban areas and the peripheral rural areas. In peripheral urban areas, consumers are aware of KG although the crop is not as popular as in the south zone. Peripheral rural areas constitute non-existing markets for KG, because many consumers are unfamiliar with the crop or express cultural biases against the crop. Thus, each zone demands a contextual market creation factor (e.g. availability on existing markets), which are presented in Figure 1.

However, above all contextual market creation factors, respondents of every zone and on all stages of the value chain emphasized the importance of affordability as a key factor for the production, trade and consumption of KG. This finding is in line with earlier studies in EEs such as the one of Chikweche & Fletcher (2010). Therefore, we evaluate affordability as the crucial market creation factor in EEs. We assume, that affordability stands in a positive relationship with the contextual market creation factors. Increasing the affordability of KG allows for example traders on existing markets to buy larger quantities, thus enhancing the availability of the crop. As elaborated, decreasing market supply is reducing the affordability of KG and thus impedes all contextual market creation factors. Thus, the first step to create a market for KG is to reduce production risks and costs for producers. This results in a higher affordability of KG and facilitates, to solve contextual challenges in other zones and eventually strengthens the KG value chain in total. Below, we describe the contextual challenges of the production zone, to gain a better idea on how to make KG more affordable. Afterwards we discuss the existing markets in the south zone before analysing the emerging or non-existing

markets of the north zone, to provide insights on the specific market creation factors of these zones.

