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WATERMELON AND MELON SECTOR STUDY

This study report provides information and recomandations which can be useful to orient entry strategies for financial institutions or for the preparation of financial services

WATERMELON AND MELON SECTOR STUDY

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TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

EXECUTIVE SUMMARY

Albania is one of the leading watermelon and melon producers in the region. Albania has a long tradition and strong advantage in the production of watermelon and melons because of favourable climatic conditions. This has been one of the first agrifood subsectors for which Albania achieved a structural trade surplus. Production of watermelon has remained stable at about 250,000 MT/year since 2000s, although some yearly oscillations are observed. Watermelon exports have increased significantly in the last years, from being negligible (ca 28,000 USD) in 2000 to exceeding 4.5 million USD in the last years, while the opposite trend occurred with import quantities. Considering the export orientation of this value chain, there is a need for investments aiming at improving product quality and standards. The watermelon and melon value chain is considered a priority sector considering its export potential.

The objective of this study report is to provide an overview of the watermelon and melon subsector in Albania, by analysing recent developments and the current state, including opportunities, constraints and challenges, with special focus on investments needs/potentials. This study report provides information and recommendations, which can be useful to orient entry strategies for financial institutions or for the preparation of financial services. But potential users of the current study findings and recommendations can be also government institutions, business associations, development agencies, academia and other interested stakeholders.

This study is developed from the technical expertise and financing of the Albania Agribusiness Support Facility (AASF). AASF is a financing framework developed by EBRD in cooperation with and with support from the Government of Albania which started its activities in 2016. The objective of the facility is to motivate Albanian financial institutions to support the agrifood sector. AASF provides access to finance for the agribusiness sector through senior loans and/or portfolio risk sharing to both MFIs and banks. The final beneficiaries of AASF are farmers and companies that are engaged in primary agriculture, agricultural equipment production and trade, logistics, agribusiness service providers, agricultural processing, wholesale as well as retail traders.

Both secondary and primary information/data sources have been used to meet the study objectives; semi-structured interviews with value chain actors and sector experts were used a primary source of data collection. Data were analysed using various techniques including descriptive analysis, trend analysis, text analysis, SWOT analysis strategy. The combination of qualitative and quantitative analysis has been crucial to identify/understand trends, gaps and needs for investments.

The current study finds that there are some investment opportunities for financial institutions in the water melon sector. Low tunnels for watermelon production represent the typical and main investment in the watermelon value chain. Given supply (still available area for low tunnel investment) and demand (sustainable export demand) conditions, support low tunnels (irrigation system, plastic and other items) may be considered by financial institutions. Greenhouse represents an interesting financing opportunity, particularly in Divjaka area (but not limited to) given the high profitability rate – the turnover from a three cycle production in Divjaka. Cold storages are needed to preserve fruit quality in case of exporting to high income EU countries. Despite the common held belief and practices that the cold storage is not needed in case of watermelon storage given the just-on-time supply practice – the buyer orders the produce he needs, gets the product

and export usually within a day. Nevertheless expert opinion inform that the watermelon may be stored for 2 to 3 week at a temperature 10°C-13°C, and melon 7°C-10°C, financing cold rooms for watermelon exporters may represent an opportunity for financial institutions.

There is a potential for value chain financing, particularly, in cases where buyers are also input suppliers. In order to 'control' the right cultivars suitable for export and the seedling quality, the exporter-input supplier is interested to enter in a more durable relationship with the farmer, by providing them seedlings which farmers pay back at the time of produce supply. In such a case, exporters may become agents for financial institutions to reach other chain actors who would have been difficult to reach otherwise.

Watermelon and melon value chain is considered a priority sector for Albanian government based in its export potential - the sector has been included in all public financial support schemes, including recent support schemes. The current partial grant policy has important implications for financial institutions - they have the opportunity to co-finance the investment for up to 100% of investment amount, out of which, at least 50% could be short term loan (the part to be reimbursed by the grant after the finalization of the investment) and at most 50% loan term loan for the part to be paid by the beneficiary.

1. INTRODUCTION

Background

Agriculture is one of the main sectors of the Albanian economy in terms of employment and contribution to GDP and is considered a priority sector by the government of Albania. Despite recent growth, Albanian agriculture still faces various challenges including difficult access to credit; the agricultural sector receives only 2% of total credit for the economy.

Albania is one of the leading watermelon producers in the region. Production of watermelon has remained stable at about 250,000 MT/year since 2000s, although yearly oscillations are observed. Watermelon exports have increased significantly in the last years, from being negligible (ca 28,000 USD) in 2000 to exceeding 4.5 million USD in the last years. Meanwhile, the opposite trend occurred with respect to imported quantities. The watermelon value chain is therefore considered as a priority sector given its export potentials.

