

FACTORS OF SUCCESS AND FAILURE
OF LARGE AGRO-ENTERPRISES
(PRODUCTION, PROCESSING AND MARKETING)

A PILOT STUDY IN GHANA

RESULTS OF CASE STUDIES IN THE
FRUIT, MAIZE, AND PALM OIL SUB-SECTORS

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List of Abbreviations

AGI	Association of Ghana Industries
AGOA	Africa Growth and Opportunity Act
CSIR	Council for Scientific and Industrial Research
CSR	Corporate Social Responsibility
ECOWAS	Economic Community of West African States
EDAIF	Export Development and Agricultural Investment Fund
EIA	Environmental Impact Assessment
EPA	Economic Partnership Agreement
ERP	Economic Recovery Programme
FPMAG	Fruit Processors and Marketers Association of Ghana
GEPC	Ghana Export Promotion Council
GHG	Green House Gases
GIPC	Ghana Investment Promotion Centre
GIZ	Gesellschaft für Internationale Zusammenarbeit (German Agency for International Cooperation)
GOPDC	Ghana Oil Palm Development Company
ISSER	Institute of Statistical, Social and Economic Research
LSLA	Large Scale Land Acquisition
MOAP	Market Oriented Agriculture Programme
MOFA	Ministry for Food and Agriculture
PPP	Public Private Partnership
SSA	Sub-Saharan Africa
SSP	Structural Adjustment Programme
WTO	World Trade Organisation

1 Rationale

In recent years there has been an increasing interest in large agro-enterprises in the agricultural sector of developing countries. The drivers of this trend are manifold, the most important being:

- high prices for agricultural products and the widespread expectation that they will remain so because natural resources are getting scarcer while global consumption is still rising;
- globalisation of agricultural markets and trade liberalisation which opens up new trade avenues for international players;
- increasing standards and regulations including traceability from field to fork for ever more sensitive consumers in rich countries, favouring larger players in food value chains;
- changing consumer preferences in developing countries through urbanisation and income growth leading to “supermarketisation” of food markets as well as quality and food safety concerns which follow rich countries;
- technology and management developments at the farm and processing level which create economies of scale in sectors which previously were rather favouring smaller family farms;
- changes in financial markets which favour real estate and hardware investments;
- fears for national food security which bring governments on board to foster self-sufficiency and supplies from abroad under (partially) own control, often by supporting agro-business;
- concerns of large agro-businesses for their long-term raw material supply in times of high prices and new competitors;
- new business opportunities through government interventions in energy and carbon markets to produce bio-energy and carbon sinks with advantages of scale.

Most of these drivers have quite robust fundamentals, thus the push of large agro-business is likely to continue (Jaffee et al. 2003, DFID 2004, Louw et al. 2008, UNIDO 2009, OECD / FAO 2012, FAO 2012, Heumesser / Schmid 2012).

The increased entrance of large players into the agricultural sector is not only happening in advanced and emerging countries with relatively well functioning markets, governance and rule of the law, but also in poor countries where these conditions are not given. Sub-Saharan Africa (SSA) is particularly concerned because it has the largest underutilised (and often cheap) agricultural resources (supply argument) and some of the fastest growing economies and populations in the world (demand argument). In addition, SSA agriculture is increasingly well connected to the world market.

SSA agriculture and agri-value chains are generally characterised by smallholder farming, small and informal processing and trade, low capital and technology use, low productivity and market as well as governance failures. Exceptions are some classical export (colonial) sub-sectors where large structures have persisted (Jaffee et al. 2003). The massive entry of new Large Scale Land Acquisitions (LSLAs) and large agro-processors poses serious challenges, as the worldwide debate on “land grabbing” illustrates (Deininger / Byerlee 2011, De Schutter 2011, FAO 2012, GRAIN 2012, Anseeuw et al. 2012, ILC 2013).

How large and small scale agriculture and agro-processing compete or harmonise with each other is far from evident. There is a long history of discussion about optimal farm size, and whether small scale farmers are more or less competitive than larger ones (Schulz 1964, Collier / Dercon 2009, Hazell et al 2010). In contrast, it is more evident that in food processing and marketing economies of scale play a larger role which explains the concentration of large players in these segments of the food value chains (Louw et al. 2008, UNIDO 2009, UNCTAD 2009, Yumkella et al. 2011). Yet, there are different degrees and patterns of concentration worldwide, and in developing countries the majority of the food chains are still dominated by small players. The question of “best” or “appropriate” scale entire value chains (production, processing and marketing) are even more complex, since they transcend comparative advantages of individual entities and are co-determined by value chain linkages. At times, scale in production may be linked to scale in processing, but this is not necessarily the case. In fact, it depends on products (perishability, bulkiness, special and intrinsic characteristics), processes (economies of scale and scope, by-product integration, fixed costs particularly of processors) and markets (bulk and size, formalisation, export orientation, fixed costs, minimum size, reputational risk of seller) whether a closer integration is more prone to be successful than an open market regime with anonymous exchange of goods. Asymmetries of power, of information and of business alternatives also play a role about what kind of business model (between isolated players and integration) will evolve.

Some hopes for development are linked to the presence of the new large actors (Brüntrup 2010, summarising findings in the literature cited above):

- They can bring in dearly needed capital which neither smallholders and informal enterprises have nor banks and governments are able and willing to inject into informal and small scale businesses;
- They have access to more lucrative formalised markets, both in-country and abroad, which are hardly accessible for smallholders, processors and traders due to high requirements in terms of standards and regulations and costs to fulfill and to certify them;
- In addition, they are often the only ones able to supply the necessary quantities reliably and in time needed by large retailers and other actors further down the value chain;
- Agro-processing often has more important economies of scale than agriculture; thus, as spear-heads in their market segments they can show what is possible and what is not, and others can potentially learn from their experiences;
- They are hoped to provide stable, well-paid jobs in the formal sector for both unskilled and skilled labour;

- They can constitute important demanders of local inputs and services, animating the rural downstream industries;
- If they work with smallholders as outgrowers, hopes are typically strong for spill-overs in the form of credit, inputs, technical advice, experience, managerial know-how, services and others, and to provide a stable market and attractive prices for farmer products;
- It is often assumed that a part of the infrastructure that they create for their own purposes is useful for others, too;
- They are usually expected to pay for social infrastructure and services in the rural areas in the framework of Corporate Social Responsibility (CSR) programmes or as part of the compensation to rural populations which lose out due to the investments, e.g. through loss of land, access to natural resources, contamination or other negative side-effects;
- Finally, some see them as powerful political voices of the sub-sectors they are operating in, defending the interest of smaller, often unorganised competitors.

On the other hand, negative consequences of large players are abundant and visible worldwide in the literature on land grabs (see above). The emergence of large business companies in agriculture and in related backward (credit and finance, seeds, inputs, machinery, construction, advice) and forward (storage, processing, trade) linked sectors creates structural disruptions in agricultural markets hitherto dominated by informal, small to medium size actors (farmers, processors, traders and their workers). It may have massive negative implications for local and national poverty and food security and can create strong social and political tensions. Typical concerns are (De Schutter 2010, Brüntrup 2012 in addition to the literature cited above):

- Smallholders and small processors are squeezed out and rural livelihoods are weakened or destroyed (“land grabbing”);
- Concentration of market power and suppression of informal trade reduces informal sectors which are the backbone of poor people’s livelihoods;
- Large landholdings destroy the environment by creating large monocultures, applying agro-chemicals more easily and extensively than smallholders;
- Creation of structural change into non-desired pathways (high-input agriculture and global value chains);
- Creation or increase of conflicts in rural areas.

While the list seems to be shorter, the critics of large scale farming and agro-industry are much stronger and louder than their supporters. In fact, the evidence of many serious negative consequences of such investments has made it into the top news of all media worldwide.

An issue which is yet much less examined and regarded is the fact that many of the large agro-investments including LSLAs do not work properly. Policy and research attention has been largely oriented towards the process of land acquisition per se. The fact has been neglected that failure of agro-investments also creates important problems on their own. They throw local populations, which had to abandon or change old livelihoods and often rely on

jobs, income and service upon the investor, into new problems. After a collapse, they have to find a new basis for livelihoods, while often their old resources (land, water, livestock, nature products) are no longer or not yet available. If local structures such as alternative credit, input and service-supply have been neglected or suppressed, they will take time to re-emerge (if at all). Social investments, often linked to (or at least promised by) large investors in rural areas, do not materialise or cannot be continued. The uncertainty about the future of large investments creates uncertainty in many consecutive decisions and whole regions. Social unrest can spread, authorities who had defended or supported the investment will lose reputation and power, and government can be forced to pay for attenuating the impacts. Finally, the whole process of agro-industrialization will be damaged and future investors, governments, banks and local populations discouraged to accept such risks, to the joy of its critics but, in addition to the described damage, with the risk that necessary structural changes will not be financed anymore and African agriculture increasingly disconnected from ever changing agricultural markets.

The sheer size and dynamic of the emergence of the new large private actors in SSA agricultural markets and their potential impacts on food security, poverty, conflicts and political instability merits thorough investigation, and most likely regulation and supervision. It is evident that their anchorage in the rural economies and in formal markets at once makes them distinct from many other investments, that stakes are very high in terms of potential negative impacts, and that therefore this class of investments requires much more care than investments in most other sectors. The potentially important impact of both successful establishment and of failure makes it important to understand what determines the success and/or failure of large agro-enterprises. One would like to be able to eliminate or discourage those which are unlikely to succeed and to select those who are viable and have a realistic capacity to induce pro-poor and sustainable agricultural growth. It would also be important to understand the support that they need, to avoid risks of failure and to prepare for managing failures. Understanding factors of success and failure will help to design appropriate regulatory and support instruments.

The aim of the study is to contribute to the knowledge about the factors leading to the likelihood of success and/or failure of large-scale agro-investments and derive recommendations for policy makers, donors, local populations and other stakeholders on how this knowledge can be used to better handle large-scale agro-investments. The guiding question was: What are the factors of success and failure (or challenges) of large scale agro-enterprises in Ghana?

In particular, potential investors and their supporting organizations are one target group of the study. The results should help them to assess whether they have not only included the factors for technical feasibility but also sufficiently taken into account the complex, complicated and difficult factors of the particular social, policy and institutional environment prevailing in the agricultural sectors and rural areas in SSA countries.

The Ghana Study is intended as a pilot. It was commissioned by the Deutsche Gesellschaft für

Internationale Zusammenarbeit (GIZ), sector programme Agricultural Policy and Food Security, and supported by its Ghana Market Oriented Agriculture Programme (MOAP). It shall serve to elaborate a more generic methodology to expand this exercise to more cases, other sub-sectors and other countries. Therefore, lessons learned from the test case have to be carefully collected, reflected and used to overhaul the initial methodology.

2 Methodology

The starting point for the elaboration of the methodology was the development of a holistic model of the factors contributing to the competitiveness of an agro-enterprise. The reasons for failure and success can be manifold, internal to the investor (motivation, knowledge and know-how, financial capacity, ability to act in a difficult environment, patience, ...), in relation to the actors on which he/she depends (contract farmers, workers, local and national authorities, suppliers, advisors, political patrons, ...) and to the larger environment (prices and their erratic movements, infrastructure, trade policies, labour regulations, international treaties and movements including anti-LSLAs). A comprehensive model was searched for that would be able to accommodate and classify these factors in any easily readable way easy to translate into policy recommendation domains (see Chapter 2.1).

Next, an attempt was made to establish a consolidated list of large agro-investments based on available information in the country. Various lists were collected, compared and collated, with additional information gathered through internet research and key informant interviews (see Chapter 2.2).

Originally, one option had been to select sub-sectors and case studies guided by that consolidated list through a more or less stratified random sampling (stratification of sectors, then random sampling of failed and successful enterprises). However, due to data and time constraints and considering the experience of other researchers that it is difficult to get access to open dialogue with such actors (at least requiring much longer time), it was decided to select primarily according to personal and professional direct linkages to agro-entrepreneurs of researchers and supporting GIZ staff from the MOAP. Three sub-sectors were selected for better comparison of individual enterprises: fruits (pineapples, mangos, etc.), maize, and palm oil (see Chapter 2.3).

In-depth semi-structured interviews were then conducted with about one dozen entrepreneurs. It served both to understand the particularities of the enterprise and its place in the value chain, and to collect the entrepreneurs' opinions on the challenges of the enterprise and its environment in general. More interviews for triangulation and a further understanding of the business environment were carried out with persons or groups involved in agro-processing. In addition, a questionnaire was developed for a quantitative follow-up, ranking external factors that affect agri-business (see Chapter 2.4). The analysis and compilation of findings was done according to salient issues, structured by the model (Chapter 3). Since it is a pilot study, experiences with the preliminary instruments and results have been used to further improve

the methodology and its instruments. The attached interview guideline and questionnaire are revised editions of the various test versions.

The work was carried out between January and March 2013 in Ghana in collaboration with staff from GIZ's MOAP and the Institute of Statistical, Social and Economic Research (ISSER) - University of Ghana.

Some further details of the methodology are provided in the following Sub-Chapters.

2.1 A simplified model of systemic competitiveness for agro-enterprises

A stylised version of the model of systemic competitiveness underlying this study is shown in Figure 1. It was chosen to bring together two perspectives of the enterprise and the sector development which are often separated but which were deemed incomplete on their own when looking at the factors of success and failure of large agro-enterprises:

- The internal perspective, which looks at the individual capabilities and capacities of businesses, their skills, financial means, market networks and other characteristics that an individual enterprise needs to survive and thrive. Support measures derived from this perspective are typically enterprise capacity-building, training, and targeted financial, technical, marketing and managerial support.
- The external perspective, which looks at factors beyond the reach of the individual firm but which influence some or all firms, thereby their individual competitiveness and finally the competitiveness of a sector and of the economy as a whole. This perspective is for instance represented in doing-business-surveys which provide systematic indicators of important dimensions of the regulatory environment as they apply to local firms. The annual World Bank doing-business-survey, for instance, provides quantitative measures of regulations for starting a business, dealing with construction permits, getting electricity, registering property, getting credit, protecting investors, paying taxes, trading across borders, enforcing contracts and resolving insolvency (World Bank 2013). Also, broader surveys of entrepreneurs' assessment of their experiences with the (regulatory and other types of) environmental factors such as the Global Competitiveness Index (World Economic Forum 2012) are part of this group of assessments. Measures derived from this perspective usually aim at improving the macroeconomic environment of businesses including general facilities for all enterprises.

In addition, some other considerations were taken into account when designing the model and the methodology:

- One is to distinguish between entrepreneur and enterprise to highlight that in larger economic entities these two may be far from synonymous or closely related, in contrast to the typical cases of smaller entities such as small and medium enterprises or rural livelihoods (although these latter ones are also extremely complex consumption and production units, but under personal union of a person or household). In fact, enterprise and entrepreneur spheres in large enterprises may be only marginally overlapping. How exactly both interrelate, cannot be generalised. For instance, an entrepreneur may own one

or several enterprises, he may keep one or all of them on a short leash or give them far-reaching autonomy; enterprises may be linked through common flows of products or are isolated; skills and experiences may be pooled or not. However, it is more likely that the entrepreneur and his enterprise(s) have at least some things in common, for instance a common philosophy, financial ties (through mutual liabilities or the personal collateral of the entrepreneur) and use of common business networks.