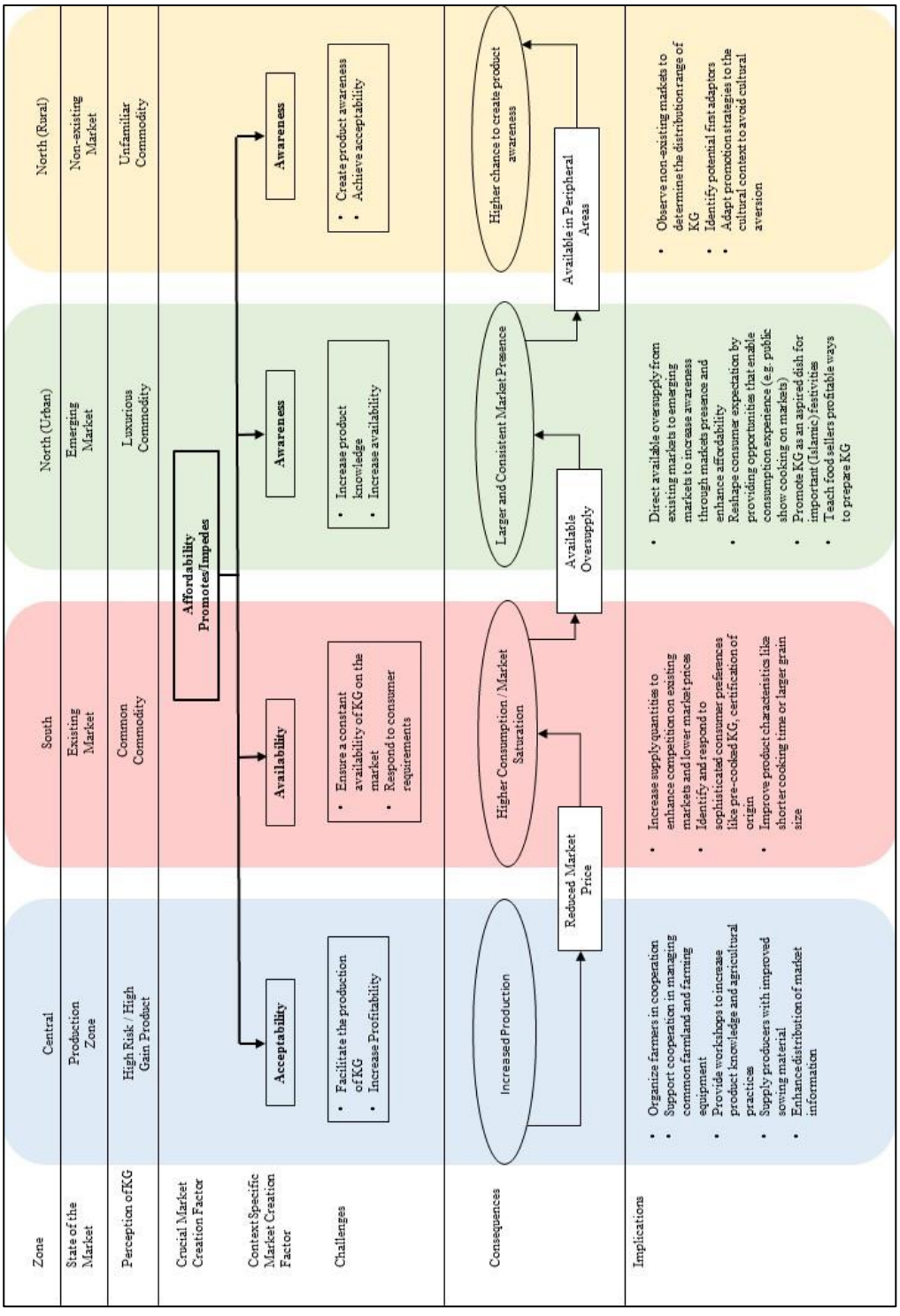

Figure 1: Illustration of Crucial and Contextual Market Factors

6.1.1 Production Zone (Central Benin)

As our research reveals, strategies that focus on the production and commercialisation of KG do not exist. Farmers perceive KG as an additional gain, while other cash crops like maize, cotton, soybeans or Bambara Groundnut constitute their main source of income. Although producers are deeply embedded in their communities, which often consist of additional KG producers, they are not organized in associations or cooperatives. In addition, KG producers do not perceive any rivalry or competition because of the exceeding market demand and the small share of KG on total agricultural production. Consequently, they are less motivated to innovate or improve their production to achieve a competitive advantage. Furthermore, natural conditions like rainfall patterns and available land limit the production of KG to the central zone of Benin. However, access to new farmland becomes more and more complicated and expensive. At the same time, ongoing climate change aggravates the cultivation of KG and increases the risk of harvest losses.

During our research, we furthermore observed that agricultural practices and product knowledge vary significantly between producers and result in large differences in harvest quantity. Producers are hard to reach because they often live in remote areas without sufficient infrastructure. Consequently, they are dependent on a small amount of traders to sell their harvest and receive market information. Traders can take advantage of this dependency and buy KG below the actual market price, reducing the profitability for producers. In addition, small-scale farmers use basic tools like pickaxes to harvest KG because they cannot afford to buy advanced equipment and build up capital resources. At the same time, facilitating the harvest is necessary to cope with the decreasing amount of labour force available in rural areas. Furthermore, farmers are dependent on sowing material of inconsistent quality. While purchasing the sowing material on the market is expensive, farmers have no possibility to estimate the germination rate or yield of the seeds. However, until now, specialised suppliers of sowing material and other agricultural inputs like fertilizer or pesticides do not exist. At the same time, governmental institutions prioritize the production of other agricultural products like cotton or cashew nuts (World Bank, 2017). Non-governmental institutions just started to become involved in the KG value chain. Same accounts for scientific institutions that just recently started with the collection and characterisation of KG samples from West Africa (Ayenan & Ezin, 2016).