This study is developed from the technical expertise and financing of the Albania Agribusiness Support Facility (AASF). AASF is a financing framework developed by EBRD in cooperation with and with support from the Government of Albania which started its activities in 2016.

The objective of the facility is to motivate Albanian financial institutions to support a vital sector of the Albanian economy with widely untapped potential - agriculture and agribusinesses. AASF provides access to finance for the agribusiness sector in two ways: senior loans and/or portfolio risk-sharing to both MFIs and banks. The institutions benefit from a first loss risk cover that was made available by the Government of Albania. AASF therefore represents an innovative financial instrument to encourage lending by financial institutions to the whole agribusiness value chain.

The final beneficiaries of AASF are farmers, entrepreneurs and companies that are engaged in primary agriculture, agricultural equipment production and trade, logistics, agribusiness service providers, agricultural processing, wholesale as well as retail traders. Agribusinesses may also benefit from the EBRD Advice for Small Businesses (ASB) program, which provides consultancy on strategy development, marketing, technical restructuring and other key institutional development areas by international and local experts.

The study objectives

This study's general objective is to provide an overview of the selected value chain in Albania by analysing recent developments and the current state, including opportunities, constraints and challenges, with special focus on investments needs/potentials.

More specifically, the study

- provides an overview of the main production trends, international trade trends and market trends;
- provides a 'snapshot' of value chain structure, flows and value chain governances with special focus on 'leaders in the value chain';
- synthesizes the main points in a value chain through a SWOT analysis strategy, and;
- recommend on the main opportunities for (investment financing, working capital financing, and value chain financing) the financial institutions.

This study report provides information and recommendations, which can be useful to orient entry strategies for financial institutions or for the preparation of financial services.

Methodology and approach

Both secondary and primary information/data sources have been used to meet the study objectives; semi-structured interviews with value chain actors and sector experts were used as a primary source of data collection. Data were analysed using various techniques including descriptive analysis, trend analysis, text analysis, SWOT analysis strategy. Value chain analysis was adopted as general framework for analysis. Methodology is described in more details in the following section.

The target group

The value chain study is primarily designed for the financial Institutions, but this study report can serve as a useful background in the decision-making process of other relevant stakeholders such as Ministry of Agriculture (MARD), development agencies, and private sector actors (e.g. companies, associations).

What the study is and is not

The report is a rapid appraisal and it deals particularly with the value chain financing need and hence financing opportunities for financial institutions. The study is designed in such a way that it is easy to read in terms of structure/flow and level of information details, suiting to the needs of the reading decision-making (e.g. bankers). The study is designed to serve as a 'tool' for executive staff rather than a research study per se.

The report structure

The report is structured as follows: the second section consists of the description of the methodology. The third section provides an extensive analysis of production and international trade trends. Section four describes the value chain structure, flows and actors profile. Section five consists of production technology processes overview to make the reader familiar with main technological processes and relevant costs highlighting timing when such processes/costs occur, as well as harvesting/production (proxy for the timing of sales). Section six provides a SWOT analysis with focus on investments needs/potentials, whereas the last section concludes the main findings of the study.

2. METHODOLOGY

Sector selection

The watermelon value chain study is part of a set of sector studies provided to financial institutions by AASF for the most important agricultural sectors in Albanian agriculture. Therefore, the first stage consisted of the prioritization of the sectors or subsectors or (group of) products for which there is the biggest demand/potential for growth and investments – considering export market potential or import substitution potential. Two groups of factors were considered when designing the list of products to be analysed; market potential and other factors leading to product competitive advantages. Market potential is examined in two angles, export potential and import substitution potential. Export potential considers revealed export performance combined with international demand for the given product - when exports grow over time and this coincides with increasing international demand this product is said to have export potentials. Import substitution potentials consider potentials to meet domestic demand. Other consideration leading to competitive advantage include supply side factors, such as labour to land ratio, tradition and skills also established linkages among actors on the value chain, including also well-established linkages between Albanian actors and international buyers.

The watermelon value chain is considered a priority sector considering sector export potential.

Data collection

The study combines qualitative and quantitative methodology. This allows for a better understanding of the status and dynamics of the relevant product chain. The study combines analysis of secondary and primary data. For various issues/indicators, analysis was based on the secondary data (including sectoral/ structural data).