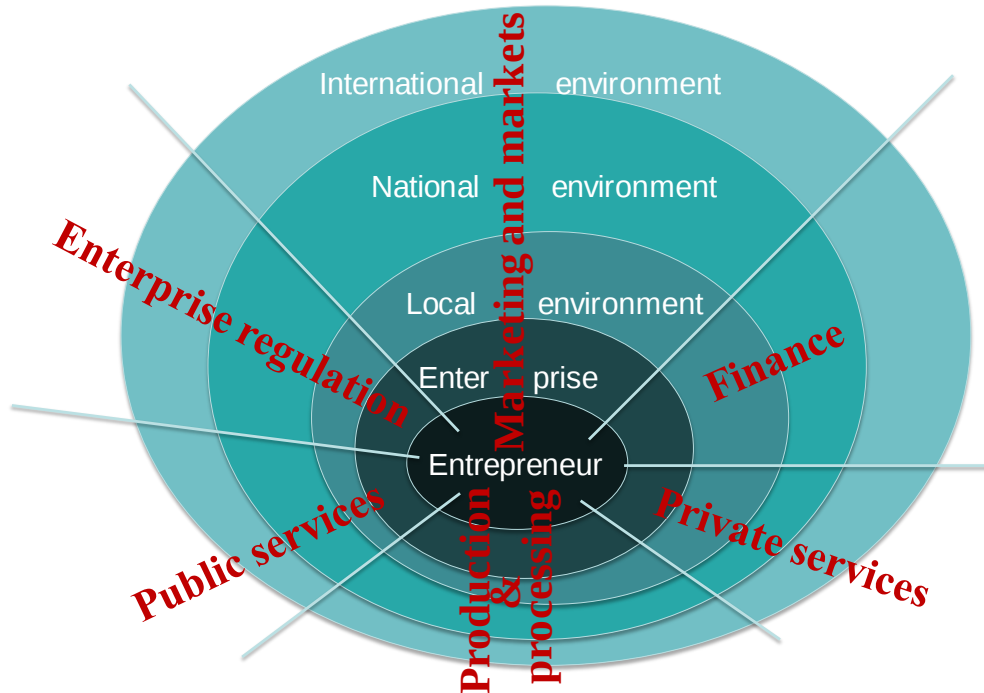
- As to the business environment, three geographic layers were distinguished – the local, the national and the international environment. This is to acknowledge that agro-businesses in rural areas (in distinction from those businesses which work with imported or easily traded raw materials detached from their production site) are often deeply embedded into and interlinked with unique and particular circumstances of the local environment, much more than other economic sectors which tend to be standardised by more or less uniform urban and macroeconomic settings.
 - The local environment is composed of the natural environment, local circumstances and the cultural particularities of a given rural area. Agro-enterprises are forced to adapt to these local conditions. Very often, policies and support measures by governments cannot be blueprints valid for a whole country, but have to be adjusted to local settings. Also local administrations play an important role in these adjustments.
 - International issues beyond the control of national governments play an important role for large agro-enterprises, either on their export markets or as competition on national markets. Since agricultural markets more than most other markets are prone to specific government intervention and regulation, these international factors merit particular attention.
 - The national environment in between local and international settings constitutes the main legislative environment for local issues. For instance, it does assign roles and capacities to local versus national administrations, and filters influences from the international sphere through trade, foreign investment and other policies. In poor countries, impacts of national policies both on the local level and to filter international influences are however often constrained by the limited capacities to effectively implement the respective policies.

From the perspective of agro-enterprises, the distinction of different geographical layers often makes sense, for example when negotiating administrative hurdles, addressing their needs or seeking for business support. For some factors important to large agro-enterprises the geographic distinction is less straightforward. Among others when it comes to non-farm input supply, finance or technology selection where large players often have widespread possibilities to overcome bottlenecks at the local or national level are clearly more widespread than small enterprises or smallholder farmers. As will be shown, these possibilities also have their limits.

- Finally, enterprises tend to consider the factors affecting their performance in the context of other types of thematic clusters, typically procurement, production, processing, marketing, finance, business regulation and macro-economic environment, which cut across the internal and external layers (red issues in Figure 1). Clustering these issues was

particularly relevant when designing the interview guidelines and questionnaire, since it proved to be more appropriate for the flow of an interview.

Figure 1 Schematic design of geographic and thematic clusters of factors affecting enterprise success and failure



The disadvantage of such an open model is that it is difficult to standardise. It is rather prescriptive in nature, which is, however, justifiable in light of the relatively low knowledge of the role of large agro-enterprises for rural development in poor countries (Da Silva 2011).

2.2 A (limited) consolidated list of large agro-enterprises in Ghana

Information from different sources was collected and fed into one central list of cases. Meaningful variables and limits (e.g. concerning the business size) were set, based on a literature review (World Bank / IFC 2012a, World Bank / IFC 2012b, Adjei 2012) as well as a discussion with local experts and consultants (Olivier Van Buynder; GIZ MOAP). The value chain approach of the GIZ was partially integrated into the project methodology, in particular by considering the relations between enterprises and their supplying farmers as essential for their success.

The following data requirements were identified:

a) Data sets on agro-processing companies, including the following variables:

- Size in terms of throughput (e.g. >100 for juice production and >50 kg/day for fruit drying plants)
- Type (farming or processing or both)
- Status (start-up, in operation, abandoned)
- Location of the processing factory
- Land associated to it (owned, leased, outgrower scheme) + location
- Personal contact (to have an access of trust and obtain good information)

The available data sets are listed in the Table 1 below:

Table 1: Data sets used to compile the list of large agro-enterprises

Source / Institution	Information included	Year of assessment	Type of assessment	Considered in the consolidated list?
Ministry of Food and Agriculture (MOFA)	Type of business, year of establishment, location (at least at district level) and status (still existing?).	2011	One time study	No. 4000 + cases without an indication of the company size. Individual investigation required and beyond the scope of this research.
Market Oriented Agricultural Programme (MOAP) (MOFA - GIZ)	Focus on certification status, but data on business size acc. to employees and location; complemented by personal additions from Paul Schütz (MOAP Programme Manager).	2011 2013 (Paul Schütz)	One time study without report. Personal consultation of enterprises.	Yes.
MOAP – List of Fruit Juice Producers	Fruit Juice Processors Companies. Contact details and business size in terms of employees.	2006	One time study. MOAP Intern.	Yes.
MOAP – Workshop with Fruit Processors	Workshop participation list.	2008		
GIPC (Ghana Investment Promotion Centre) (Governmental institution, inter alia for compulsory registration of foreign investors)	Registration of businesses with full address, activity and investor country (all foreign).	2006- 2010	Annual updates. Agro-businesses can register and benefit of the services. The GIPC has an annual review of their members/contacts, which are typically capital intensive. They also collect data via institutions such as the immigration department, where work permits are issued.	Yes. Foreign larger-scale investments.
GIPC	Company name, date of establishment, address, activity and location at least at	1994 – 2011	Annual updates. See above.	No. 220 cases, without an indication of

	district level.			size and operational status. Individual investigation required and beyond the scope of this research.
FPMAG (Fruit Processor and Marketers Association Ghana)	Fruit processor association, name and contact.	2011	Annual listing of their members.	No. Rather Small scale businesses registered.
AGI (Association of Ghana Industries - private trade association, registering agro-processors and agri-businesses)	Registration of businesses with full address, approx. activity.	2012	Annual revision of their members i.a.	Yes. Relevant medium and large-scale enterprises.

Essentially, the MOAP, the GIPC and the AGI data were entered into the consolidated data base. The list by MOFA did not provide any indication of the business size, and since over 4000 businesses were registered it was judged unfeasible to investigate the single cases. The FPMAG list typically contained small and small to medium sized enterprises and hence their cases were not included into the list of cases relevant to our project. Further cases have been added and could be matched with the MOFA data, provided that one of the key interviews or internet research revealed their suitability and relevance to our database. The information sources were of quite different quality and extent, so the data was leveled as far as possible through internet research and personal consultations. A visit to the regional FAO office (Benjamin Adjei) and the ministry of lands (land commission: Opoku Boateng) did not yield further data input on agro-businesses or land holdings either.

b) Data sets on land holdings and acquisitions, including the following variables

- Size (medium: 50-200 ha, large: >200 ha)
- Crops
- Location
- Personal contact

Data on land holdings and acquisitions was mainly provided by the land matrix, complemented by additional entries from some of the mentioned lists (in particular GIPC), findings of our field work and internet research.

2.3 Selection of case study enterprises

After completing the overview of cases, as far as information was obtainable, case studies were selected for an in-depth review. Experts consulted (Felix Asante, Paul Schütz, Olivier Van Buynder) advised us to focus on businesses in operation, since abandoned projects were difficult to analyze: The responsible persons were typically unattainable and reluctant to provide information, except if they had ambitions to return to the market, considering their close down as a temporary status. This assessment matches experiences from a team of DIE that tried to identify and interview large *Jatropha* farmers in Ghana (Kaplan / Van de Sand pers. comm. 2013). Focusing on businesses that were currently operational was considered more promising, since the managers could proudly report on how they overcame problems and risks, learning from their experience.

It seemed also decisive to have a personal contact to a business in order to obtain information of good quality and quantity. GIZ's MOAP has focused most recently on value chains for fruit processing (pineapples, mango, citrus), animal production (guinea fowl, grasscutters, aquaculture), chili and maize, thus was able to provide some of these contacts. Some of these businesses seemed attractive for a review in the scope of our project. Other contacts existed through the German Development Cooperation to the private sector (fruit and palm oil via DEG) and personal contacts of team members (fruit).

Jatropha seemed an interesting crop as well since it was the motor of much of the recent LSLAs in Ghana and is usually linked to a first step of processing. However, recent reports revealed that the businesses did not go far beyond the step of the land acquisition and a few plantings: Until August 2012, Biofuel Africa was reported to be the only company in Ghana that actually produced biofuel, but on a scale (yet) much smaller than planned (Ghana Business News 2012). Thus, there seems to be a systemic failure of business models for *Jatropha*. This is also reported from other SSA countries – hence this sub-sector is not yet ready to allow learning about long term factors of success and failure of agro-enterprises. Yet, given the hype that *Jatropha* has created and being a major driver of LSLAs in SSA, to gain a better understanding of the processes at work which have contributed to the rise and fall of *Jatropha* may be considered a rewarding research.

Maize, palm oil and fruits were finally chosen as focus crops for this research. Many of the known large enterprises in these sub-sectors combined some land acquisition with processing. Furthermore, due to time and resource limitations, geographic proximity was another factor for case study selection, restricting them to the south and centre of the country. The following enterprises were chosen as case studies (Table 2:):

Table 2: Interviewed Enterprises

#	Enterprise Name	Activity	Location	Comment
1	HPW Fresh and Dry Ltd.	Fruit drying	Adeiso	Personal contact to the factory manager and owner
2	Blue Skies	Fresh fruit cuts for Export, local fresh fruit juice production	Nsawam	Contact via HPW
3	Sunripe	Fruit juice	Nsawam	Personal contact to the factory manager via Tony and Olivier

4	Coastal Groves Ltd.	Drying orange peels and export. Past: Fruit Juice	Cape Coast	Personal contact and MOAP Currently largely abandoned
5	Kokoby	Fruit Purée	Kasua	Start-up phase. Contact via Sunripe
6	Agri Commercial Services Ltd.	Tomatoes	Wenchi	Personal contact
7	Yedent Ltd.	Maize Drying	Sunyani	Personal contact via MOAP
8	API	Fruit Juice	Accramang	Personal contact
9	Grain Leaders Ltd.	Maize Drying	Sunyani	Personal contact via MOAP
10	St. Baasa	Maize Drying, Palm oil production, Millet sorghum mixtures for export	Sunyani	Personal contact via MOAP
11	GOPDC	Palm oil production	Kwaie	Personal contact via DEG + ISSER

2.4 Methodology of case study analysis

In-depth semi-structured interviews were conducted with the eleven entrepreneurs (owners, except three where a managing or a technical director was interviewed). Recent experiences from private sector studies at DIE (Reeg, Altenburg, Löwe, Hampel-Milagrosa, pers. comm. and DIE 2012), GIZ agricultural business climate in Kenya (Seelaff / Ruehl 2010) and a private agro-business initiative (EGB Capital 2012) were used as a starting point in developing the methodology. A semi-structured interview guideline with open and closed questions was developed and used with the first five enterprises; a revised version was then administered to the rest. It served both to understand the particularities of the enterprise and its place in the value chain, and to collect the entrepreneurs' opinions on the challenges of the enterprise and its environment. In addition, the mentioned GIZ agro-business climate questionnaire (Seelaff / Ruehl 2010) was adapted for quantitative follow-up of ranking of external factors affecting agri-business and tested with one entrepreneur.

Additional interviews for triangulation and further understanding of the business environment were carried out with about 25 persons or groups. The first of these interviews constituted an important input to the development of our interview guidelines, to be used for the case studies yet to be chosen. In subsequent weeks, additional interviews were conducted with key informants and selected farmer groups. All interviews provided important additional and supportive indications of possible factors for success or failure of agribusinesses in Ghana and allowed to better understand their situation. The following stakeholders were consulted:

- GIZ Market Oriented Agricultural Programme - MOAP (Paul Schütz, Uwe Ohmstedt, Bashiru Fuseini, Mark Fynn, Kofi Biney)
- MOFA (Nicholas Kpormegbe)
- Institute of Statistical, Social and Economic Research – University of Ghana, Legon (Prof. Felix Asante, Felix Agyei-Sasu, Dr. Martha A. Awo)

- Consultants (Olivier Van Buynder, Rob Moss)
- Processors (HPW: Maik Blaser, James Obeng; API: Askhar Naaman – test run of our questionnaire, others as listed in table 2 above).
- Farmer Associations (Fotobi in Nsawam, groups of farmers around the enterprises Grain Leaders and API)
- Bankers and financial institutions (Andreas Voss, German Investment Agency DEG; Mark Owusu, Outgrower and Value Chain Fund; Frank Enyimayew, Export Development and Agricultural Investment Fund EDAIF);
- Donor agencies: (Kofi Atta Agyepong, German Development Bank KfW; Maria Tekülve, German Embassy and German Ministry for Economic Cooperation and Development; Alabi, World Bank and MOAF; Bart Missinne, European Union)
- FAO office (Benjamin Adjei)
- Ministry of Lands (land commission: Opoku Boateng)

Finally, a presentation of preliminary findings was given at MOFA on February 28 with about 20 representatives from the ministry and donor agencies. The lively and constructive discussion gave further inputs into the study and showed where arguments needed to be reconsidered and sharpened.

2.5 Strengths and limitations of the pilot study

The pilot study was to some extent a search for the right methodology: to get a feeling how to identify and address large enterprises and their owners, how to interview them in a mixture of open and standardised questions and how to consolidate their answers without losing the specific attention that each of them merits. Due to a strict deadline for the project and the limited time in the country, some challenges had to be tackled and some limitations must be acknowledged.

Strengths

- In-depth entrepreneur insights: It was possible to conduct a series of very open and productive interviews with owners of large agro-enterprises rich in detail and in confidential insights. This was possible because the study relied on case selection according to personal and institutional contacts. The long-term support of GIZ Ghana and of personal relations of members of the study team to some of the sectors and actors proved to be very instrumental to gain this access of confidence.
- Good use of interview time: Only few addressed persons denied an interview, and those who accepted devoted between 1 ½ and 2 hours to the interview. Given that the time between the selection of the sub-sectors and the end of the empirical phase was only 2 weeks, 11 in-depth interviews with entrepreneurs must be considered a success on its own, taking into account that the time of these persons is scarce and costly, and there is widespread skepticism if not open aggressive opposition towards these forms of

entrepreneurial engagement as a part of the international development community which makes finding interview partners problematic.