6.1.2 Existing Market (South Zone)

Within Benin, the urban centers of the south can be seen as the existing market for KG. Because of its importance as a main trading hub in West Africa, its infrastructure provides highways, railways and an airport (Nguyen & Dizon 2017). This facilitates the exchange of goods and reduces occurring transaction costs. Consequently, supplying markets and ensuring availability is more feasible in the south than in other zones. At the same time, the demand for KG is strong because of its cultural value, which is transferred through social networks. Thus, consumers already possess a large product knowledge and awareness. The same applies for acceptability, which is so strong that consumers are even willed to run into debt to serve KG at important festivities. However, our observations also revealed a latent demand and varying level of product requirements among consumers. While especially older respondents rejected processed KG, many young people stated that the long preparation time constrains their consumption. During our field research, we could not find any processed KG product that responds to these changing consumer requirements. Because awareness and acceptability already exist, we evaluate a constant availability of KG as the context specific challenge of existing markets. We assume, that a higher affordability of KG will increase the availability on existing markets, because traders are able to purchase large quantities and use scale effects to reduce transaction costs and enhance the profitability of their business. When more traders are able to offer KG, market competition increases. Consumers benefit from this development because competition reduces market prices and generates more consumption choices, this strengthens the bargaining power of consumers. KG becomes a consumption option for a larger range of consumers and thereby creates more awareness. Because of the lower price, the consumption of KG is more acceptable for consumers and facilitates continuous consumption patterns. Based on these insights we define two main challenges when developing existing markets in EEs: (1) increasing product affordability enhancing market supply and (2) identify and respond to consumer requirements by providing innovative products.

6.1.3 Emerging Market (Peripheral Urban Areas)

As our observations, revealed, urban areas in the northern part of Benin constitute an emerging market for KG. While not reaching the level of urban centers in the south, larger cities in the north mostly possess a comparatively developed transport infrastructure like paved roads. The population often consists of several ethnic groups from all over the country that migrated to urban areas for work. Because of migrants from the south and center of Benin, we could observe an existing awareness and acceptability for KG. However, the crop is not as widely known and

demanded as in the other zones. This can be partly explained with the price of KG, which is more expensive in the north than in other zones. At the same time, the north zone has the lowest average income of Benin, consequently KG is even less affordable than in other zones. Therefore, only a few traders offer KG in small quantities. Consumers in peripheral urban areas have to visit specialized restaurants to eat KG, while in the south and center dishes are often sold on the side of the road.

Because infrastructure to ensure availability is given, we consider awareness as the context specific challenge in emerging markets. A higher affordability of KG will increase consumer awareness in emerging markets. Like on existing markets, offering KG will become more profitable for traders and processors. This leads to a higher market presence and generates curiosity while a lower price makes the consumption more acceptable. Nevertheless, further measures are needed to make potential consumers aware of KG and its nutritional value. Next to enhanced market supply, awareness creation (e.g through consumer education) is an important task to develop emerging markets in EEs.

6.1.4 Non-existing Markets (Peripheral Rural Areas)

When visiting rural areas in the north zone, we observed that only a small amount of the population knows KG. However, the crop is not perceived as part of the local food culture. Instead, KG is contemptuously associated with the eating habits in the south and center of Benin. Consequently, the demand on rural markets is low. In addition, traders are forced to use gravel roads and small paths to reach potential consumers. To do so, traders use small vehicles like motor bikes or carriages. Therefore, they are not willing to sacrifice scarce cargo space for products that are not demanded. This explains why we could not find KG on rural markets during our field research. Because neither availability, nor awareness and acceptability are given, we define peripheral rural areas in the north zone as the non-existing market for KG. To create a market in this area, potential consumers must first be aware of KG and its nutritional value to accept it as potential consumption option. By generating a demand and increasing the affordability of KG, it becomes more likely that traders will start to supply remote areas with the crop. However, creating a market for KG remains challenging in rural areas of the north zone, given the aversion towards the crop and fragmented supply chains. To become more acceptable, consumers must be informed about the nutritional advantages of KG and promotion activities should try to reduce cultural biases.

6.2 Market Creation Model

Based on our insights from the KG value chain in Benin, we develop a five-stage model that supports entrepreneurs and policymakers to create markets for NUCS in EEs. In Figure 2, we illustrate the different stages of market creation and the key tasks of each stage. On the first stage, the market potential of NUCS is assessed. Because market heterogeneity has a strong effect on the perception of consumers, the market potential of products can vary significantly within an EE (Galbreth & Ghosh, 2013). Therefore, it is important to categorize national markets according to the extent of existing demand and given supply channels. Entrepreneurs should focus on existing markets, because it is more likely to aggregate existing demand and use established supply channels to achieve economies of scale (Dadzie et al., 2013). If the given demand on existing markets exceeds available supply quantities, entrepreneurs should focus on the second stage of the model and increase production. If resource scarcity constrains production, production resources must be improved to allow economies of scale and increase supply quantities (Sheth, 2011). However, producers are only willed to improve their production resources, if it is profitable and acceptable for them. Productions that are perceived as risky, unviable or contrasting cultural values are thus less likely to increase.