The secondary data was retrieved from MARD (Ministry of Agriculture and Rural Development), INSTAT (Albanian Institute of Statistics), UNSTAT COMTRADE (for international trade), FAOSTAT (for production and consumption) and EUROSTAT (for production and international trade), etc. In addition, a review of other relevant studies and reports was carried out. The constraint faced is that for some indicators (related to domestic production and trade) there are no available statistics, while for some others there are no recent statistics. However, regarding international trade, latest data are available and were analyzed. When applicable data from other countries or regions were collected for comparative analysis purpose.

The primary data collection consisted of semi structured in-depth interviews carried out with key informants, representing value chain actors and sector experts. A snowball survey was used to identify the main actors and experts for each value chain for the semi-structured interviews (part of the primary qualitative research). In depth interviews with key informed stakeholders (alongside desk research), enabled the obtaining of up-to-date understanding about the main patterns for the key sectors. A limited number of interviews with key informed value chain players / stakeholders were carried out.

Data analysis

Regarding data/information analysis, secondary statistical data has been subject of standard descriptive analysis including tables and graphs depicting historical trends. Comparison of production and consumption trends with world, European and some cases with neighbouring countries was done, when applicable/necessary. Regarding VC expert/actors interviews, notes are analysed by using simple content summarizing approach and qualitative content analysis techniques, with the aim to sum up the most relevant and interesting topics emerged from the interviews. Value chain analysis was adopted as general framework for analysis of value chain structure and (products, financial, and information) flows.

3. TRENDS AND PROSPECTS OF THE IDENTIFIED VC

3.1. PRODUCTION TRENDS

Production of watermelon is characterized by oscillations from year to year. As a general trend, the land area under watermelon has decreased, while yields per hectares have been increasing over years leading to increased production (Table 1).

Table 1: Production trends of Watermelon in Albania

Watermelon	2005	2010	2014	2015	2016
MT	204,000	199,364	216,270	235,630	240,993
Ha	7,000	5,488	5,748	5,950	5,376
MT/Ha	29	36	38	40	45

Source: FAOSTAT (2018)

Watermelon production in Albania is relatively higher compared to other countries of the region. Table 2 below indicate that over years the trend of watermelon production is positive. This trend of Albanian watermelon production has been in line with the world trend and other European countries.

Table 2: World Cultivation Trends of Watermelon (000 MT)

Country	2005	2010	2014	2015	2016
Albania	204	199	216	236	241
Montenegro	:	9	15	22	17
Serbia	:	197	228	242	208
Macedonia	132	135	137	131	140
EU	2,945	2,791	2,572	2,870	2,855
World	91,169	101,211	111,507	113,708	117,023
Europe	4,837	5,200	5,181	5,682	5,754
Eastern Europe	2,185	2,694	2,750	2,888	2,992
Southern Europe	2,644	2,490	2,414	2,777	2,744

Source: FAOSTAT (2018)

Regionalization

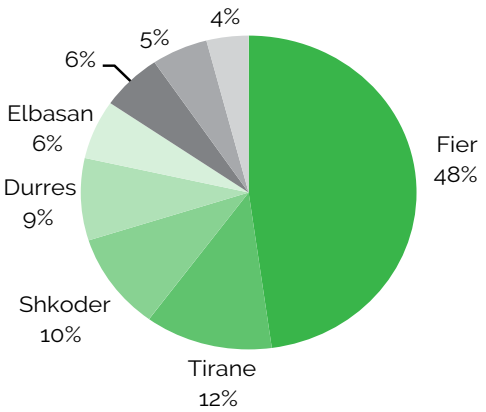
Production of melon (including watermelon) is highly concentrated in the region of Fier (almost ½ of the production).

Table 3: Regional distribution of production of watermelon & melon (bostanoret) 2016 (MT)

Region	MT	Share	Cumulative
Fier	127,173	46%	46.0%
Tirane	32,714	12%	57.8%
Shkoder	26,519	10%	67.4%
Durres	22,543	8%	75.6%
Elbasan	16,200	6%	81.4%
Lezhe	15,738	6%	87.1%
Berat	14,410	5%	92.3%
Vlore	10,773	4%	96.2%
Diber	6,194	2%	98.5%
Korce	2,428	1%	99.3%
Gjirokaster	1,190	0%	99.8%
Kukes	659	0%	100.0%
Total	276,541	100%	

Source: INSTAT (2017)

Figure 1: Regional distribution of watermelon & melon (bostanore) production (2016)



Source: INSTAT (2017)

Box 1: Divjaka area – the most productive watermelon, melon & field vegetable production in Albania

Divjaka (situated in the qark/region of Fier) represents the most productive vegetables production area in Albania, and is a leading region for the production of export-oriented watermelon and melon. The prominent role of Divjaka in national production of watermelon & melon as well as early vegetables and of open field vegetables in general is due to the very suitable microclimatic conditions, to soil quality suitable for the production of open field crops and to the diffused knowledge and tradition in production, as this area has been traditionally specialized in production of watermelon & melon as well as other field vegetables, even before 1990. In Divjaka, agriculture land is planted 2-3 times per year.