- Systematic fact findings: The semi-structured interview guidelines - adjusted after the first three interviews - proved to be relatively systematic and well adapted to a good stream of questions and answers. This was considered important since a standard questionnaire interview had been deemed inappropriate with these personalities, who are used to steering conversations instead of being steered. In addition, the open-ended questions left enough room to add issues or to block deviations too complicated to be followed in the limited time. Some closed and fact-finding questions allowed for the collection of some comparable “hard” facts.

Limitations

- Incomplete lists: It turned out that many lists of agro-enterprises exist for Ghana, but all are incomplete and not updated. Typically, they lack important information such as size, location, or status of execution. For specific sub-sectors, more complete lists may exist, typically funded by a donor project, but these are only valid for a given point in time and are not regularly updated. We are very aware that the list that we have produced is not complete and up-to-date, either, for instance for sub-sectors such as cashew (more exist than in our list) or jatropha (all or most in the list seem to have stopped). Without a regular national endeavour to collect this data, no statistically sound research can be executed and no up-to-date monitoring and follow-up of the activities of large (or, for that matter, small) agro-enterprises is possible.
- No complete failures interviewed: An initial idea of the project was to compare success stories with failed enterprises within a given sub-sector. This idea was not followed for two reasons: The available lists did not allow for advanced knowledge of the enterprises which were successful or had failed. Given the short time, it was instead decided to look for enterprises which were known to exist and with which a personal relationship allowed for easy contact. It showed that most of these enterprises had gone through periods of crisis which could easily have turned the successes into partial or even complete failures. Often, only a lucky chance and coincidence decided between success and failure, often projects were heavily thrown back, and sometimes the periods of recovery were very long (up to five years). In such cases, an interview some years ago would have been considered as failure while presently it was a success. There is sometimes only a fine line or rather a continuum between both. However, there is certainly more to be learned from complete failures, but it needs more time and thorough investigation to identify cases, appropriate interview partners and get their confidence to talk openly about them.
- Purposeful selection: Due to time constraints and strategic consideration, the selection of sub-sectors and case studies was done by personal and institutional contacts, not by random selection. This may have increased the number of interviews with entrepreneurs, but the degree to which these results can be generalised is limited, in particular if it comes to specific types of large agro-enterprises such as cooperatives or very large land-holdings for which we have no or only one case respectively in our sample.

- **Limited triangulation:** Another idea of the initial project design was to triangulate key information received from the entrepreneur through interviews with other stakeholders, e.g. bankers, farmers and farmer groups, administration, local chiefs and key resource persons. This would have used considerable time and resources for each case. This approach was only partially carried out due to time limitations, and the prospect to interview more entrepreneurs was given preference over checking the validity of information. After all, the key factors of success and failure were deemed to be relatively well addressed in the confidential and trustful interviews with entrepreneurs. For a better understanding of local impacts, however, and in case of real failures the initial idea of sound triangulation would have to be taken up again, since these issues tend to provoke information gaps and wrong accusations. It must, however, be realised that it can be very difficult to get consensus on the controversial and personalised perspectives of many stakeholders on such large enterprises which typically stretch over many years of ups and downs and affects many diverse informants.
- **Semi-structured questions, no detailed check of external factors:** The interviews concentrated more on the understanding of the individual situation of the enterprises, including internal factors, than on the systematic but time consuming scrutiny of all possible external factors influencing the enterprise. Here, for certain purposes a certain redress of the emphasis could be recommended (further discussed in Chapter 4.5). Annex 2 provides a partially modified interview guideline and questionnaire which could be used for that purpose.
- **No statistical significance:** The limitations mentioned above mean that no statistical analysis can be made, and that generalizations must be taken with care.

However, for the enterprises interviewed we think that the information collected provides very interesting and relevant insights into the challenges under which large agro-enterprises operate in Ghana, and some conclusions about how they could be better used and supported to foster rural and economic development in Ghana.

3 Findings

3.1 Large scale agro-entrepreneurs in Ghana

The project list of cases includes about 200 cases compiled from the data sources named and described above. As mentioned (Chapter 2.5), the list is not exhaustive and there are considerable data gaps, despite the extensive internet research and key informant interviews. There was no information on the current status of the LSLAs or enterprises for 160 cases. Fifty were confirmed to be in operation, 5 were still in the start-up phase, while only 5 were confirmed to be abandoned. There is a natural difficulty to trace abandoned enterprises, since there are usually no reports on businesses that leave or left the market. Often, such projects lack capital, and owners search for fresh funds and partners, or sell the project remainders to

new operators. As our interviews show, sometimes such processes can take up to several years. In this time, high uncertainty particularly about land rights exists, while other property risks are less delicate. This confirms an underlying hypothesis of the study that large agro-investment failure constitutes a high risk for rural development.

Among the listed cases, 50 are in pure farming, 58 in processing and 79 in both. This relation demonstrates that many processors are backing up their business with an own production of raw materials. Being both in processing and in farming seems to be a strategy for securing inputs on the one hand, on the other hand this dual strategy permits a perfect insight into production costs for their raw material inputs (including for negotiation with contract farmers). This permits an improved communication with their suppliers.

An analysis according to crop types reveals that most enterprises in our list are fruit processors, pineapple being the major crop. Also, jatropha, maize and oil palm seem interesting crops for large scale production and processing, but a lot of the listed cases were in fact abandoned or their operation could not be confirmed. Jatropha was especially associated with large scale foreign land acquisitions while most of them seemed to have abandoned production or never even started it (see above). There were a range of medium to large scale maize processors (drying and milling), supplied by smallholders or by the local market (e.g. in Techiman – Brong-Ahafo Region), but there were no classical examples for producers associated with large scale land acquisitions. According to some informants, several jatropha producers or their successors have or want to switch to maize production, but the extent of implementation remained unclear and certainly not much advanced. Many businesses do not only produce one crop, but multiple ones, as a strategy of diversification which was also confirmed in the case studies (see Chapter 3.3.2). Table 3: provides an overview of the number of cases according to crops.

Table 3: Number of large agro-enterprises of the consolidated list, and crops grown

Crop	# of businesses registered	Of which: Multiple crops	# of businesses, in operation (status known)
Jatropha	22	2	1
Maize	10	6	5
Oil Palm	18	7	6
Sorghum	1	1	1
Millet	1	1	1
Cassava	2	1	1
Rice	2	1	1
Cashew	3	2	NA
Spices	3	3	1
Fruits	71	36	
Pineapple	42	16	14
Mango	11	10	5
Orange	8	7	6

Passionfruit	2	2	2
Banana	3	1	3
Papaya	3	3	3

In grey: sub-sectors (value chains) selected

Agriculture plays a dominant role in the developmental impact of foreign investments and investments more generally. Looking only at investments registered with GIPC, agriculture absorbed only 1 percent of funds (5 percent of projects) but promised 68 percent of expected employment (Liu et al. 2012).

3.2 Brief overview of selected sub-sectors

Maize

Maize is a key Ghanaian staple and also a major component of poultry and other livestock feed in Ghana. It thrives well in almost all the regions in Ghana. But it is largely cultivated in the Northern Region (Tamale Areas) and the transitional zones of the Brong-Ahafo Region (Kintampo, Nkoranza and Wenchi areas). The Northern Region has one major season for maize cultivation whereas the Brong-Ahafo experiences two seasons; the major season and the minor season. The average national production of maize for the past five years (2007-2011) is about 1,573,200 tonnes with an average yield of 1.70 tonnes per hectare. The total value of production in 2008 was about US\$ 400 million . According to MOAP calculations, yields of 5 tonnes per hectare (1 cycle) are feasible. Domestic trade in maize and maize products occurs in all market centres of the country. However, major are the Bolgatanga market in Bolgatanga, Aboabo market in Tamale, Techiman markets in Techiman and the Abogloshie market in Accra. On the international front, Ghana exports maize in significant quantities to neighbouring countries in the West Africa sub-region. Greater quantities of yellow maize which are used to support the livestock industry are imported from the Americas and the Asian continent (WABS Consulting Ltd 2008, Grosse-Rueschkamp et al. 2011).

Fruits

Fruits have become one of the important type of crops in the national basket from the onset of the promotion of non-traditional export. Six major fruits, namely; pineapple, banana, mangoes, pawpaw, oranges, and lime/lemon are mostly cultivated in the southern belt of Ghana. In 2011, these six fruits alone provided Ghana with a total of about US\$37.8 million in export value. Pineapple is one of the five major non-traditional export earners. The establishment of the Integrated Tamale Fruit Company in the Northern Region has led to the inclusion of the region as an export orientated fruit producing region. On the domestic market, exotic fruits which are not produced specifically for the export market and those that did not meet export requirements blend with local fruits at market centres throughout the year. They are usually sold at a designated market place or on the sides of major roads. There are a number of fruit processing companies under the Fruit Processors and Marketers Association

of Ghana (FPMAG). Fruits have become very much of essence to the international market and processing companies when they are in season.

Palm Oil

Oil palm, from which both palm oil and palm-kernel oil are obtained thrives very well in the southern rain forest zone, specifically in parts of Western, Eastern, Central, Ashanti, Volta, and Brong-Ahafo Regions. Currently, Ghana has a total capacity of about 305,852 tonnes of oil palm plantation with more than 80 percent being cultivated by private small-scale farmers. Large scale oil palm estates which are either multinational or jointly owned companies exist. Some of these are Ghana Oil Palm Development Company (GOPDC) Ltd., Twifo Oil Palm Plantations (TOPP) Ltd., Benso Oil Palm Plantations (BOPP) Ltd., Norpalm Ghana Ltd., Juaben Oil Mills, Ayiem Oil Mills, and Golden Star. Most of these companies double as oil palm producers and processors. Ghana produces an estimated 243,852 tonnes of palm oil with a deficit of about 35,000 tonnes of demand being unmet according to MOFA. Domestically, palm oil produced is used to feed Ghanaian-based confectionary and food producing industries such as Unilever Ghana. At the household level, palm oil is used as cooking oil. Palm oil from Ghana is also exported across borders to other African countries and even as far as China (MASDAR 2011).

3.3 Factors of success and failure

In the following, important factors critical to the enterprises that emerged in the interviews are described following the layers of the analytical model (Chapter 2.1). Some factors are found in more than one layer, due to the multi-layer nature of the factor (e.g. regulation) or due to multiple ways to deal with these factors (e.g. do most companies produce their own electricity and water due to deficiencies of local and national facility providers) which is in turn often due to deficiencies at national level.

3.3.1 Entrepreneur

Personal characteristics

Eight of the 11 persons interviewed in this study in Ghana agro-processing could be classified as the entrepreneur. The other three interviewed held managerial positions but were not the owners. It was clear that each one was a dynamic character with a vision of what he or she expected to achieve through the business. The characteristics of an entrepreneur include those of a calculated risk-taking individual, with realistic goals and a plan on how to achieve them, self-belief and with it the fearless approach to entering a new environment.

A trait to be highlighted in particular is social competence. Several entrepreneurs and also financial experts argued that in the particular social setting of rural Ghana, where workers, contract farmers and local dignitaries are not used to formal contracts, business relations and

industrial worker behavior, it is extremely important to find a good approach to people. This may be a patron or an equitable relation, but it is important that it goes beyond formalities and displays empathy. This form of social competence should focus on trust and good cooperative attitude between the farmers and the investor. Most contract farmers would only stick to their terms of reference when the investor continues to provide his inputs which the local farmers deem appropriate and keep trust (compare Chapter 3.3.3).

Business exposure

Several of the eleven entrepreneurs had had previous exposure to the businesses they established either through direct employment previously in that business or by exposure to a business environment in which they had learnt respective business principles. The entrepreneurs who had established businesses which were functioning and operating regularly and continuously had already selected marketing channels or had obtained credible customer contracts. The philosophy and business approach of one informant was “first establish the customer base; make your plan - planning is essential- establish a good management system (for all the elements of the business) and employ a fearless manager”. The entrepreneur then becomes detached from the day-to-day management of the business and can concentrate his/her energies on the task of steering the company in the right direction. However, there are also experiences where the (national) entrepreneur failed to create new opportunities (Box 1).

Box 1: Client assessment – difficulties of sales on credit
In 2011 the entrepreneur embarked on a marketing exercise whereby fruit juice was sold to customers on credit. Payback on these orders was exceptionally low, so the business was running into cash flow problems and the factory closed for 6 months. There was a consequent re-arrangement of the administrative and managerial aspects of the business and it managed to recover. Greater emphasis is now placed on contracts and sales on credit no longer exist. This person remarked that disrespect of contract was common among many of her customers and terms of invoice payment were frequently ignored with long lag-times for payment.

In a few cases the entrepreneurs had no previous exposure to the business they were attempting to engage in. Some were lured into the business by an unexpected opportunity such as the perspective of a credit line (see Box 2) or a market (Box 4). These businesses seem to have been much more precarious, and several had gone through very difficult times.

Box 2: Lack of entrepreneurial foresight and buffer capacity in the start-up phase
Due to the arrangement of a foreign government with the Government of Ghana, a low-interest facility was available but with the condition that equipment was purchased from the external country. This offer was tempting and the businesses examined took advantage. Once the equipment arrived at the port, no more funds were available to transport it to the site and to install it, not to mention purchasing raw material. It took 5 years to get additional credit, but by then the equipment had substantially suffered in the containers and had to be overhauled at high costs. Several other entrepreneurs who received credit from the same credit line were reportedly bankrupt.

Personal access to credit

Most individuals had access to finance (either personal or through credit extension institutions) for either establishment of the businesses or to continue operating viably (compare Boxes 2 and 3). Availability of affordable business funding was mentioned as an important problem. Since common assets of a Ghanaian enterprise are often not acceptable as collateral for banks (see Chapters 3.3.2. and 3.3.3), personal collateral is a key for business, both during start-up and during operations.

Box 3: The need for enterprise-independent access to credit

One company had been operating for just over a year. The original business plan, although considered sound, had underestimated the amount of space required to store raw material supplied by farmers. This problem was realised very soon after the plant was commissioned. It was essential that this was rectified immediately. At the same time, the back-up generator for electricity supply had failed and could not be fixed quickly. These two events had the effect of severely disrupting operations. Cash was immediately required for purchase of a new, reliable generator and for building works. Banks were approached for credit but the interest rate of 22% was too high to make it serviceable and therefore non-viable. Additionally, the time and administrative hurdles necessary to obtain the loan made it impossible for the company to continue. Only an immediate loan from an associate company loaned at an inter-departmental (cost-based) service charge enabled the company to survive and flourish. It was clear that had this loan not been available the company would not have survived.

In another case, an unforeseeable interruption of the export market led to a total collapse of the cash flow (compare Chapter 3.3.5). Only personal collateral provided by the entrepreneur, supported by his network of other enterprises, saved the enterprise from bankruptcy.
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Political connectedness

A key success factor of agro-enterprises tied to the entrepreneur was access to political and business networks whereby information on credit facilities, rival business proposals and likely obstacles to business were easily identified. This could for instance warn an investor of upcoming programmes, Public Private Partnerships (PPPs) or investments that (unfairly) compete with his or her business, and give an opportunity to influence the outcome.

It was also clear that over-reliance on political influence was a risk factor in the long-term as governments can change and with it the personnel with access to influential information. More generally, the obvious downside of political influence in designing economic programmes is that such behavior can also obstruct fair competition and finally jeopardize their success (compare Chapter 3.3.4).