On the third stage, increased supply allow traders to purchase large quantities and thereby reduce their transaction costs. As explained in section 6.1.2, competition will enhance because more vendors are able to offer KG. The market price for KG will continuously decrease and the existing market becomes more and more saturated. To succeed on increasingly competitive markets, entrepreneurs must offer superior value propositions (Kotler & Armstrong, 2010).

On the fourth stage, existing markets are saturated or too competitive. Thus further market potential should be identified by focusing on existing markets in neighbouring countries and emerging national markets. To increase the consumption and demand on emerging markets, entrepreneurs must increase the product awareness of potential consumers. To ensure that information reach consumers who are illiterate or have no access to media, products must be promoted through social networks, in best case by social leaders. Because of market heterogeneity, the promoted content must probably be adapted to cultural or demographic characteristics of the new consumer segment. As soon as a demand is generated, entrepreneurs must ensure a sufficient supply of emerging markets to enable an increasing consumption.

On the last stage, the potential of non-existing markets is assessed by identifying suitable target consumers and available supply channels. During the entire process of market

creation, entrepreneurs must track product distribution and availability to identify the respective stage. Based on our insights from the KG value chain, we present exemplary marketing and policy implications for each stage in the next section.

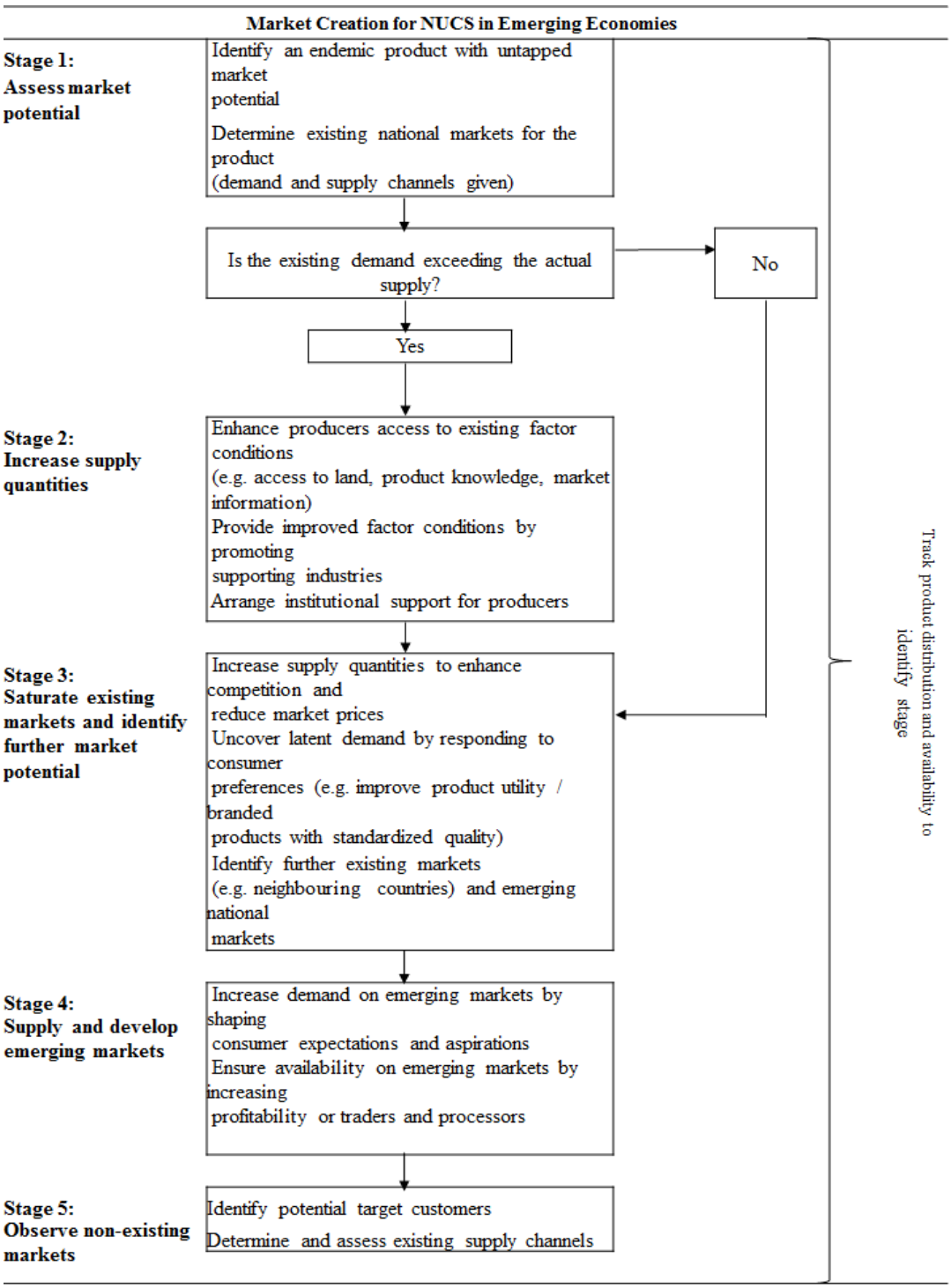

Figure 2: Stages of Market Creation for NUCS in Emerging Economies

6.3 Marketing and Policy Implications

In the case of KG, the untapped market potential occurs from the popularity of the crop and the small-scale of its current production. As elaborated in section 6.1.2, urban areas in the south constitute existing markets for KG, because they are well connected to the production zone and provide a strong demand. Competition exists on these markets but only to a low degree, since the actual market demand exceeds supplied quantities. Entrepreneurs can't exploit the full market potential, because many consumers are willed but not able to afford the consumption of KG. If entrepreneurs want to achieve economies of scale by trading and processing large quantities of KG, they need to make their product affordable for a sufficient number of consumers. To make KG products more affordable, the production of raw material must be increased.