The success of Divjaka as a production cluster in comparison with other regions where basic conditions are also good is due to a combination of factors, such as:

- Suitable climate.
- Relative vicinity to main urban areas and early availability of good road connections (as compared with other distant cities such as Saranda), which allowed the increased demand for (domestic) vegetables in the late 1990s and early 2000s to be exploited;
- The return of many former emigrants with capital and know-how, combined with the support of several donor projects;
- A strong incentive for the further development of this cluster was the construction of the first high-tech greenhouse nursery (Dutch model implemented by Bruka Seedlings), which brought a quick change in the quality of the seedling and in the technology of cultivation.
- The establishment of wholesale facilities in Lushnja, Divjaka and Fier were among the first in the country.

According to Mr. Sajmir Biti, in Divjaka there are produced 30,000 MT of watermelon – mostly for exports. There is a potential to increase production and exports.

Source: Authors own elaboration based on interviews.

3.2. INTERNATIONAL TRADE TRENDS

Watermelon exports have increased significantly in the last years, from being negligible (ca 28,000 USD) in 2000 to exceeding 4.5 million USD in the last years, while the opposite could be observed for imported quantities. Import prices are higher than export prices – naturally, part of the watermelon is imported off-season, reaching the Albanian market at significantly higher cost and prices when compared to the price at which Albanian watermelons are exported during the production season (Table 4).

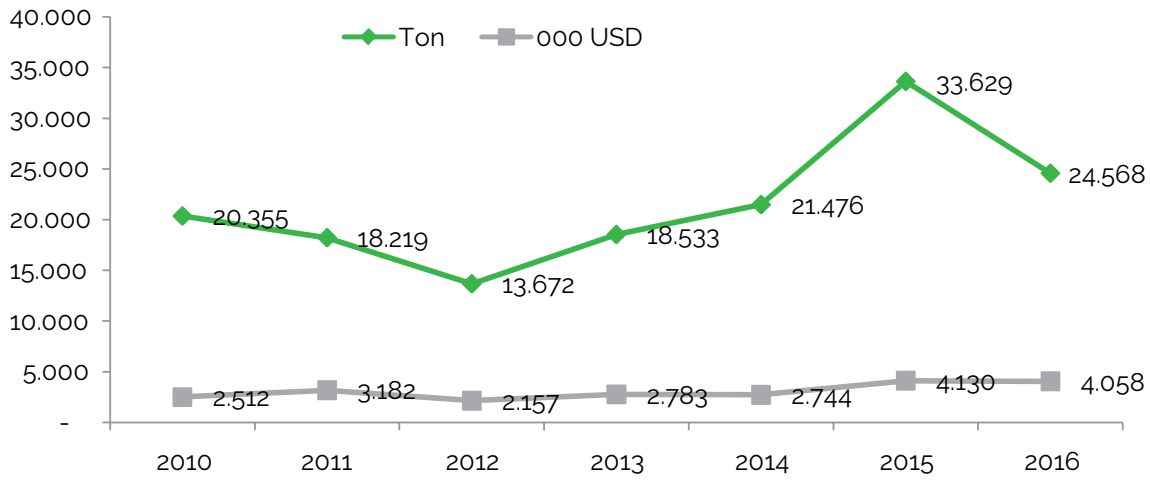
Table 4: Import and exports of watermelon& melon, Albania by year

Year	Exports			Imports			Export/ Import	Export/ Import
	000$	MT	$/ kg	000$	MT	$/kg	Value	Weight
2000	28	128	0.22	306	2474	0.12	9%	5%
2005	629	10,380	0.06	152	273	0.56	413%	3798%
2010	2,654	20,829	0.13	164	117	1.40	1619%	17739%
2014	2,969	22,236	0.13	98	66	1.48	3041%	33604%
2015	4,572	35,022	0.13	49	39	1.26	9400%	90799%
2016	4,672	26,130	0.18	51	41	1.24	9243%	64260%

Source: UNSTAT (2018)

Exports of watermelon exhibit a growing trend in value terms though oscillations are observed in quantities from year to year; contraction is marked in 2016 after a strong increase in 2015.