3.3.2 Enterprise

Specialisation versus diversification

Agro processors often need to specialise in one output. Such specialisation may offer a market niche that others have not exploited. Many of the enterprises have started with very specific

market in view (see Chapter 3.3.1). These markets were often specialised ones, for export, with high quantity or quality requirements, with clients who want to purchase large amounts in a short time and who do not want to mess with a large number of individual sellers. Cases in point are fruits and vegetables for export, fruit juice for local retail chains and with branded labels, maize for donor food aid programmes, palm oil for international suppliers. Also, specialised costly high-input production technologies such as improved tomato or pineapple varieties or grain seed production were specialized choices for some investors, notably because smallholder farmers were hardly able to produce them or finance their production.

However, specialisation can sometimes lead to overdependence on a solitary product which others may be able to copy at a more competitive price. Diversification is a way out and reduces vulnerability of enterprises against shocks in their served niches. Many enterprises opted for at least some diversification, for instance of crops (different kinds and combinations of fruits and grains), of products (fresh fruits, juice, canned products, optimal use of by-products), of target markets and clients (international and national). Though diversification of products may be enticing it may lead to sub-optimal use of resources. Also, the know-how that is available for one niche market may not be useful for another, diverting away from competitive advantages.

Since the enterprises are operating in formal markets, they face stiff international competition in each of their niches. A fine balance between options is required to ensure that the business is competitive and resources are used wisely.

Enterprise size and growth

A common mistake found in many businesses is to embark on a processing project ill-suited to the potential market. There are two elements of risk here. One is to set up a factory far too large to manage which is capable of producing a large quantity of product. The hope here is that just because the factory can make a product then there will be somebody prepared to purchase it. If the product cannot be sold as foreseen then it will be held as inventory, cash will not be entering the business, leading to insufficient cash to pay the operating costs. This cash-flow problem is a common reason for business failure (see below). It is a wise move to suit the size of the factory to the orders for the product already contracted and then to increase capacity as the business grows – “organic growth”. In several of the cases reviewed in Ghana this approach was adopted. These companies were operating at full or near-capacity. Some already had plans to increase the throughput of raw material by installing additional equipment.

Enterprises that did not pay attention to the right size experienced problems (see Box 4). Typically, the entrepreneurs were less experienced in the sector.

Box 4:	Factors for wrong start-up size
One entrepreneur started a business of supplying fruit juice materials to an airline at Accra airport. This person soon realised that the juice supply business had potential and arranged funding for obtaining	

equipment to start a fruit juice factory. Funds were realised from own resources, as well as other funds and from banks. The plant was supplied (with the equipment) in 2006 but took 9 months for commissioning due to unforeseen technical problems. The processing plant is capable of extracting juice from pineapples, mango, orange, banana, passion fruit and water melon. Capacity is around 35000 metric tonnes per annum of raw fruits. Currently, the plant is operating at 5% of capacity only.

In two other cases, due to the already mentioned low interest facility, the equipment supplied proved to be of a capacity which, if run at such a level, would prove to make markets difficult. Raw material also became a problem with the consequence that cash flows proved difficult to manage. Both the companies are now searching for additional loan facilities to fund the shortfalls. This is the opposite of organic growth and is a difficult situation to overcome.

Energy, water, waste - and integrated systems of their management

In Ghana, electricity supply can be sporadic and unreliable (compare Chapter 3.3.4). It is essential that a back-up generating system is installed and ready to switch on immediately in the event of interruptions in the supplied system. If this contingency is not installed the factory will find it hard to survive, and in fact all enterprises have installed such back-up systems. The cost of this back-up system, however, is high in terms of equipment cost and fuel use in operation.

Many agro-processors have a high need of high-quality water, for instance for washing of fruits and fresh products or soaking of grains. Water-borne diseases can quickly mean the end of an agro-processor. The palm oil processing plant for instance requires 45 metric tonnes of water per hour. The water supply in Ghana is not extensive (compare Chapter 3.3.4) and many rural-based processing companies need to extract water from boreholes for factory use. This can mean a substantial cost in terms of electricity consumed for pumping water. Additional treatment and constant quality control of the piped water has to be assured. User fees are also foreseen for such private uses of groundwater.

Fruit processing companies (producing fruit juice, fresh fruit cuts or dried fruits) generate large quantities of waste organic material. Organic material needs space, produces odours, and can contaminate water. Though disposal is less restricted and regulated in poorer countries than in more industrialised ones, it is a source of concern for large agro-processors in Ghana. These units are large enough to fall under the scrutiny of the Environmental Protection Agency (EPA) which requires Environmental Impact Assessments (EIAs), precautionary and cleaning measures, while smaller units are rarely on the radar of the EPA. For agro-processors of any size, effluent is the most frequent problem. Environmental requirements are particularly high for exporting companies if international standards require the enterprise to treat the wastes according to the higher standards of the export destination of exporting countries. This usually means higher costs for both the exported products as well as those for the local markets, since the latter cannot be treated separately. Waste-water management is being introduced to reduce the quantities of water required during processing operations.

Many companies have or are considering installing facilities for new environmental technologies. Particularly bio-gas seems to be a good solution for this type of enterprise (compare Box 5). These technologies are expected to solve several challenges at the same time: Reduce waste volumes and cost of removal from site, reduce green house gases (GHG)

production, protect water resources, produce electricity and process heat. Technologies are ready, but may have to be adjusted to specific conditions and products. They can be very costly in the required dimensions (for instance Blue Skies mentioned costs of more than £1.5 million) which constitute a severe constraint to their installation.

Box 5: Supplementary energy from waste through biogas

One company installed a biogas (methane) generator and solar PV panels to heat water immediately as part of its original business plan. All the waste material from the factory is shredded and placed in the biogas generator. Some of the waste material has a high acidity which can lower the generation of methane. Chicken manure is added to ensure optimal efficiency. Both energy sources are used to heat water held in a large storage tank. This water is used generally in the factory and, more importantly to be used in a heat-exchange system to produce hot air for fruit drying. The company estimates that 60% of the factory's energy requirements are supplied from these sources. An additional cost saving is the elimination of costs to remove waste from the factory site.

Cultivation on own land, and access to land

Most of the interviewed agro-enterprises had at least some own (leased) land under cultivation in addition to land for the processing sites which can also be considerable, often several acres. However, dimensions were not very large (max 500 hectares), except the palm oil plantation which was established more than 20 years ago on state land. Outgrowers (compare Chapter 3.3.3) were the most important source of raw materials for the interviewed agro-enterprises with one exception which produced 90 percent from own production.

Access to land was not considered to be a huge obstacle to establishing a business in Ghana by our interview partners, most probably due to the small size of the leased land (but see Chapters 3.3.3. and 3.3.4 for wider views on land markets). One processing company had agreed on a land lease but it was held up as another signatory was required on the lease. Although this problem held up the lease transfer process, the agreement was eventually finalised. Several of the local contract farmers contacted had much more land leased than actually cropped due to lack of markets. It appears that land lease transfers can take time but the land-transfer arrangements themselves are not contested.

Usually, bulk payment had to be made in advance, while smaller, rather symbolic contributions are made annually to the chief(s). In one case, however, a private landlord asked for 50 percent of proceeds. A conditionality as to what kind of plants can be used was not confirmed – i.e. both annual and perennial plants (coco or oil palms, oranges, teak, etc.) are allowed.

Generally, agro-processors have the choice between producing on own land and procuring from others, either the free market or outgrowers. Both have their own advantages and disadvantages, and the decision to choose the one or the other is influenced by several factors:

- Arguments to not acquire and produce on own land but to procure from others include the following: Acquiring really large tracks of land is challenging due to often very

fragmentised land in the hands of many owners and caretakers (see Chapter 3.3.4). In addition, to organise production on own land tends to be very demanding in terms of skills, management and capital. Agro-entrepreneurs are typically not from the agricultural sector (very few of our sample were) and do not feel well positioned to start agricultural activities, in particular under conditions of rural Ghana where relatively few experiences exist with large commercial activities. Own production also requires a permanent presence on the farm by the entrepreneur or a very trusted and skilled manager, both being very scarce resources. Problems with labourers (see above and Chapter 3.3.4) add other problems. In addition to these problems of own production, one argument for outsourcing production is that it rolls over the high production risk from the enterprise to the farmers.

- Arguments to produce on own land include the following: Some of the raw material production needs special skills and inputs to produce high value output which cannot be expected from outgrowers. This obviously depends on the sophistication of surrounding farmers (compare Chapter 3.3.3). Products in case were seed production, pineapples of the variety MD2 (compare Box 9) or certain improved tomato varieties. Farmers' knowledge and skills may change over time – in many cases entrepreneurs trained these farmers, in several cases with support of and by donors. GIZ and USAID were cases in point. In one case, outgrower concessions were offered as compensation to farmers who had to give way to a plantation. In several cases, agro-processors had tried to rely on outgrowers first, but then had to realise that it was not possible, or that the risk was finally considered too high, frequently after harsh experiences with failed contracts (see Box 10). It can be expected that reliance on own production tends to be greater if a higher amount of capital is fixed in the processing plant, if competition for the product is higher, and if contract fulfilment cannot be expected and enforced (example palm oil by GODPC). Many fruit processors in theory would also fulfil this criterion, but they had the alternative to rely on outgrowers for some products with a high supply, acceptable prices and business models (mostly for premium markets) which allowed to pay a price premium to farmers - at least in normal years.

Enterprise access to credit

Credit is almost indispensable for the establishment of a large agro-enterprise. Setting up the factory and the crop production, if any, are costly, and it takes several years before many crops (particularly perennial and tree crops such as mangos, palm trees or papaya) bear fruit (see Chapter 3.3.1). But even for crops with shorter periods before first harvest, such as maize and pineapples, it takes often several years before a large area can be cultivated, or before enough third party supplies by enough outgrowers and contract farmers can be assured. Exported products often require a special quality and traceability – GlobalGap certification requires this traceability and farming standards system to be in place. Also, due to the many vagaries of production, prices and payments by clients, a considerable amount of liquidity is required to buffer cash flow instability – most respondents estimated the necessary cash buffer (or overdraft) to be about three months of annual turn-over.

Getting access to such large amounts of credit is difficult in Ghana. Land for an agro-enterprise is often not owned but leased (both for the buildings and for crop production – if any), thus not being accepted as collateral by banks. The business idea or the running business itself is not considered as security, either. If a concessional loan could be accessed, typically through a donor credit line, this credit was often not accompanied by other funds or recurrent credit. Thus, the personal access to credit of the entrepreneur typically was the major way of credit access of our agro-enterprises (Chapter 3.3.1). An alternative to local credit is international providers (Chapter 3.3.5). There are, however, important exceptions described in Chapter 3.3.4.

Staffing considerations

Staff was identified as a major issue for large agro-enterprises. Employed staff should be skillful, reliable and well trained. The general manager should have a keen awareness of all aspects of the business but should employ skilled personnel to handle those elements of the business which are time-consuming and require specialist skills. These include human resources management and financial administration. Such staff members free the time of the general manager to ensure company inputs and outputs are maintained optimally.

However, a complaint heard by almost all interviewees was the lack of qualified and reliable staff. The notion of qualified has to be viewed very widely: Even very basic skills were often scarce: hygiene, using simple tools, being able to read and write instructions, applying pesticides and fertilizers, preparing mixtures of pesticides, etc. For more sophisticated activities, typically people have to be trained specifically. Women are not available to work during night shifts for security and cultural reasons. Larger companies are able to employ specialist staff from universities and technical schools, but the low level of practical skills was deplored. Really sophisticated managerial skills and capacities seem to be very rare and are often concentrated in the hands of the entrepreneur himself (see Chapter 3.3.1). This deficiency is often rather attributed to cultural habits than to skills – a lack of forward-looking behaviour, an inability or fear to discipline workers, a lack of resistance to steal products or money. A constant complaint was the irregularity of workers' presence and drop-out rate (see Box 6).

In large enterprises, labour unions were also seen to raise problems. One complaint was that union functionaries were found to be highly politicised and abused their positions within the union structure to push their own political career. Accusatory statements were made about one of the entrepreneurs interviewed and it was only after going to court that the wrong accusations were withdrawn. Such issues can be damaging both to the accused and to the reputation of the company.

Some of the propositions to overcome these problems were: very strict monitoring of rules, constant training, payment of higher salaries and wages, reduction of payments according to the number of days actually worked, fidelity primes, and in the case of highly specialised staff far reaching privileges. The organisation of enterprise-internal labour unions was also mentioned.

Box 6:	Particular industry's staff obstacles and attempts of overcoming them
Manual labour is plentiful and the companies always have many applicants. The problem is absenteeism with many staff taking casual leave. One company needs 90 workers per shift but always arranges for 10 more staff to be taken on per shift as they are aware that 10 staff may not turn up for work. Even so they can still be short of staff when more than 10 fail to turn up for work. Most staff live within 20 km of the factory. The company has started to run a bus service for workers from early 2013 in an attempt to dissuade staff from non-attendance. After 6 months temporary staff gains a permanent employment contract. After 12 months their pay is increased by 50%. The work is physical and staff complain it is hard. Another problem is the lack of good training for technical staff. Machinery maintenance is always an issue and equipment breakdowns are common. The technical expertise and lack of training in servicing equipment is a factor. The company spends around 25,000 Euro in staff training per annum. One problem is that such training would not be necessary if the staff were trained adequately prior to being hired, another is that the high fluctuation of staff makes constant renewal of training necessary.	

3.3.3 Local Environment

Electricity and water supply

Typically, in Ghana electricity and water are to be supplied by public entities at national or sub-national level (Chapter 3.3.4). Their poor management and supply and consequent malfunctioning leads to costly self-supply (Chapter 3.3.1).

Beyond supply and cost considerations, the lack of public service facilities in rural areas forces agro-enterprises to make difficult locational choices. While an enterprise can be declared free zone (with advantages for taxes and others) anywhere in the country given certain conditions (e.g. 70 percent export production), that does not solve the lack of facilities outside specific locations. The selection of a site with (better) facilities almost inevitably is a site near to a larger town, or a special industrial zone. The advantage of a better or cheaper facility is paid for with higher costs for transport and logistics, since the entire raw product has to be transported, higher losses due to longer and more complicated transport of raw materials, and the problem of disposal of wastes at the "better" location (see Box 7). Since transport is one of the critical issues in contractual arrangements with outgrowers, longer distances complicate these relations (see below).

Box 7:	The availability and costs of facilities as locational factors for large agro-processors
A fruit processing company decided to install processing in an industrial area to have better access to facilities and loans. From a logistical point of view (transport, waste, recycling) it would have preferred to process on the farm. It was a financial expert who advised on this choice.	

Waste management

The waste management of agro-processors is a locational issue of agro-investments beyond the factory where it is mainly a cost factor (see Chapter 3.3.2). If residues are deposited

correctly, they decompose and produce GHG, often methane, a particularly active GHG. In worse cases, they intoxicate open water flows or groundwater by reducing oxygen or releasing chemical residuals used during production and processing.

EIAs and plant operation plans should take these issues into consideration. The EPA is responsible for their correct execution and implementation. It is obvious that local EPA agents are not able to follow up the on these issues (Sonderegger 2012, Kaplan / Van de Sand pers. comm. 2013).

One option for many residues is to recycle to farms and fields. In some transformation processes, a considerable part of the nutrients stored in crops is left in the residues. However, they have to be transported and, often, treated and concentrated to make them transportable and manageable. This can be quite costly, as can be the handling of the residues (loading, unloading, cleaning). Often no machines are available to distribute them and enter them into the soil. If products are procured by outgrowers, additional complications arise as to who pays for the residues, their transport, and their application on the fields. Many smaller outgrowers lack the knowledge about the nutritional value of these residues, and even more the capacities to handle them than large farmers. In any case, the decision where to place the factory (see above) is at the same time a strong determinant as to how recycling can be realised. For instance in biogas plants the methane generated is harnessed and used for energy; the digesters are impermeable and contain and reduce the damaging effects of effluents.