The production of KG is perceived as a traditional heritage and therefore complies with cultural values. However, resource scarcity constrains the production, because many producers have no access to sufficient factor conditions like arable land or transport infrastructure (Porter, 1990). To increase the production of KG, entrepreneurs and policymakers should focus on improving existing resources. To do so, KG producers must first be organised in cooperatives or comparable structures to facilitate institutional support, access to credits and cooperation with other stakeholders of the value chain. In a next step, agricultural practices must be improved by conducting workshops and increasing the awareness of producers. Structured cooperatives enhance the production, because they allow members to combine parts of their farmland to increase the total area of KG cultivation and respect necessary field rotation. Same accounts for capital resources, since cooperatives can pool financial resources to borrow or purchase advanced farming equipment like tractors or threshing machines. By selling their combined harvest yield, cooperatives increase the supplier power of farmers, because they have a stronger influence on the total quantity available on the market (Porter, 19900. Consequently, more traders will compete about the product, and thus producers receive more market information and higher selling prices. Offering combined harvest yields will furthermore allow to share transportation costs and thereby increase the access to markets. In a next step, producers must be supplied with improved factor conditions. In the case of KG, this concerns especially the development and provision of improved sowing material which is more resilient to climatic conditions and delivers higher yields. Furthermore, producers must gain access to affordable agricultural inputs like appropriate fertilizer or pesticides that combat bruchid beetles and other

pests harming the production or storage of KG. Reproduction of improved and standardized sowing material and trading of specialised input factor constitute provide new income opportunities for the agricultural sector.