Figure 2: Dynamics of the Albanian exports of watermelon



Source: UNSTAT (2018)

Most exports of watermelon take place during June – July. Research shows that the best window is that of June, starting from early June until late June (ca 25 days). Indeed, as it may be shown, the month with highest level of export is June, followed by July, with slightly lower levels. There is a potential to increase production and exports also by the end of May, depending on the cultivar variety but also climatic conditions. In late June, Macedonia enters in production, thus resulting in stronger competition with affects prices and margins.

Below the prices at which exports take place are displayed. It gets obvious that prices are low in July and August. The prices are higher in May and June, because of lower competition (as mentioned above, Macedonia enters production later).

Table 5: Exports of watermelon &melons (2017)

Melons	May.	Jun.	Jul.	Aug.
Quantity (MT)	542	20,103	15,675	1,615
Value (000Euro)	226	4,172	1,304	192
Price (Euro/kg)	0.42	0.21	0.08	0.12

Source: EUROSTAT (2018)

Kosovo is the main exporting partner making up around 50% of total exports of watermelon, followed by Bosnia and Herzegovina. Part of the exports to Kosovo is further exported to third countries.

Table 6: Exports of watermelon &melons by partner country (2017)

Melons	May.	Jun.	Jul.	Aug.	Sep.	Oct.
Kosovo	7%	27%	79%	8%	11%	6%
B&H	8%	21%	6%	10%		
Czech Republic	6%	21%	4%			0%
Total (MT)	542	20,103	15,675	1,615	126	157

Source: EUROSTAT (2018)

3.3. MARKET

3.3.1. International market

Albania has positive trade balance for watermelon and other melon varieties, which amounts to more than US$ 4.1million for watermelon and US$ 0.6million for melon, respectively. The export annual growth between 2012 and 2016 for watermelon is 18% and for melon is 11% (Table 7).

Table 7: Watermelon and melon export performance

Product label	Value exported in Product label 2016 (USD thousand)	Trade balance 2016 (USD thousand)	Annual growth in value between 2012-16 (%)	Annual growth in value between 2015-16 (%)	Annual growth of world imports between 2012-16 (%)	Ranking in world exports
All products	1962117	-2707173	-2	2	-4	133
Agricultural products	196002	-478351				
Fresh watermelons	4058	4026	18	-2	5	29
Fresh melons (excluding watermelons)	614	595	11	39	2	50

Source: International Trade Centre (2018). https://www.trademap.org

Export of watermelon and melon occurs under increasing international demand for these products - import of watermelon increased 5% in the world market in the period 2012-2016 and import increased by 2% during the same period. Albania is 'visible' as international player for the export of both products - it ranks 29th for the export of watermelon and 50th for the export of fresh melons.

3.3.2. Domestic market

Overall, there is a preference for local horticulture products among Albanian consumers. When local watermelons are available, imports are negligible, thus it is critical for the growth of the sector, to exploit export opportunities, as there is a potential to increase sales in various European markets.

There are gaps in food safety standards throughout the downstream food value chain. Albania faces serious problems with the national food safety control system in terms of legislation, infrastructure, and institutional capacity. Overall, most farmers have limited awareness about standards. A survey carried out early 2017 with watermelon (and greenhouse) farmers, reveals that only about 25%of the farmers have carried out irrigation water or soil analysis. As a result, many farms are characterized by low performance in terms of yield and quality of production (ISETN, 2017).