Staff availability

In more remote areas, staff problems are more severe than near to Accra and other urban agglomerations (compare Chapter 3.3.2). People in remote areas were said to have no industrial tradition and notion (see Box 8). Quality of schools is low, and few skills are acquired. Highly specialised staff are particularly difficult to attract. The lack of attractiveness of rural areas for qualified staff could be a serious handicap for the establishment and expansion of large agro-enterprises in rural Ghana.

Box 8: Special staff problems in remote areas
A medium-size agro-processor of mixed products in Brong-Ahafo region complained that qualified staff for even simple activities like drying, peeling or cutting was extremely difficult to find. People are not used to washing hands or keeping clothes clean. After 10 years of school, few know more than to read and write their names, and are not able to read simple instructions. Workers are constantly absent without prior advertisement, some come back after a few days or weeks, other disappear altogether. The agro-processor had particular problems in getting qualified staff, e.g. technical engineering, and many wondered who would be willing to settle in such a “remote” region which is, however, considered the bread basket of Ghana. He luckily found a specialist who assists in scaling up the factory and production process.

Raw material suppliers – outgrowers

Raw material supplies are crucial to a successful business. As noted in Chapter 3.3.2, most of the interviewed enterprises widely relied on contracts with small and medium size farmers,

with notable exceptions (pineapples of MD2 variety, palm oil). Due to the fact that large enterprises mostly supply formal, and particularly demanding, markets such as for export, supermarkets, international agencies or further downstream large food processing companies, they have to assure higher qualities than usually available on the market. They have to deliver large quantities at defined delivery times, and often have to fulfill additional requirements such as traceability of products back to the field. To be able to provide such deliveries without entering into own production, they cannot rely on open markets but have to invest in contractual arrangements, assuring purchase of a defined or even unlimited amount of product.

Companies enter into contracts with either farmers directly or organisations which have farmers as their members (such as cooperatives). It was emphasized that the relationship between the processor and the suppliers should be businesslike and cordial (compare Box 9) as respect of contract is essential.

Box 9: Relationship between processor and a supplier cooperative in the pineapple industry

The Fotobi Cooperative has a membership of 45 farmers and was established in 1992 (registered in 1995) to facilitate fresh pineapple export since single farmers found it difficult to arrange export as individuals. Many cooperatives then supplied pineapples to exporting companies but payment for pineapple supply was always delayed by at least one month. An organisation was established in 1999 to manage the cooperatives' supplies to exporters and ensure that timely payments were made.

This organisation collapsed soon due to the world pineapple market concentrating on the pineapple variety MD2. Currently MD2 suckers are plentiful and MD2 is now a common variety in Ghana, though it is more costly and complicated to grow it and, thus, considered not appropriate for smaller producers. Some respondent's view was that perhaps this may now be timely for Fotobi to re-establish itself. The interviewed farmers are Fairtrade and GlobalGAP certified through the Cooperative which holds the certification. Each farmer pays his/her portion of the annual Cooperative certificate subscription (currently 3200 cedis per year), plus an additional fee (of 1% of the amount received for pineapple sold).

The major constraints to supply mentioned was shortage of the three main fertilizers used in pineapple farming - NPK333, Urea and Potassium sulphate - very year in the period January – March. The former two fertilizers are subsidized but the latter is not. Potassium sulphate is an important input in pineapple growing as the rate of pineapple ripening can be managed by judicious use in husbandry. The respondents indicated that one acre of pineapples would cost around 5600 cedis in inputs per annum and the sale of the product (around 28-30mt) would raise around between 6000 and 7000 cedis. Labour was also cited as a constraint – use of tractors is not common but would reduce the time and labour input of land preparation.

The cooperative farmers deliver all their output under contract to a local fruit processor currently – no fresh pineapples are exported. The processing factory's management have regular meetings with the cooperative farmers when they alert them to the factory's supply requirements so farmers can manage their harvest accordingly. This arrangement was extremely well-received by interviewed farmers as it reduced uncertainty of market and allowed them to plan their harvest exactly and reduce wastage of harvested material - an agreement mutually beneficial to both producer and the processor.

The purchase contracts vary in scope and detail. Sometimes a price mechanism is agreed upon, typically a local market reference price. Agro-processors tend to use official price information systems. Farmers were said to also be very aware of prices of local and regional markets as well. Many processors said that they were willing to buy all production, but at times when capacities are exhausted, markets are saturated or prices are low, it can happen that they do not or cannot. Thus, farmers are also looking for other channels, and often local

markets with lower and unstable prices are accepted. Delayed payment can also be a reason for farmers to choose other buyers (compare Box 9).

Often, due to the specific requirements of the product, and due to limitations of input markets and credit, purchasing enterprises provide a large variety of inputs and services for outgrowers, either cash or on credit. If they are provided on credit, the repayment is assured by the delivery of products, and the costs of provided inputs are deduced from the outgrowers' bill. Inputs and services can comprise provision of agricultural inputs such as seeds, fertilizer and pesticides, often on credit, of material to tag batches, of services such as tractor ploughing, weeding or harrowing, and not at least of training and capacity development in all aspects of production, post-harvest treatment, farm management and, where farmers are organized, in organisational development. Not all agro-processors provide all kinds of services, it depends on their capacity, on their trust (experience) in farmers, and on the nature of the market, i.e. whether a local monopsony or an attractive price can assure them of recovering credit and output after harvest. Sometimes, clients of agro-processors want to be assured that larger orders can be delivered, and request proof of a secured supply base, i.e. list of accredited outgrowers and of extension and input service capacities of the processor. The trend towards traceability of products from farm to fork in private standards and public regulations reinforces very close ties between farmers and processors.

But often, it happens that farmers prefer not to sell to the contractor not because he does not buy but because they want to avoid that money for inputs provided on credit which is subtracted from their bill of delivery (Box 10). Some companies had reported that suppliers were tempted to side-sell if the market price for their product was more than that agreed when the contract was drawn up. This side-selling by farmers seems to be a frequent issue in contracts (on credit). Some processors calculated with only a fraction of the overall harvest to be delivered to them, and supported contracts that do not stipulate to deliver more than the amount necessary to repay credits.

Box 10: Broken contracts through side-selling
One investor acquired an old tomato processing factory, equipped it and organised smallholder farmers to produce high yielding tomato varieties which were adapted to be processed. The seeds are extremely expensive, up to US\$10.000 for a kg. In addition, he provided fertilizers, inputs and credit. Contracts were written. This arrangement went well for two years. However, in the third year a competitor had opened a new factory not far away and was procuring tomatoes. Farmers sold to these new buyers, breaching contracts and not paying back credits. The processor closed the factory and now produces fresh tomatoes on his own farm under green houses with very high productivity. The new buyer did not offer contracts nor input supply. Farmers, deprived of means of modern tomato production and credit, now ask to resume contracts, but he is no longer willing to enter such arrangements. In addition, he now perceives that supplying fresh tomatoes, particularly during the lean season under irrigation, is much more rewarding than to compete with imported, partially subsidised tomato concentrate of low quality.

Local Private-Public-Partnerships

It was observed that public services (extension, mechanization, fertilizer subsidy and grain purchase) were hired or used to specifically support the contractual arrangements, sometimes

in formal PPPs, in some cases supported by development cooperation, sometimes on an informal base (see Box 11). The advantages for agro-entrepreneurs are obvious – they buy-in knowledge and capacities which they do not own themselves, and would not be able to acquire given their small resource base. But also government services profit: they can train farmers on technology applications that are linked to assured markets and better prices; additional post-harvest services such as transport, drying, grain treatment or grading can be more easily coordinated and provided; overall success is much more likely and farmers are more motivated; the recovery of credits and purchase of products is much easier; and often additional resources are made available including for transport, field days and per diems. For farmers, finally, the advantages are also obvious: comprehensive support from production to marketing based on long term commercial interests, sometimes even contractual price mechanisms.

Box 11: PPP in grain production

A maize processor has organised farmers in groups of 15 lead farmers who also serve as aggregators, with 50 farmers following each one. He organises training for farmers through formal extension service officers who focus on transferring production know-how. He provides additional training (supported by GIZ) on post-harvest issues including quality aspects and conservation, which farmers found particularly useful. He provides oral contracts to farmers to buy up a large part of their harvest (typically 70%), and written ones if credit is provided. He assists in the timely provision of subsidised fertilizers, which usually is in short supply and is often delayed.

One of the reasons for reluctance of the government agents to provide sufficient fertilizer amounts, the difficulty of recovery of the credit or the equivalent in maize (see above), is alleviated since they can cut it at the source when farmers are paid by the processor. It is accepted that maize is sold elsewhere and credits repaid in cash, and that does not seem to pose a problem, possibly because he pays better prices. He pays according to weight, not as usual by volume, and he pays differential prices for different maize qualities according to moisture (over or below 22%) and four grading standards.

Transport from the field to the farm and into the factory, a pressing issue particularly after the first rainy season when feeder roads are regularly flooded, is hitherto organised by farmers. He plans to submit a innovative value chain credit with the Outgrower and Value Chain Fund (OVCF, compare Chapter 3.3.5), where he applies to extend the storage and drying facilities and a tractor to evacuate maize, while farmers will get seasonal loans.

Another case of a PPP with an international investor and the national government which supported the investment phase of an agro-industrial project including the purchase of large tracts of land is described in Box 13.

Local impacts of climate change

Asked whether they perceived local effects of climate change, all entrepreneurs and farmers declared that they are aware and have observed such changes. Typically mentioned were less predictable rainfalls, in particular during the second rainy season in Brong-Ahafo, but also less predictable short dry seasons which threaten to spoil harvests. A clear positive or negative trend was not observed. While some interview partners mentioned that official predictions foresee an increase of rainfall in Ghana due to climate change, they also doubted the reliability of such forecasts. One interviewee stated an increase of extreme temperatures

which would harm survival of seedlings. Thus, more a continuation and acceleration of climate variability is deplored than a clear change of climate.

As to remedies to climate change and variability, the following measures at the disposition of farmers and enterprises were mentioned: Change of seeds, sometimes a return to older varieties; diversification of crops; irrigation; mechanization of cropping to be more rapid and flexible; adjusted planting calendar (though limited by unpredictability of rainfalls); shading of crops from sunlight and use of greenhouses; drying and other post-harvest protective measures.

Local infrastructure

Local infrastructure can be both a constraint for large agro-enterprises (see above) and a service that they deliver to local communities. Large plantations create their own feeder roads, electricity and water supply which are widely absent in rural areas in Ghana. This infrastructure can also serve or is extended to local communities. At times, large enterprises finance electricity branching to the grid for selected communities. More common since more affordable is the (contribution to) funding for wells, schools and health stations (see below).

Overall, however, the interviewed entrepreneurs complained more about the lack of facilities and infrastructure than they contributed to them. There are obviously limits to private sector contributions to replace public goods, and this is of course also linked to the size of an enterprise.

Local community relations

One of the hypotheses of this research project was that relations with local communities are of high importance for the long-term success or failure of the enterprises. This linkage was assumed due to the consideration that in the long run an agro-enterprise is vulnerable to negative actions by local communities in many ways: fire, theft, harassment of staff, local boycotts and strikes, complaints with the local and national administrations, with media and civil society, etc. Examples of such negative consequences are found in the literature, particularly that dealing with LSLAs (see above). The reputation of enterprises that serve a high-end product market and sell a moral product (environmental or social values embedded into products) can be easily damaged by negative news.

We cannot directly prove this hypothesis due to lack of time, small sample size, and a biased towards relatively smaller enterprises with strong outgrower components not dominant in their respective local environments (except the palm oil case) (compare Chapter 2.5). We can, however, provide a tentative assessment of some implications, and how enterprises respond.

The consequences of large agro-investments for local communities are complex due to the many different actors involved and the various types of impacts. One important route already described is through outgrower schemes (see above). If working well, they can bring in

considerable value addition to individual farmers, though even this link is far from guaranteed due to the complications described.

However, more immediate impacts are due to acquisition of land. Larger tracts of leased land frequently include cultivated plots and fallow land of smallholders. They were reported to have been dislocated and compensated with access to other land by chiefs (compare Chapter 3.3.2). These are critical situations where livelihoods can be negatively affected. We were not able to check these situations in detail. In more in-depth research on the issue, it is reported that particularly for large acquisitions and under dubious circumstances information, transactions and compensation are not correctly handled (Schoneveld et al. 2010, Merlet / Bastiaensen 2010, Knudsen / Fold 2011, Våth 2012, Berry 2013, Montford / Birner 2013).

Major issues in Ghana's land governance are chieftaincy and land disputes which are very common due to the wealth and power attached to the chieftaincy institution (Montford / Birner 2013, Våth 2012). One illustration is the contrast between a poorly developed village development and well developed one which was based on how chieftaincy and land disputes were managed in these two areas (Berry 2013). Therefore, investors should know the chieftaincy characteristics of an area before investing. More generally, the overlapping of various policy regimes for land and power relations within the local arena and with national level institutions and actors creates considerable room for uncertainty and power plays (Merlet / Bastiaensen 2010, compare Chapter 3.3.4). An often overlooked implication of LSLAs and possibly also agro-processing investments is the impact on water availability and use, since the legal and organizational regimes for land and water are separated, not well-linked and responsible government organizations generally show low capacities (Knudsen / Fold 2011, compare Chapter 3.3.4).

The most vulnerable group constitutes of immigrants from the north of the country. They do not have formal rights to the land they crop, their leasing contracts are oral and they pay to the local chiefs or other land owners (typically 1/2 to 1/3 of the harvest). While they only lease a few hectares each and are scattered across the village territory on the most fertile soils, large enterprises search for consolidated land, with less regard to soil fertility. While smallholders are usually compensated with alternative land, it is often of lower fertility. Other affected groups are often women who have less access to wild products. Animal herders may have reduced wild grazing area, and may be cut off from (easy) access to watering places.

A general increase of land lease rates was noted at all locations. This was, however, the case regardless of whether large agro-industrial farmers were present or not. Reasons are increasing land pressure and rising agricultural prices in recent years. The latter seems to be the dominant reason, since wages were also reported to have risen considerably recently. The short review of the literature shows that an overall generalization of impacts of large agro-enterprises is impossible, and even for individual investments there are various groups with various impacts. As Våth (2013) summarises an in-depth analysis of "the effects of a land-based, large-scale investment on people who received compensation, on neighbouring communities, on permanent and casual workers, as well as on contract farmers the main finding [is] that outcomes are predominantly mixed and vary from very negative to positive

for different population groups.” She further details the following five categories of impacted population:

“(i) While neighbouring villages realise mixed outcomes linked to land loss on the one hand and infrastructural improvements as well as employment creation on the other hand (see Okumaning village), (ii) communities which are further away are negatively affected as spillover effects cannot be accessed due to geographic distance to the core of the investment area (see Aboabo village). Nevertheless, (iii) people who had to relocate or who are just in the course of resettlement turned out to be the worst off as the institutional environment is too weak to guarantee legal entitlements to ‘fair, prompt, and adequate’ compensation (see Congo village). Moreover, (iv) a detailed assessment of the discussion with workers revealed that the positive outcomes linked to employment creation also disclose their shady side when it comes to the quality of jobs (see the workers). Lastly, (v) contract farmers are the greatest beneficiaries because they profit from long-term economic integration (see the outgrowers), but at the same time they are still suffering from land loss (see smallholders), which was highlighted by all sub-groups of the local population.” (Väth 2013: 19)

The large companies seem to have developed a feeling that indeed the relations with local communities are important. Local conflicts can impede investors from using a part or all of their rights (compare for instance Väth 2012 for the case of GOPDC’s palm oil plantations). GOPDC has elaborated an explicit and ample social profile, which highlights social and environmental benefits both through its core business (jobs, incomes and sustainable production technologies) and through special CSR projects outside the core business (compare Box 12). GOPDC declares that “the company is willing to reserve 0.5 percent of its turnover plus 0.5 percent of its Net Profit in order to enhance its corporate and social responsibility in its operational area.” (GOPDC 2013). Also, another interviewed enterprise being exposed to direct international consumer appreciation through an own brand (Blues Skies) has established a wide CSR programme with various projects addressing environmental, social, sports, education, and other issues (see Box 12). Such institutionalised CSR is becoming more frequent, for instance in the mining industry. It is obvious that CSR is also used as a Public Relations instrument.