Since the KG value chain until now only contains minor value-adding processes like cleaning and sorting. Therefore, the product offers many possibilities to increase the utility for consumers. As we found out, KG offered on the market fluctuate in product characteristics like cooking time and grain size. In addition, similar looking crops are sold as KG to cheat on consumers. This provides potential for branded products that ensure standardized product characteristics and thereby reduce the risk perception of consumers when purchasing KG. The research on improved sowing material may even allow to respect further consumer preferences like a shorter cooking time. Next to improving raw material, innovative processing constitutes further potential to add-value to KG. The cooking process can be shortened by offering pre-cooked KG in cans or the plant can be grinded and serve as a base for infant food (high protein).

In the case of KG, urban areas in the in the north constitute emerging markets for KG. As illustrated in section 4.2, the north zone shows significant cultural and demographic differences compared to existing markets. Consumers are less aware of KG and do not know about the nutritional value. Because many consumers never tried KG, they cannot evaluate its taste, which is described as a main driver of liking by most respondents. Public promotion activities like show cooking on central markets during market days will reach a large number of target consumers (women responsible to provide food for their family). By presenting preparation methods and offering tasting samples, consumer expectations are shaped and their risk perception reduces. Local leaders like owners of well-known restaurants can be involved and even serve as future selling points of KG. By offering consumption experience to a large number of potential customers, chances increase that product information will start to flow through multiple independent social networks and allow a wide-range promotion. As our study revealed, Muslim consumers in the north zone consume KG during other festivities than their Christian counterparts in the center and south. Therefore, entrepreneurs should ensure the availability of KG during these festivities and include them in their promotion activities.

7. Limitations and Future Research

This paper adjusts western marketing instruments on the value chain of NUCS, to derive implications for entrepreneurs and policymakers in EEs. While the study provides general insights on the influence of market heterogeneity on the process of market creation and development, observations are constrained by the specific context of the KG value chain. In addition, the separation of the national market into three different zones does not reflect the diverting conditions within each zone. Furthermore, the number of respondents of this study is rather small and provides only six consumer interviews. As interviews revealed, we conducted our field research after an exceptionally low KG harvest, which probably explains the low availability and high price we observed. In addition, the small number of applied marketing theories serves as an indicator for their validity in EEs, but leaves much space for further research. As a direction for future research, it would be interesting the test the applicability of our market creation model on the value chain of other NUCS products in EEs. Regarding the case of KG, more insights can be obtained by further evaluating the differences within each zone. Future studies should also use quantitative research and increase the number of respondents, to derive more detailed requirements and preferences of different stakeholders. To gain an objective picture of the supply and demand situation, the development of the KG value chain should be observed over a longer time.

8. Conclusion

Our research shows, that western marketing instruments remain their validity in EEs. In addition, supply chain models that compare national industries can enhance our understanding of small-scale value chains. As elaborated in this paper, marketing instruments for MNCs and indigenous entrepreneurs have to solve similar challenges. Although, different background conditions of MNCs and indigenous entrepreneurs cause the necessity to design instruments according to their respective contexts and abilities. However, using western terminology to describe conditions and challenges of indigenous entrepreneurs allows a structured market-analysis of EEs. This facilitates to select theoretical approaches that potentially inspire suitable marketing implications.

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Appendix A

Table A 1: Quotations Illustrating Awareness (South)