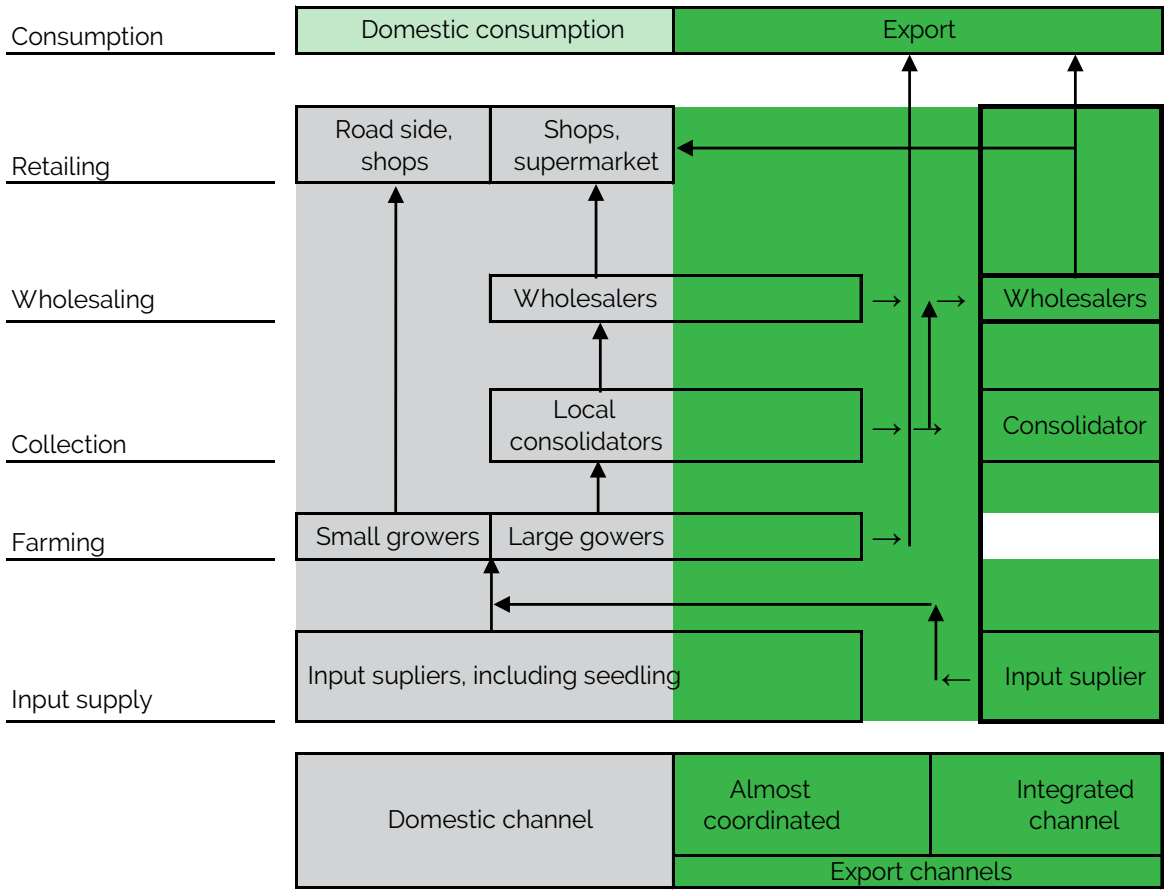
The growing pressure from 'export markets' and EU approximation to improve standards will imply growing demand for significant investments along the value chain to meet the new requirements. Awareness campaigns, combined with stronger law enforcement effort and availability of financial incentives would highly influence likelihood to increase such investments at farm, trader and processor level. More specifically, there is a potential to scale up GlobalGAP certification, which improves export market positioning. There are already few cases of watermelon producers who have been certified GlobalGAP – according to interviewed exporters, GlobalGAP represents an advantage to export more attractive EU markets. Certification is associated to financial needs for the cost of certification itself, but also for basic investments which might occur to comply with certification/standard requirement.

4. VALUE CHAIN STRUCTURE AND KEY ACTORS

4.1. VALUE CHAIN STRUCTURE AND ACTORS' PROFILE

Figure 3 maps the watermelon and melon value chain actors and the main channels through which the products flow from farmers to end use consumer.

Figure 3: Watermelon and melon value chain map



Source: Authors' own design

The main actors in the watermelon and melon value chain are input suppliers (mainly seedling suppliers) farmers, local consolidators and wholesalers. In the following discussion we provide actors profile which is followed by the description of the value chain flows and governance.

Input suppliers

Quality seedlings are a key input supply for commercial growers. An increasing number of commercial growers are purchasing seedlings, even if half of commercial producers and most non-commercial growers still produce their own seedlings.

The number of input suppliers is relatively high, but a few of them also produce and sell high volumes and quality seedlings. In this way, they dominate the market for melon and watermelon inputs and create the conditions for further enlarging their businesses.

There are three large watermelon seedling suppliers in Albania: Agroblend, Bruka Seedling, and AgroKoni. Apart from these three, there are also a few minor players producing for self-useand other small farmers.

Farmers

There are two major categories of watermelon producers, namely very small commercial farmers and larger, clearly commercial farmers. The first category of growers produce approximately 80 percent of the total output using relatively low technologies; they usually perform spot market transactions and are largely disorganized.