Box 12: CSR according to websites of large agro-processors

“Besides the creation of jobs, investment in education and health are also essential in social development. On the Kwae Estate, GOPDC runs a school from kindergarten to Junior High School level for approximately 500 pupils. A team of 26 teachers, under guidance of a headmaster, is taking care of the daily operations at the school.

At Kwae, GOPDC runs a medical centre with a one Medical Assistant and 11 permanent staff for its employees and their dependants. The Clinic is also open to our surrounding communities.

In order to facilitate the collection of palm fruit from the farmers, GOPDC maintains 500 km of roads and assists the communities with the rehabilitation/construction of:

- Primary schools
- Village markets
- Water boreholes
- Power lines
- Sanitary facilities

GOPDC also supports communities during installation of chiefs and funeral ceremonies and it is the Group's policy to invest every year a certain percentage of its turnover in community development projects as per each company's prevailing Corporate Social Responsibility Policy."

<http://www.gopdc-ltd.com/index.cfm/page:social-commitment>.

"And of course respect for the communities within which we operate is paramount. In 2009 we joined forces with Albert Heijn and the UK supermarket Waitrose, to form a Foundation which would raise money for projects designed to improve livelihoods within the communities where our staff and farmers live. To date over £300,000 has been raised and over 10 projects have been completed in Ghana and South Africa."

<http://www.blueskies.com/jee.pdf>

Smaller investors have less formalised and systematic CSR activities. There are, however, many indications that they are also part of social interdependencies with the communities, contribute to social events and take over support for individuals and are addressed for local non-business concerns. It seems that "patrimonial relations" are established, whereby the entrepreneurs are considered as "patrons" and "lobbyist" towards administrations. This, is, of course, not equitably shared across the entire population and many people will be left out.

Potentially a more regular instrument to support local communities is regular revenue and benefit from agro-investments. By law, the District Assemblies receive a portion of funds (55 percent) on stool lands leased out in its jurisdiction from the Office of the Administrator of Stool Lands; the chiefs collect 25 percent and the Traditional Councils 20 percent (this arrangement is, by the way, one of the reasons why some contracts are not registered as this allows a reduced payment for the investor and an increased revenue for the chief). In addition, district assemblies are also allowed to raise taxes and property rates, as well as local revenues for decentralized services. It strongly depends on the utilisation of these revenues whether local agro-industries (particularly the land acquisitions) are accepted or not. Communities where lands have been taken for large-scale farms expect to get more projects and supports from the District Assemblies - if these expectations are met, this support the social acceptance and sustainability of the investment; otherwise the contrary is the case. One of the reasons for the strong emphasis of CSR is that enterprises doubt that the District Assemblies return enough to the affected communities. We did not enquire about such payments. .

3.3.4 National Environment

The national environment determines many of the factors of success and failure of agro-enterprises, directly and indirectly. In the following, some of them which have been mentioned frequently by entrepreneurs are briefly highlighted. Most have been already discussed in previous Chapters since they are perceived as problems at the local level. Land issues are not reiterated here, they are covered in Chapter 3.3.3 since, though there is national legislation, the reality for investors is mainly shaped by negotiations with local land owners, who often do not or only partially respect formal rules and negotiate land deals according to local rules and their interests.

Land market

Loss of land (and lack of compensation) has been found to be a key determinant of impact of the investment projects if these include the large scale acquisition of land, and these impacts can have important repercussions on the investment through conflict, community relations, CSR and other mechanisms (see Chapter 3.3.3). Land governance is thus an important factor of success of large agro-enterprises both during investment and operational phases.

With regards to land ownership in Ghana, there are three main types of ownership namely customary (or stool) lands, state lands, and vested lands (lands jointly managed between the state and stool) (Ahwoi 2010). Most LSLA are from stool lands, simply because this is most of the agricultural land available - about 80% of all land in Ghana belongs to this category.

There are many institutions involved in governing land in Ghana. Apart from the Lands Commission, office of the Administrator of Stool Lands, Land Title Registry and the Survey Department, institutions like the Environmental Protection Agency and Water Resource Commission and civil society also play essential roles (Väth 2012). The many actors involved in the administration of land in Ghana have resulted in ‘red tape’ as well as rent-seeking activities. In addition, overlapping, conflicting and unclear regulations at national and local level have made that land acquisitions are full of problems, notably lack of transparency, adequate participation and compensation of many affected people as well as subsequent conflicts. The Land Administration Project (World Bank 2013) seeks to address the land sector problems by merging all the land institutions into one body and harmonising land laws.

One empirical evidence for our study cases is reported for the Okumaning concession of the GOPDC. Väth (2012, p.10) indicated “whereas acquisition under Act No. 125 (as Kwae) are ultimately transforming customary land to public land, acquisition under Act No. 123 (as Okumaning) creates double structures which complicate matters [...]. In such cases, the allodial titles (i.e the overall ownership) stay with the chiefs but the management functions are held by the state that finally leased the land to GOPDC. Consequently, (i) the chiefs remain entitled to ground rents (ii) GOPDC resumes assets and liabilities which includes the duty to compensate people, who lived and farmed at the concession (according to Act No. 123)”.

Infrastructure, public facilities and their institutional set-up

Most large agro-enterprises complained about public water and energy services which they provided internally (see Chapter 3.3.2) because of unavailability and unreliability of external systems. Power and water cuts are regular. Though the provision through own generators and wells or bore-holes constitutes an effective fix of the weaknesses of public supply by large agro-enterprises, it comes at a generally higher cost compared to effective public sources, and thus hampers competitiveness and burdens internal cash flows. Often there is an electricity surge on re-supply which can damage machines and electrical equipment. Water cuts mean that production may have to be stopped, and even more problematic is the effect of bad and changing quality of water in the deficient systems.

While electricity supply is organised through the Electric Cooperation of Ghana, the Electricity Company of Ghana and Volta River Authority, tap water supply is provided by the

Water Resources Commission while the Community Water Sanitation Agency is responsible for boreholes in the rural areas. There are no separate water and electricity connections for industries, they are bunched together with all other consumer units in given transformation units, thus are cut with all others.

Hydro-electric power and thermal plants are the major sources of commercial power generation, with the former accounting for 67.5 percent of power generated, while the latter accounted for the remaining 32.5 percent in 2011. Ghana has an installed capacity of 1960 MW made up of hydro and thermal facilities. It is estimated that Ghana requires additional minimum capacity of about 200 MW to catch up with increasing demand in the medium to long term. Ghana currently faces power crises as a result of damage and repair works on the West African Gas Pipelines, damaged electrical installations, increased demand of electricity and energy loss in the system. There is also the problem of the electricity providers not being able to collect debts owed by consumers which weakens the investment capacity of providers. The consequences have been the rationing of power and the loss of production time for most industries without electricity generating plants. Although this is not the first time the nation is facing power challenges, the problem appears to be a recurring one and until a more concrete solution is found agro-enterprises need to invest in getting a back-up energy source.

The Energy Commission and the Public Utilities and Regulatory Commission are the regulators of the electricity sub-sector in the country. The Energy Commission advises the Minister for Energy on matters relating to energy planning and policy. The Commission has the mandate to approve charges on electricity use by the general public. Ghana Energy Foundation comes in as a non-profit private institution that runs the energy demand management programme of Ghana's Ministry of Energy

Ghana has adequate amount of rain and underground water throughout the country from which water is harvested. Drinking water production increased from 244.7 million cubic metres in 2010 to 249 million cubic metres in 2011. Although there were improvements in the sector, the obvious reality of the challenges of Ghana Water Company to meet the increased demand of the public has come to bear on Ghanaians with the incidence of water rationing at Accra and other cities. Majority of the population are also not reached while others don't get constant supply of water. This has come about as a result of the inability of both the Ghana Water Company Ltd. and the Government of Ghana to generate and commit funds for routine maintenance, replacement of old pipe supply lines and construction of new ones to cater for the growing population. Most business enterprises that rely on water have therefore developed their own private water supply system, mainly boreholes.

The Ministry of Water Resources, Works and Housing is the lead governing institution responsible for water management and drinking water supply, while other sector ministries deal with related water uses such as irrigation under MOFA, hydro-power under Ministry of Energy, and water transportation under Ministry of Transportation. The GWCL as mentioned has the sole responsibility for the production and distribution of safe potable water to Ghanaians in the urban areas while Community Water and Sanitation Agencies are responsible for rural water supply. The above-mentioned Public Utilities and Regulatory

Commission is responsible for the approval of charges on water provided by GWCL water and the Water Resources Commission is responsible for water abstraction.

Ghana has in her possession three main modes of transport, and all are important for agro-enterprises; road, rail, and aviation and maritime (for exporters). Ghana Ports and Harbours Authority, Ghana Civil Aviation Authority and Ghana Railway Company are some of the institutions under the Ministry of Transport.

Road transport is by far the dominant and popular carrier of freight (and passengers) in Ghana's land transport system. It carries over 95 percent of all freight traffic and reaches most communities, including the rural poor. With the gradual improvements in road condition and extension of road networks, it is expected that road network in the country would increase. Extensive use of road transport in relation to other forms of transport and poor maintenance of roads however, have led to pre-mature deterioration of the road network, congestion on roads and highways. Perishable and typically bulky agricultural products in particular depend on road transport and the associated high costs due to poor road maintenance and poor vehicles. Some feeder roads are under the responsibility of the Districts.

National standards and their implementation

Several agro-processors complained of standards for agricultural and food products in some way: the lack of policing of fruit juices on the market; the unfair competition between large (formal) and small (informal) business as regards the control of standards; the lack of regulation of imported goods with low quality standards; and insufficient support for some export certification. In fact, it is widely acknowledged that there is need to reform food safety and standards rules (Sefa-Dedeh 2009).

The Ghana Standards Authority is a National Statutory Body that has been established to promulgate standards with the objective to ensuring high quality of goods produced in Ghana either for the local or export markets. Also, it promotes standardisation in industry and commerce, industrial efficiency and development, standards in public health and industrial welfare, health and safety. In a nutshell, it is responsible for the standards, testing and quality assurance of the nation.

Food is also subjected to the Food and Drugs Board under the Ministry of Health, for instance product registration and process and premise inspection. For various special classes of agricultural products and processes (fish, meat, animals, and vegetables) also specific regulations apply, and other laws and organisations intervene (Sefa-Dedeh 2009).

For the enhancement of the competitiveness of local products for both local markets and international, a sound quality infrastructure is needed. Ghana Standards Authority as an institution possesses the quality infrastructures to undertake confirmatory tests and make recommendations. Other research institutions such as those under the control of the Centre for Scientific and Industrial Research (eg the Food Research Institute) also undertake research and testing under controlled environments. The police service, the customs excise and

preventive service, and the immigration service are expected to have their own well equipped laboratories also.

Lack of import protection

Imports barriers are thought to protect local companies from undue competition from ‘cheap imports’ from competitors. Agro-investors complained about (unfair) competition from abroad (see Chapter 3.3.5). Ghana, like any other country is able to some extent to discourage imports by imposing higher import tariff on some commodities. However, there has never been full scale import protection the last one or two decades. In fact, all agricultural imports are actually taxed at less than 25 percent (WTO 2012). The policy space for import protection stems from commitments at the regional and international level (compare Chapter 3.3.5).

Generally, Ghana’s national trade policy has been to promote the integration of Ghana into regional and global markets. The government of Ghana has been pursuing as a priority, intra-regional infrastructure which promotes intraregional trade, including investments in energy, harmonisation of trade and investment regulations and policies, removal of non-tariff barriers and promotion of trade facilitation (ECOWAS n.d.). The private sector has been variously engaged through its associations to help build awareness about regional initiatives, forge stronger intra-regional relationships and build its capacity to negotiate.

Donor conditionality also is an issue in setting protection levels. Ghana has become an often cited case for not having been allowed to introduce special protection for the chicken and tomato sectors by the IMF, arguing that it was against poverty lending principles, in particular hurting the poor through high prices (Khor 2006; Ihle / Amikuzuno 2009).

It must be remembered that any import protection, by increasing internal prices, hurts consumers while benefiting producers. In addition, it is argued that high tariffs increase welfare losses (Robinson / Kolavalli 2010) and increases incentives for and risks of corruption and smuggling. Finally, it is a question of political economy and power that determines which aspects dominate (Johnson 2011).

Exchange rate regime and inflation (competitiveness)

Ghana practices a free market exchange rate regime where market forces are allowed to determine the exchange rate. The exchange rate regime in Ghana has been characterised by seasonal movement of the Ghanaian cedi against major trading currencies such as the US dollar, pound sterling and the euro. The depreciation of the cedi for the year 2011 for these currencies was 6.6 percent against the US dollar, 8.6 percent against the pound and 13.8 percent against the Euro (ISSER, 2012). However, the Ghanaian government through the Bank of Ghana (BOG) does sometimes step in to smooth fluctuations of the Ghana cedi exchange rates. This action by the state has implications on local businesses and the economy as a whole.

Since 2010, Ghana has experienced modest end of year inflation rate. The year 2012 recorded single digit inflation rate of 9.8 percent as in the case of 2011 with an end of year inflation of 8.85 percent. This condition is necessary for creating a conducive environment for private sector development. With the current single digit inflation and level of depreciation it is difficult to get foreign currencies at the banks and this makes it difficult for agro processors who have to make payments in foreign currencies especially the U.S dollar.

(Lack of) Government support

A number of interventions by the government of Ghana are in place to either support agro investments or facilitate their activities for business growth. The Ghana Export Promotion Council (GEPC) organises trade shows and provides market information for agro-investors. GEPC, in conjunction with the Ministry of Trade and Industry (MoTI), also formulates national policies to create the necessary environment for business operation. The Council for Scientific and Industrial Research (CSIR), the Universities and other training institutions do research into appropriate technologies to help the industry. GIPC also provides market information to investors. Businesses situated outside the regional capitals are rated at 0 percent for corporation tax for 3-10 years depending on the speculation (Internal Revenue Service 2013). Agro-businesses often benefit from this regulation since they are tending to go into rural areas anyway for procurement reasons (compare Chapter 3.3.3).

For accessing credit, a number of facilities are available. EDAIF has been set up by the Government of Ghana through a defined percentage of revenues from import tariffs to provide financial support to agro-investors, until recently for exports only, now for all investments. Another interesting and innovative credit facility is the Outgrower and Value Chain Fund (OVCF) funded by Kreditanstalt für Wiederaufbau (KfW) in which a processor gains access to external credit in conjunction with outgrowers through a local bank. There are also a number of other financial institutions with financial package such as export loans to their customers.

According to the agro processors these institutions do not coordinate their activities and thus makes it very difficult to get information particularly on market intelligence for export markets (compare Chapter 3.3.5). There was a proposal for a “one-stop-shop” where all market information can be obtained. A particular problem mentioned (though not only valid for agro-business, this is particularly vulnerable) by most was access to funding (compare Chapters 3.3.1 and 3.3.2). Financial institutions have very high requirements for collateral, typically more than 1.5 times the value of the credit. Financial laws force banks to be very restrictive with the kind of acceptable collateral.