Quote	Emerging Insight
No. The only transformation I know is to boil with the ingredients, and eat it with bread, gari or rice. (Con1)	Consumer know only one way of processing KG
Either it (KG) is prepared with exotic vegetables inside. Or it is prepared alone, without adding these exotic vegetables and so at this moment we limit ourselves to spices to season it. Then we add meat or not. (Con2)	
We have two different colors of KG. There is one, which is not too white but brown with some black grains. The second variety is completely white with small green spots. (Con1)	KG can have different colours
According to the information received, there is black and red but I did not have the chance to meet them. (Proc2)	
The local cooks faster than that of Lomé, they have the same color... (Proc1)	
I know there are several varieties, I really can not say the name of the varieties because I am a consumer. And so when I go to the market, I buy the KG I find, there are some who cook very quickly, there are others who take longer than leather. (Con2)	KG varies in product characteristics
What I know about KG is that the KG occurs in Benin in several areas. In the areas of Ouémé, Plateau, this is east of Benin. In the center of Benin too, in the departments of Zou (Bohicon, Djidja) and progressing towards the department of the hills, this is what I know of the zones of distribution of the production of the KG. (Con2)	KG is mostly produced in the central zone
During the holiday season, as many people do not know KG , when you come here, when you take Soy and KG, it's the same shape. People take Soy, during the party and are on the edge of the road, they sell Soy instead of KG to people. (Tra2)	Customers are cheated by selling "fake" KG

Table A 2: Quotes Regarding Acceptability (South)

Quote	Emerging Insight
But it is also the taste that makes me particularly fond of the KG. I find it nice, its taste I like. (Con2)	Because of its taste and nutrient value KG is popular in southern Benin
I naturally like it, like rice. (Con1)	
Children also like it very much. It makes from the beans that the majority of people like to eat and accept easily. It is not confronted with food taboos. (Con2)	
...it is little difficult to sort. The sort is done with one person per bag (120kg), and lasts most of the time, more than one day. (Tra2)	Sorting is the most expensive and time consuming process after purchase

Table A 3: Quotations About Availability (South)

Quote	Emerging Insight
Yes, there are good ladies who sell it all the time, the KG all year long. But it's the price that varies. (Con1)	KG is available throughout the year
Yes, at the approach of the holidays we buy in sufficient quantities, we pay the sales clerks and their requests to keep the rest we will take every time we are in need. (Proc1)	Traders build stock in December to ensure availability throughout the year
We manage to do it, when we buy, we group together our quantities of KG bought then we take a truck that transports us to the destination. So doing this allows us to reduce transportation costs. (Tra2)	
Once the time comes to stock up, I often miss money to buy a large quantity and keep in stock. (Tra2)	Because of price increase, traders cannot afford to purchase large quantities

Table A 4: Quotes Describing Affordability (South)

Quote	Emerging Insight
When the price of KG on the market is $2.6 / KG is good, but when the price of KG exceeds $2.6 is expensive. In my opinion, the price of the KG must be $2.6maximum. (Con1)	Reference price of consumers is around $2.6
The purchase price varies, sometimes the 1KG is sold at $2.6, $2.8, sometimes $3 and even $3.5, especially in the month of December. (Con1)	Actual market prices exceed reference price
Every three years, the price of KG changes on the market and becomes more expensive than in previous years (Tra2)	KG becomes less profitable for traders

Appendix B

Table B 1: Quotations Illustrating Awareness (Center)

Quote	Emerging Insight
Because the KG is an expensive product which generates profit especially during the holiday season in Benin. (Prod1)	KG is strongly demanded, especially during festivities
I decided to cultivate the KG, because I am a peasant in search of profit. Since the KG is a commodity whose demand is strong in the market, and also whose selling price is high. (Prod4)	
Indeed the harvest period is often close to the holiday season (October-November). At this time already the demand exists. (Prod5)	KG is harvested once a year between November and December
So as soon as a rain comes, you immediately start digging it up easily with your hand, like peanut. (Prod3)	
It must be obligatory on a wasteland. (Pord3)	KG production requires field rotation every 3 years
There is the land problem that arises. Indeed, the land must be set aside for at least three years to have a high yield, unlike farmland. (Prod5)	

Table B 2: Quotes Regarding Acceptability (Center)