Less than 200 farmers (less than 3% of producing farmers) are reported as larger commercial growers. Commercial growers usually have larger than average areas under production; farmers cultivating above 6 dn of watermelon/melon can be considered as commercial ones. Four in five commercial (150) famers have above 1 ha, one third have above 2 ha and only 19 farmers have area larger than 5 ha (Table 8)

Table 8: Watermelon and melon larger commercial farms, for 2017

Farmers category	Total	% to size
Between 6 and 10 dn	44	22.7
Between 11 and 20 dn	66	34.0
Between 21 and 50 dn	65	33.5
Over 51 dn	19	9.8
Total	194	100.0

Source: MARD data processed by authors.

Region wise, Fier is the main producer of watermelon & melon (as shown in the previous section), and more specifically Lushnja and Divjaka area. Berat and Shkoder also produce significant quantities of the watermelon. Large farms in Divjaka (Lushnje), Kutalli (Berat) and Frakull-Levan (Fier) are oriented towards exports and applying modern technologies, while in Lezha, where basic conditions are similar to Lushnje, the largest farms are also less likely to apply modern technologies.

Local consolidators/traders

Large shares of the watermelon trade is done by small to medium-scale traders, who buy directly in the field from producers or in wholesale markets in production areas and sell back in other wholesale markets, to larger traders, directly to retailers, or export regionally. These small traders usually are not specialized for a specific product. They do not have established durable relationships with producers and conduct most of their business through spot buying and selling.

Wholesalers

At present, there are a limited number of operators of this category in the watermelon& melon sector, such as Bruka Seedling, AgroKoni, Biti, Doni Fruits, etc. Some of them (Agrokoni, Bruka Seedling, Biti) are also input and seedling suppliers. Integrated consolidators are engaged in more than one level of the chain and while none of them are engaged in production, they generally have established relationships with producers and provide them with a relatively wide range of services.

Box 2: Saimir Biti: a key actor in the watermelon value chain

Products
The company deals with watermelon (mainly for export) but also all kind of field vegetable. The watermelon export amounts to 2000MT (100 truck by 20MT per truck).

Resources
Current assets: The company owns a private market of an area of 7000 m^2; it also owns a storehouse of 650 m^2 out of which 100 MT of cool storage capacity. The company has mechanized loading and unloading machineries. Saimir has also invested in farming. Recently have invested in a greenhouse of 2 ha for watermelon - production started in 7th May at ALL 100 per kg which is considered a high price. He is Global GAP certified. Mr. Biti runs also a greenhouse construction business activity.

New Investment. Together with his brothers and friends, Mr. Biti is investing in greenhouses of 6 ha for watermelon (and other vegetable) cultivation. According to him, this is important for time and volume coordination in case export is targeted. According to him, farmers in Divjaka can use the greenhouse for 3 production cycles per year: first cycle for production of salad and cabbage, second cycle for production of watermelon and third cycle for the production of paprika. The income per ha for the first production cycle may go to ALL 3-4 million, and for the three cycles up to ALL 10 million (Euro 80,000) which is an exceptional high value for an agricultural activity.

Mr. Biti intends to focus on integrated model: seedling production, farm production and export.

Market channels.
The company sell the product (watermelon) to 3-4 buyers in Czech Republic and Croatia. The buyer orders the produce but also provides large cartoon boxes (contain up to 300 kg suitable for watermelon transport). The quantity exported in previous years has amounted to 400 trucks. This year, it is estimated to be up to 600 trucks. The watermelon produced in Divjaka is mainly destined to exports but also (even less important) domestic market. Mr. Biti assesses that there is a market potential to substitute early imports from Greece, and export to Macedonia, Kosovo and Montenegro; to replace early Greek exports of watermelon to these countries.

Partners
Farmers. The company buy produce from farmers and also sell inputs (seedling)to farmers. It buys from 150 farmers – most of them (at least 100) are stable farmers. Mr. Biti advices farmers on production technology. So far, farmers are paid upon delivering the products, but this year, he intends to exports higher volumes and therefore he will pay them later, upon receiving money from traders abroad. Farmers tend to pay 50% of the inputs/seedlings cost upon receiving and the rest upon delivering the farm product.

Mr. Biti uses greenhouse construction company services for farmers in the area. Interestingly he pre-finances greenhouse construction, meaning that he accepts late payment from farmers that he trusts, which are usually kept from the sales. Wholesalers. He cooperates with Koni SHPK. Mr Biti consolidates the produce (watermelon) for Koni SHPK against a fee.

Transport. The company used foreign transport companies serviced to ship the produce - Macedonian transport for eastern countries, Montenegrins for Croatia. For long distances, they have cool-container trucks; for nearby markets, they use simply covered trucks.

Success factors
The main success factors for Biti company include: market orientation and durable relationships with international buyers, working relationships with farmers based on mutual interest, investment in farming.