An early example of a PPP approach of Government support which seems to have been successful was made when the palm oil processing enterprise in our sample was established (see Box 13). The Government initiated the enterprise, took shares in the company, facilitated the land acquisition and tree planting period and handed over the shares after some time. On the other hand, serious failures are also reported for this process which, however, took place under rather different political circumstances in the 1970s (compare Väth 2012).

Box 13: Public Private Partnership (PPP) to facilitate the start-up phase

The Government approached a Belgian company with experience in palm oil processing to carry out a market study for palm oil and then a feasibility study to enter the market. The outlook was promising and the government purchased the land for a plantation and commenced planting and subsequent processing when the palm started producing fruit. The split of the equity was 80% overseas and 20% GoG. GoG relinquished their holding in 2012 and the company is now 100% externally-owned. This company employs 2000 local people working on the palm oil estate and 500 in the factory. All are local people and the factory pays attention to looking after the staff and ensuring that local facilities around the factory and local area are in good repair.

More generally, there is some evidence that support programmes have often been established which were motivated politically or which were abused by administration or political elites (compare Chapter 3.3.1). These may serve some enterprises initially, but regularly do not create long-term viable businesses, due to wrong selection of entrepreneurs, selection of non-viable business models and discontinuation of support after government change. Even more damaging, such programmes can destroy the basis of sound enterprises, so that after the demise of the new entries no viable businesses are left at all.

This political influence and tussle was for instance among the factors that caused the President Special Initiative on Palm Oil in Ghana to fail. The government failed to link the farmers' cooperative groups under the Coverage Village Enterprise to the existing established private enterprises like Twifo Oil Palm Plantation to ensure ready market and financial sustainability of this initiative (Asante 2012). Though the government tried using a public-private approach as means of reviving the palm oil sector, the political elites' interest was perceived to be the reason why the established private palm oil enterprises' proposals were ignored. The private enterprises could have optimised the cooperative farms and their market relations. The current government has not put in much effort to revive this programme. Other government programmes such as the current fertilizer subsidy (compare Chapter 3.3.3) and the mechanisation programmes have also been said to be implemented inefficiently, with too much politisation and little consideration of existing private sector propositions.

Agricultural and business innovation system

The national agricultural and agro-business innovation system can be defined as comprising all elements (organisations, institutions, financial means and cooperation mechanisms) which are assumed to generate, disseminate and support the evolution of new technologies, social, organisational, institutional and policy procedures in and for the agricultural and agro-business sector. The Government of Ghana maintains several such elements, in particular several agricultural universities, specialised agricultural research system, extension system, protection of intellectual property, support and protection of foreign direct investment, sector organisations and networks, etc. The Ghanaian agricultural innovation system is not well developed in many parts, although there are notable exceptions in particular for the cocoa sub-sector (Rajalahti et al. 2008; World Bank 2012).

While smaller farmers and agro-processors, due to own capacity limitations, strongly depend on government and external private sector innovations to adapt them into their own enterprises, large agro-investors can overcome weaknesses of national innovation systems to a certain extent, because they have access to more sources of information, can hire qualified staff from abroad, can import new solutions to their problems and can conduct their own systematic research. All these activities were mentioned and practiced by some of the interviewed investors. These possibilities, however, have limits. For instance, entrepreneurs complained that the switch from old to new varieties of pineapples since the mid 1990s (see Box 14) could not be organised by the local private sector alone, and the Government of Ghana failed to support them (compare Jacob / Soman 2006, Kleemann 2012). Several of the interview partners had been part of that experience, and many other companies went bankrupt during this period.

Other examples mentioned of insufficient support to innovations in the sector and to agro-business were outgrower farmer extension service or high-quality advice for specialised agro-processors.

Box 14: Lack of adaptive capacity of the national innovation system – the case of pineapple exports

Since Ghana was starting the pineapple business in the mid 1990s, it was exporting Smooth Cayenne – a variety which was left behind in the world market preference demand. Since its introduction in 1996, the markets in Europe switched preference to a new variety, MD2, launched by one of the giants of international agro-business, Del Monte. MD2 had a different taste, better shape (cylindrical instead of conical, good for mechanised processing), yellow colour and longer shelf life. It has fetched about 50% of the world market. Its production is technically much more complicated and more expensive.

Ghanaian producers were neither aware of the changes, nor were they able to adapt the new variety rapidly. Ghana's farmers could not switch to MD2 fast enough due to lack of planting material and consequently were left without a market. Until now, MD2 is hardly manageable for smaller producers which formed and form the bulk of producers in Ghana, and production for export shifted to new, very larger foreign producers, while the remaining national ones congest the limited national market.

3.3.5 International Environment

Strict regulations in export markets

International markets are clearly more attractive than national ones, but they are difficult to access. A constant threat to exporters into high value export markets is strict regulation. This said, for the agro exporters it is no question that they have to be able to comply with “ordinarily strict” standards such as for European food and private regulations such as Global-Gap fruit and vegetable or World Food Programme grain standards. However, there are some regulations and standards which prove to be almost prohibitive and out of the control of even large enterprises. The following are cases of such critical regulations encountered during the interviews:

- The maximum content requirement of aflatoxins (a very harmful class of toxins produced by soil-born fungi on many crops) is difficult to meet and to reliably test in Ghana. One interviewed trader had his groundnuts rejected at the entry point into the EU. The trade depressing effect of strict EU aflatoxin legislation on African groundnut exports has been amply and controversially discussed (Otsuki et al. 2001, Xiong / Beghin 2012). The trader complained that Ghanaian laboratories were not able to reliably test for the very low concentrations of aflatoxin thresholds.
- Another case of very strict regulations concerned the occurrence of certain thrips (an insect class) on vegetables that trigger import rejection into the EU. The investor had to assure tight supervision of his outgrowers in cooperation with the Ghanaian Plant Protection Agency and stop exports in case of occurrence in the region. In addition, he supervises the occurrence of pests and diseases and organises acceptable control measures according to EU requirements. Due to the high effort of this supervision and capacity constraints, he is said to be among the few enterprises in Ghana which are able to abide by these regulations and to get an export permit.
- Growing threats for agro-exporters are customs and security measures in Europe against drug smuggling hidden in agricultural containers. Increasingly, Ghana (as other West African countries) becomes a hub for drugs coming from South America. Regulations require tight supervision of trade from the factory gate to the plane or ship and beyond. Some inspections take place in the factory, others at the (air)port, but in any case very close supervision of the value and transport chain is necessary. Not only is it difficult to assure such inspection by weak administrations in poor countries; the high criminal energy involved in this sector makes such countries particularly prone to corruption, hardly at the control of enterprises. In addition, sensitive goods such as perishable fruits and vegetables risk to be easily damaged by controls and delays.

The Government is trying to support agro-business to overcome these challenges, with limited success (compare Chapter 3.3.4.) Occasionally, also donors have helped to adapt to certain requirements and to do training for outgrowers (see below).

Rapid changes on international markets

External markets are not only more lucrative and demanding, they are also more risky. Rapid changes on international markets have brought several of the interviewed companies close to collapse. Among the investigated sectors, Ghanaian pineapple export has become known for being caught unprepared by rapid changes on international markets (compare Chapter 3.3.4, particularly Box 14). Another event which constituted a major threat to the largest Ghanaian fruit exporter, Blue Skies, was the 2010 eruption of Icelandic volcano Eyjafjallajökull. Flights into Europe were cancelled, and perishable products had to be thrown away. Blue Skies was among the most visible victims of this unprecedented event, and almost collapsed, only being able to survive through providing private collateral for credits to absorb the losses and the cash flow shock (compare Chapter 3.3.1). The rapid evolution in European quality and traceability standards (see above) is another case where local exporters are often hardly able

to follow-up, to learn, to invest and to adapt with external changes. Again, both the government (Chapter 3.3.4) and donors (see below) partially provide services and support.

Foreign government subsidies and (limited) policy space for corrective import measures

Agro-processors in Ghana struggle from competition with foreign companies both on export and on national markets. For instance, 90 percent of the fruit juice consumed in Ghana is imported, including for locally abundant products such as mangos, oranges or pineapples, and also vegetable oils and cereals face strong competition. Obviously, productivity differences, branding, packing, consumer preferences and national macroeconomic play an important role in explaining the weakness of Ghanaian agro-industry, but there are also some complaints about unfair practices in foreign countries. No longer are industrialised countries the only ones to be shamed as was the case during the high times of trade distorting subsidies in particular in the framework of the European Union's Common Agricultural Policy, but also emerging markets. Highlighted was the fact that countries such as Costa Rica subsidise airfreight of fruit exports, China offers an 8-10 percent export rebate and India has promoted the Alphonso mango as a premium brand. For tomato concentrate European Union members have again been mentioned as exerting unfair support for their exporters. It was suggested that for Ghanaian producers it is simply impossible to compete with such rivals, with low quality standards and, thus, cheap production costs in the home countries being even more important than subsidies.

It is ironic that by its side also Ghana is part of that international subsidy competition, notably by providing export companies with cheap credits (EDAIF) funded by import taxes.

Potentially, trade policy could serve to restrict this damaging influence, but for Ghana this possibility is restricted not only by internal considerations (producer vs. consumer impacts, market efficiency, political economy – compare Chapter 3.3.4) but also by international trade agreements. Several such agreements shape the policy space of trade policy:

- At the level of WTO, Ghana has bound its maximum tariffs. For agriculture, all goods are bound above 20 percent (plus some minor levies), 96,7 percent are bound between 50 percent and 100 percent (WTO 2012), in fact the norm is 99 percent (Khor 2006). Thus, WTO permits rather generous protection.
- Through the Economic Community of West African States (ECOWAS, of which Ghana is a member), the region has a common trade policy, including a common external tariff profile with a maximum tariff of 20 percent in the fourth of four tariff bands. A more protective tariff profile with a fifth band of 50 percent was negotiated since 2007 in the context of harmonizing Nigeria's highly protective tariffs with that of the other countries, and because the agricultural policy of ECOWAS a in 2005 had already stipulated for some years to introduce higher protection for some sensitive goods, but until 2012 no consensus could be reached on the product lists (ECOWAS n.d.).

- Also the provisional bilateral (while working toward a regional agreement with ECOWAS) Economic Partnership Agreement between the European Union and Ghana restricts the ability to impose new protection, and to the contrary demands a reduction in tariffs, though differentiated and only in the long run.

Trade regulations and erratic changes in trade regimes were not mentioned as important factors, possibly because they haven't yet occurred and are thus hypothetical. However, since the access of Ghanaian exporters to foreign markets is strongly based on preferential conditions (Africa Growth and Opportunity Act (AGOA) for the US American market and Economic Partnership Agreement for the European market), it is mentioned here that a withdrawal of the acts and agreements or a change of conditionality and scope can hurt exporters, in particular in sensitive agricultural markets where Most Favoured Nation tariffs are often still high. Unilateral preferences such as AGOA are arguably more prone to unilateral changes than bilateral (or multilateral) agreements such as EPAs, but even the latter have clauses for withdrawal in case of political and human rights infringements. There are for instance claims in Europe to withdraw preferential access in case land grabbing occurs within a country and sector (Carmichael 2011).

Donor support

Donors are active in many areas relevant for the interviewed agro-businesses. In fact, their selection was partially guided by past interventions of the German Technical Cooperation in particular (compare Chapter 2.3).

Donors were and are active in all areas of the domains relevant in this paper: research and extension, education, entrepreneur training, land and water governance, credit, trade, investment and other macro-economic policy development, etc. All interviewed enterprises had benefited from one or the other specific programmes, and of course from the more generic ones such as for land, taxes or trade. Most are implemented through government agencies, thus it would be a repetition to mention them again here. This is also not the place to scrutinize these interventions, and we are far from able to do so based on the limited evidence. One observation is that many activities are of short period and not sufficiently institutionalized, such as many of the statistical exercises (compare Chapter 2.2) and credit projects (compare Chapter 3.3.2).

Donor support is not always helpful, at times it can also induce problems for agro-entrepreneurs or the sub-sector. This may happen as a failure in design or an unavoidable side-effect. The following complaints were mentioned:

- One was that donor support had induced over-capacities in some market segments. One foreign credit line allowed purchasing equipment for agro-processing at subsidised rates for local investors in the donor country (compare Box 2). This has probably induced more investment and capacity than the market could absorb. One entrepreneur in the fruit juice remarked that there were 10 large fruit juice producers in Ghana, many with donor support (there are several more small and medium-scale

producers), but that at the moment it would take only 3 of these factories working at full capacity to fill the current Ghana market. None of the entrepreneur's juice is exported.

- Another complaint against the same credit line was the exclusive focus on equipment, neglecting additional costs such as transport, installation and working capital which lured many investors into the sector but did not secure their long-term survival (compare Boxes 2 and 4). It can be argued that these weaknesses could also have been perceived by the entrepreneurs, who after all bear the ultimate responsibility for forward-looking, prudential and comprehensive business plans. However, the risk cannot be denied that subsidised credit (and other supports) may be a wrong incentive and create biased market structures, more as there are conditionalities as to sectors, technology or market segments to be served.
- Another risk mentioned to be induced by donors was erratic procurement on local markets (in this case maize for regional food aid). This did not allow aggregators and traders to plan a medium term way, but limited their reactions to depend on short term demand.

3.3.6 A partial comparative summary

With some interviewees, a formal ranking exercise was carried out on clusters of problem (problem areas) that they feel are presently threatening their enterprise. The results are shown in Table 4. It shows that most enterprises are more concerned about the external political and macro-economic environment than about internal production and market issues including regulation. What has (understandably) not been rated is the importance of internal characteristics of the entrepreneur.

Table 4: Problem areas ranked by a selection of entrepreneurs

Problem area	Enterprise					Average
	a	b	c	d	e	
Obstacles in the Production System	2	2	1	2	4	2,2
Poor Market Access / Marketing	1	1	1	2	5	2,0
Lacking Access to Capital / Business Financial Management (Financial aspects)	2	5	1	4	Na	3,0
Macroeconomic Instability	3	4	5	3	Na	3,8
Deficient Political Governance / Lack of Infrastructure / Public services	4	4	4	2	5	3,8
Hampering Regulations / Legal Environment	3	2	3	1	Na	2,3

1= low importance, 5 = high importance

4 Conclusions and outlook

4.1 Factors of success and failure

There are many potential factors of success and failure of large agro-enterprises. Most enterprises in the sample had gone through extremely difficult times for one or another reason during which they could have easily collapsed. Thus, it must be taken for granted that doing business in the agricultural sector is indeed a risky business even for larger entities, which are usually assumed to have better conditions than small and medium ones.

The reasons for failure and success are found across all proposed layers of analysis. The case studies showed that some entrepreneurs were not well equipped for their business, either at start or during usual business times. Some had underestimated the time and the efforts to be made to establish the business, struggled with unforeseen problems, and had hardly sufficient cash reserves to overcome and endure these difficult times. Many entrepreneurs had problems hardly foreseeable and beyond control of the entrepreneurs, in particular changes in markets including transport and (sometimes unfair) competition. In their subjective rating, entrepreneurs considered external risks (political and macroeconomic) higher than production and marketing problems which all had overcome (if not, they would no longer exist). However, overall the findings somehow disenchant the myth of an always highly effective private sector.