Quote	Emerging Insight
In terms of maintenance, weeding and even harvesting is not at all expensive. (Prod5)	Field maintenance is not expensive
There are, among other things, difficulties of access to land, but also the high cost of plowing. As well as the acquisition of seeds that when the time comes, becomes expensive on the market. (Prod6)	Production of KG is constrained by climatic conditions and poor access to production factors like land, sowing material, labour force,…etc.
Failure of manpower and absence of rain (constrain the production). (Prod4)	
The constraints are among others the labor and the cost of plowing. (Prod3)	
We have the rain, and the cost of maintaining the field until the harvest, and also after harvest there are post-harvest operations that require a lot of attention. (Prod2)	
We only have one customer, she is a wholesaler, when she comes she comes with a tarpaulin for transport. (…) The last time for example, she is so far give us gifts of loincloths, salt and even shrimp. And this to all the women and men of our cooperative. (Prod2)	Producer are dependent on single traders to sell their harvest

Table B 3: Quotations About Availability (Center)

Quote	Emerging Insight
After harvesting, we try to keep a part so that the insects do not infect the Stock reserved for sowing. (Prod1)	Because sowing material available on markets is expensive and of fluctuating quality, producers try to store a part of the harvest for next season.
I think that stocking is the best method. Because at the time you go sown it's more expensive. And you may not have enough money to buy it. (Prod3)	
As we are used to the production of KG. We are stockpiling stocks for planting the next season. In this case, we are going to the market to get some as the sowing time approaches (starting in June). (Prod4)	
Conservation at home is done by drying and then I stokes them in 25L cans. Each time the sun comes out I bring out the cans. So heat prevents pests from growing in cans. (Prod5)	Producers store seeds in plastic cans to prevent pest attacks.
So we do everything possible to sell the whole product before the party. (Prod5)	To avoid post-harvest losses, producers sell entire harvest in December.

Appendix C

Table C 1: Quotations Illustrating Awareness (North)

Quote	Emerging Insight
Because I have not seen her here in Kalalé since I arrived. (Con5)	Consumers in rural areas got into contact with KG when travelling to the south
The KG I heard talk about, and I was lucky enough to taste it during a few gala evenings (in the south). (Con6)	
It is eaten during events, or holidays at home. (Con4)	KG is consumed during festivities
...it is the approach of the holidays that I buy it. (Con3)	
I do not know anything about its nutritional value. (Con3)	Respondents in urban areas do not possess much product knowledge
No it's only the yellow I know. (Con4)	
But I do not know where it happens, I buy it at the market. (Con3)	
No, I do not know about its nutritional value, I just know that it is pleasant to taste. (Proc4)	

Table C 2: Quotes Regarding Acceptability (North)

Quote	Emerging Insight
People are still eating, just that the demand has dropped because of the cost to raise in the market. (Proc4)	Because KG become less affordable, demand is decreasing
Customers do not come so much anymore. So we do not take too much risk too. (Tra5)	
Yes, it gets expensive as the holiday season approaches because everyone is consuming it, I like it. (Con3)	KG is an aspired luxury product
I love it because of its taste. (Con3)	
Yes, all the time, because they like to eat with either rice or macaroni, or even alone. During the end of the year period, KG is doing well. (Proc4)	Demand for KG is still strong

Table C 3: Quotations About Availability (North)

Quote	Emerging Insight
I ask here in Parakou, where they send me Bohicon. (Proc4)	Processors purchase in the south to build stocks
It is not long, just in times of rupture that we go to the South to stock up. (Proc3)	

Table C 4: Quotes Describing Affordability (North)

Quote	Emerging Insight
$3.4 per kilo KG, elsewhere it is up to $4.2. (Proc4) (KG) is very expensive, around $5 per kilo. (Proc3) Usually it is often not so expensive, but this year and more precisely in the KG is expensive. We sell the KG at $3.4 per kilo. (Tra5)	KG more expensive in the north than in other zones

Appendix D

Table D 1: Brief Description of Interviewed Experts

Respondent	Gender	Function
Expert 1	Male	NGO Coordinator
Expert 2	Male	Researcher
Expert 3	Male	Researcher
Expert 4	Male	Project Coordinator
Expert 5	Male	Researcher
Expert 6	Male	Researcher
Expert 7	Male	Researcher

Appendix E

Figure E 1: Picture of true and "fake" Kersting's Groundnut. Picture taken by the Author (Benin, 2018)