Those entrepreneurs were well equipped who had sound experience in the business, prior exposure to the market and the business in question, high social skills, access to personal finance and connection to the policy sphere without over-relying on it. Established enterprises found a good balance between diversification and concentration, did manage steady but not hasty enterprise growth, could attract and maintain good staff of both low and high skills, had professional, fair and mutually beneficial relation with the outgrowers on which most of them relied for raw material procurement, without losing sight of (and sometimes paying with harsh experiences) that these relations are full of risks, particularly because of side-selling, and maintained good relations with surrounding local communities on which they depend.

The acquisition of land for own production was not the main strategy to assure raw material supply – most investors in our sample relied on contracting production. Precondition is that local farmers are able to produce the required crops and quality – which was not always the case for special products requiring high levels of investment, inputs and/or skills. In these cases, entrepreneurs relied on own production or imports. The low reliability of contract fulfillment as well as other factors makes the strategy of relying on farmers a risk for investors. On the other hand, large scale land acquisition in Ghana is generally difficult and fraught with conflicts, and own production is not without risks, either, particularly since most investors do not have agricultural background. In summary, risks of contractual supply seems to be manageable in many cases, in particular if investors serve markets with high margins which allow to pay price premia to farmers, and if competition is low. These conditions insinuate that generalizations across all agro-businesses are difficult, it will depend on circumstances whether land acquisitions are deemed suitable.

4.2 Impacts of large agro-investors

This study has not looked systematically at impacts of large agro-enterprises. Impacts of large agro-businesses showed to be manifold, stretching across several groups of population through various channels. It needs much time to discover them and get a balanced picture, not to talk about quantifying and compare them. A true impact assessment would have to include a comparison of the large enterprises' productivity with that of the existing set-ups including the space not used intensively (fallow for soil fertility recovery plus extensive non-cropping uses) and the losses made within the two systems. In addition, comparison of value chains with and without investments would have to be compared. The many affected parties of large agro-investments, particularly if they include land acquisitions and when they compete on limited local markets, makes impact assessments, even superficial ones, very challenging. Even consulted impact-focused, also long-term studies struggled to assess these impacts. However, some tentative conclusions can be drawn on this issue.

As for competition over resource use, we have gained the impression that there are still enough resources in rural Ghana to accommodate a number of large agro-enterprises, including LSLAs, without necessarily making many smallholders lose. Also untapped water resources are still sufficiently available. However, competition and detrimental effects can of course not be excluded; it depends on the existing land use, enterprise implementation as well as governmental control mechanisms which impacts are prevailing. Unavoidably, though, there will be losers which have to be compensated, and any large-scale new land user should have more than enough financial resources and projected value addition to compensate fairly. Fairly would mean not only compensating losses but creating win-win situations in the long run. Given many risks in underdeveloped economies, the new or modified livelihoods must be resilient to many risks, and often access to own land will remain an important element. Thorough planning, information and transparency, negotiation with all stakeholder groups including for fair compensation and flexible, trustful relations are key for responsible agro-investments. The intentions and the political economy around these deals are crucial given the many legal, social and political problems of governance of land tenure in rural areas of Ghana, though the land rights are clearly decentralized. Traditional chiefs hold a special responsibility in Ghana's land system. Experiences of other researchers have taught that in such settings investors cannot rely on relations with government and local authorities only but must seek direct contact with the people affected.

For market competition, it has become clear that the analysed large agro-enterprises often served markets (export and formal national markets) that small farmers and smaller agro-enterprises cannot serve (alone). The entrepreneurial characteristics, personal knowledge of markets and access to marketing channels and networks, investment costs, highly flexible adjustments, high quality requirements, standards and traceability pose requirements that small-scale producers can hardly comply with. In exceptional cases farmer based organizations with support from others could possibly could serve these markets as well, we were not able to check these options. Thus, in many cases of large agro-processor investments in Ghana there is market creation, not competition. There are, however, also cases where a certain competition was visible, for instance for fruit juice for local markets if final consumers were identical, though most fruit juices are imported which insinuates that particularly the

formal markets allow expansion of production. It is necessary to look into each sector to determine questions of competition and complementarity between large and small producers and processors.

Regarding the overall value creation, we are convinced that many of the analysed large agro-enterprises produce considerable additional value added, jobs and positive side-effects in rural areas. The extremely high proportion of jobs promised compared to the relatively low share in overall investments as indicated in the GIPC statistics makes agro-enterprises exceptionally worthwhile to attract. Whether all promises materialize is an open question. The high labour intensity of the fruit sub-sector and the new markets the large investors open are certainly supportive arguments; for palm oil the high investment costs plus high job creation also insinuates that a high additional value is created; but for crops like maize for the local market (if produced large scale which some investors seem to plan) the situation is less evident.

One could simplify this analysis by arguing that, as long as the enterprise is able to easily and fairly compensate all stakeholders (see above) and still has an interesting return on investment, probability is high that it will support rural development since there is a clear tendency for many agro-enterprises to be located in rural areas, for storable and for perishable products. It is particularly labour-intensive high-value agriculture (such a fruits and palm oil) and processing that create these effects. This is, of course, not an automatic result, but again finally a question of labour use and wages, contractual arrangements, community relations and tax and levy flows and their distributions whether the potential is actually realized. Given the political economy in rural areas of Ghana, it is unlikely that these conditions are easily fulfilled, and the many reports of conflict around large investments testify that especially deals with large land transactions are vulnerable to critical outcomes.

Finally, the search of a sound economic structure and growth path would warn against “putting all eggs in one nest”, i.e. counting only on a few large agro-enterprises to achieve rural development. They can serve certain niche markets and create intensification of some value chains, but there are limits to such niches. This study has shown that also large agro-enterprises run considerable risks during establishment and production phases. In addition, as argued they can produce inclusive growth but - given the political economy of Ghanaian rural areas – this is far from guaranteed. Thus, they cannot substitute for a broad, generally smallholder-based agriculture and agro-processing industry, but they can well be part of a broader rural development strategy. As a prudential strategy, many medium size agro-investments will be the better choice than one very large one (compare Collier / Dercon 2009).

Our reservations to more clearly pronounce ourselves on impacts are reflected in the more general statement of 12 international agencies that, “there is scant evidence on the impact of PPPs involving foreign investors and agro-industry/supermarket organised value chains on the participation of smallholders in market integration. While some positive experiences emerged recently, the literature suggests that agricultural value chains routinely shed participants or collapse completely, while the degree to which participating smallholders benefit remains uncertain, especially in cases where new business arrangements leave smallholders exposed to risks.” (Interagency Report to the Mexican G20 Presidency 2012). Some of our observations

however support one initial hypothesis is that large agro-enterprises are aware and feel negative and positive repercussions of their impacts on their long-term performance and existence. They (have to) invest in good relations with local constituencies. For shorter periods of time, they may persist against these interests if they have powerful allies and can shield themselves from negative action and attitudes of the local populations, but hardly over the long run. Another conclusion is that some, politically more influential rural populations, e.g. land owners, outgrowers and autochthonous household heads are more likely to have influence (and have thus be taken care of) on these negative repercussions than other, weaker groups such as women or migrant farmers. This again means that these weak groups have to be particularly supported and protected in large land deals. Agro-processing investments are less prone to such immediate risks, but the effect on local markets (and their small actors) should not be neglected.

4.3 External support for large agro-investors

The extent and kind of useful support for large agro-enterprises is debatable. Whether large enterprises should be subsidized or receive direct services from government is not only a question of opportunity costs (where is government and donor money best spent to produce the highest impact in terms of sustainable growth and poverty alleviation) but also a question of political correctness (in the sense that redistribution should go from rich to poor) and transparency about who actually profits from such support. Generally, from a social justice and economic efficiency perspective it must be expected that such large enterprises contribute to public resources, and are not a drain on them. Thus, their support should be punctual, usually paid for, avoid negative side effects such as squeezing out smaller competitors and support desired positive effects such as value addition in rural areas and job creation while maintaining the natural resource base.

For a more detailed discussion of what kind of support is adequate, the study was not able to go into sufficient depth. The results imply several points of entry:

- During start-up, support to establish realistic, prudential and long-term business plans seems to be desirable at least for some kinds of less experienced entrepreneurs.
- Technical support may also be justified during start-up and during certain critical periods of business development such as new, sophisticated certification, environmental compliance or new market developments. A functional innovation system including all relevant stakeholders (agro-enterprises, researchers, farmers, trade and industry administration, possibly consumers) is needed for long-term economic sustainability of an agro-value chain. The large enterprises having a prominent role in it not only as target group but as innovators, linking elements to the outside world and communicators at the upper ends of the respective agricultural sub-sectors and markets (see below for their role in sector policies). A good communication between private and public sectors, including research, should be a lesson from the cases studies. Since large enterprises are the most advanced ones in the countries, it is very likely that their needs cannot be satisfied by standard extension

but only by specialized, possibly external expertise. This should be taken into account when building up public-private partnerships.

- Stated wide-spread liquidity constraints of large agro-enterprises would call for better access to credit (and indeed many interviewees plead for it), but it is problematic to advocate for subsidies given the general considerations above. Possibly, a better alternative is provision for less stringent collateral requirements. Present efforts in the country to train banks how to better judge the risk of agro-enterprises is a step in the right direction, and much more can certainly be done to ease the job of credit rating by finance providers. Apart from credit, equity is often a more adequate answer for the long-term and varying financial needs of such enterprises. Ultimately, banks and finance providers and not governments and donors should remain the ultimate judges of bankability of the private sector. Finally, insurance against unforeseen risks is certainly a need in the agricultural sector. More advanced countries go in that direction, and agro-enterprises in Ghana (including the large ones, which in a global comparison are not as large) would be put on an equal footing. These are unlikely to develop without public support, though own contributions are certainly appropriate.

PPPs involving large agro-processors and smallholder farmers certainly merit further scrutiny. This is particularly true for cooperative approaches and for supporting the more holistic development of a rural area which is affected by the presence of a large agro-investment beyond the smallholder linkages and beyond CSR projects. In many cases, even large investors cannot take over all roles of (weak) government service provisions, but the fresh value creation could be distributed more equally and opportunities be reaped better (for instance in local support and supply industries) than with a mere business value chain approach. A big challenge will be to avoid windfall profits and undue public support to private investor benefits.

4.4 Role of large agro-processors for development and policy (processes)

There are other ways how the large agro-enterprises can be made (more) useful for development. They could be part of sector dialogue, since as spearheads of their respective sub-sectors they are best aware of sector and commercial trends (see above). If they were embedded into private associations (which is not self-evident, since they are in competition), they could give stronger political weight to dialogue and professional positions. Finally, they can act and should be used as role models for success in a sector which is considered risky and which requires a lot of managerial skills, since large agro-enterprises operate in very difficult circumstances at the intercept between rural informal and urban formal sectors. Their personal and professional profiles can inspire programmes of entrepreneurial training and the selection of the right candidates.

However, realistically also some limits must be seen. Their motivation to bring forward the rest of the sectors has to be regarded fair and critical – they cannot be interested to actively create competitors at the top of the sector. Their improvement of managerial skills is an

unsolved topic – they will mostly have to rely on their own forces, unless they invite foreign investors or (expensive) specialised staff and are willing to hand over responsibilities.

4.5 Outlook on methodology / information gathering

The pilot survey has shown that a structured approach to understand factors of success and failures of large agro-enterprises is possible if trustful relations between researcher and interviewees can be established. Intermediaries are important to establish these relations. Certain cross-checks of information gathered with entrepreneurs and managers are advisable and necessary in some areas, including finance, relations with local stakeholders including farmer outgrowers and workers as well as wider impacts in rural areas.

There are, however, several challenges to be dealt with:

- The establishment of exhaustive lists of large agro-enterprises proved to be a difficult endeavor in view of many incomplete, partially contradicting lists (see also Deininger / Byerlee 2010 or Land Matrix 2013 for this problem). Existing lists are not complete, while there are some which are blown up by non-substantiated information such as press releases, industry announcements and NGO warnings. In addition, when and how enterprise drop-outs are taken off these lists is indispensable to understand the importance and dynamics of large agro-businesses in (rural areas of) poor countries. Another one is how far these projects have evolved, and what happens to the land they do not use. In Ghana, many organizations have partially overlapping and contradictory responsibilities for this exercise. However, rules and incentives are not always conducive to provide information. Such data is clearly a case of a public good (a good example is Schönweger et al. 2012 for Lao, and even this very careful and extensive project still has considerable gaps).
- One of the objectives of the pilot project was to learn from failed investments. However, it proved to be difficult to deal with this objective. It takes a long time before an enterprise can be judged “successful”. Even large and established enterprises showed to be vulnerable to new developments and crises, both in the countries of operation and on international markets. Really failed investors proved to be difficult to identify (see above) and to interview. One option could be to follow up enterprises that dropped out of donor programmes, but a resulting handicap is that the very interaction with donors could be one of the reasons for failure, and the evaluation could show rather problems of selection of entrepreneurs, of projects and of support tools than of the enterprises themselves. Another approach could follow a snowball system, asking available entrepreneurs, bankers and the like to indicate those failed investors they know of. Whether these would be available and willing to reply is another question. The best approach would be to go for a random selection of enterprises from the lists, an identification of where these stand, and a careful investigation of whereabouts of failed investors. This would need appropriate resources and time.

- Other objects of interest which would need specific adjustment of approaches are cooperatives and other joint approaches such as PPPs. They introduce many new challenging issues of analysis such as investigating communication and collective decision making.
- The semi-structured interview guideline proved to be a functioning tool for the research question. It has been adjusted to capture more of the challenges facing enterprises and to make at least some answers quantitatively comparable. It is thought that a purely quantitative survey does not do enough justice to the complexities of large agro-enterprises, and it could not even attempt to assess the internal qualities of the entrepreneurs and enterprises which proved to be crucial ingredients of competitiveness.
- However, it is considered that a formal detailed survey such as shown in Annex 2 could provide very valuable additional information. It is recommended that it is applied in addition to the semi-structured interview. In order to spare time (formal and semi-structured interview together would exceed the time usually to be expected from a large entrepreneur) it could be provided as a self-administered tool via Mail, Email or Internet, with online or other support and check during the follow-up semi-formal interview.
- A formal survey (such as shown in Annex 2) seems to be even better suited for small and medium enterprises, where larger sample sizes and lower opportunity costs of time is expected. Again, a semi-structured interview should be added at least for a sub-sample in order to capture internal characteristics.
- A stronger attempt must be made to detect and learn from failed investments. This requires much more thorough detective and tracing work, and to overcome physiological barriers since many stakeholders (banks, donors, entrepreneurs themselves) are reluctant to admit (own) failures and tend to accuse others. Thus, empathic ways must be found to elicit these very interesting experiences (e.g. selecting couples of failed and successful experiences – though this makes methodology even more complex).
- For real impact assessments of large agro-processors, much more systematic time must be devoted to random sampling and interviewing of all stakeholder groups. Even better would be formal impact assessment with control groups, though these must be wider than “usual” control group samples to really capture the manifold ways that such large investments affect (very different groups of) people also indirectly.
- An interesting way to use the survey would be to develop it into a tool of member-based professional organisations to record the impressions and mood of their members and present it to authorities and donors (and research). GIZ Kenya initially developed the survey for this purpose, but this was not taken up. Such professional organizations should best cooperate with a research organization to select and interview

professionally. It would give any lobby work much more credibility if she could present well-established survey results.

- Finally, there is no easy way from finding challenges of agro-enterprises to proposing solutions. Since the areas of concern are very diverse, this requires much more work, and certainly participatory processes, than a single study can deliver. However, as the findings may have shown, key areas of concern to entrepreneurs, to involved and affected stakeholders, but also to society at large could be detected. An even better approach would be to compare experiences from several countries with not-too-different institutional and developmental environments so as to allow learning from good practices and failures.

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