Source: Authors own elaboration based on interviews

4.2. VALUE CHAIN FLOWS AND CHAIN GOVERNANCE

Product, information and financial flows

Product flow. As schematically represented in Figure 3, one may distinguish two channels through which the produce flows from farmers to destination market, namely domestic channel and export channel. In the domestic channel, farmers sell their produce either directly e.g. at road sides or retail shops or local consolidators or even wholesalers. The latest supply are retrials shops and - to a lesser scale – supermarkets. The export channel consists of two sub-channels, almost (quasi) coordinated and integrated channels. In the first channels, farmers sell the produce to either local consolidators or wholesalers who supply the produce to international buyers. In the case of integrated channel, the consolidators or wholesalers perform more than one stage in the value chain; several stages in a typical case. They deal with input production, consolidators, wholesaling and export. The cases where consolidators/wholesalers deal also with farming are rare (Biti and Bruka Seedling case). Consolidators/wholesalers usually buy directly from farmers. Only in exceptional cases, wholesalers may buy from consolidators (Agrokoni case).

Information flows. In the case of almost (quasi) coordinated export sub-channel, input suppliers – who are also local consolidators/wholesalers and exporters – together with watermelon seedling 'package' also provide advice on production technology. In some cases, local consolidators have even introduced new watermelon cultivars demanded in the market – they have provided farmers with seedlings and related technology, collected the final produce and sold to international buyer. The advice for smaller, domestically-oriented farmers is less frequent.

Financial flows. Farmers pay cash on the spot for agricultural inputs (fertilizers, pesticides, greenhouse cover plastic) they buy from input suppliers who are not involved in any other stage of watermelon value chain. In case input suppliers are involved in consolidation/wholesaling and export, the situation is more complex – though they prefer on the spot cash payment, the late payment for seedling and other inputs in rather frequent. From anecdotal reports, it is pointed out that also investment in farmers greenhouse are pre-financed by local traders (Mr. Saimir Biti case; refer to Box 2)

Value chain governance

In the export almost (quasi) coordinated channel (Figure 3), particularly, when consolidators/ wholesalers are also input (watermelon seedling) providers, often there are more stable relationships among actors. Field interviews show that consolidators/wholesalers deal repeatedly with a core group of farmers with whom they have established more stable relationships. Even though there is quite some flexibility in the relationships with farmers – there are farmers who enter and exit relationships with buyers – there is a core group of farmers, who buyers have more stable relationships with. The latter sell inputs to this group of farmers sometimes allowing for late payments, offer advice and technical information, and buy the farmers produce.

5. PRODUCTION TECHNOLOGY PROCESSES

In the following tables, there are shown the main operational production processes which are related to expenditures. Soil preparation is performed by mid-January till beginning February accompanied with basic fertilization. Fertilizers are applied every week until end of April. Irrigation is applied every week. There are slight differences between watermelons vs. melon, but also some differences may occur due to differences in cultivar variety.

Table 9: Calendar of watermelon production processes

Main type of expenditures	January	Febr.	March	April	May	June
1.Soil plowing & scarification						
2.Planting & saplings						
3.Basic & complement fertilizer						
4.Chemical treatments, spraying						
5.Irrigation						
6.Harvest						

Source: Expert assessment, based on desk review and interviews

Table 10: Calendar of melon production processes

Main type of expenditures	January	Febr.	March	April	May	June	July
1.Soil plowing & scarification							
2.Planting & saplings							
3.Basic & complement fertilizer							
4. Chemical treatments, spraying							
5. Irrigation							
6.Harvest							

Source: Expert assessment, based on desk review and interviews

Harvesting starts by the end of May, but the timing of the harvesting depends on the technology, variety and location.

Table 11: Harvesting calendar by type of production

Type of product	May	June	July	August
Watermelon 1				
Watermelon open field				
Melon 1				
Melon open field				

Source: Expert assessment, based on desk review and interviews

As it may be observed from the above information/ tables, there is a time lag between the moment that the production processes which are related to expenditure occur and the sales. Thus, there is a time window for short term loans that could be covered by banks.

6. SWOT ANALYSIS STRATEGY AND FINANCING NEEDS

6.1. SWOT ANALYSIS STRATEGY

The following SWOT analysis strategy was conducted with the objective of identifying financing opportunities in the watermelon & melon sector.

Table 12: Watermelon: SWOT analysis strategy for the watermelon & melon sector

	STRENGTHS (+)	WEAKNESSES (–)
	Tradition in watermelon & melon production	Inappropriate cover plastic for low tunnels
	Rather solid production base in specific area, namely Divjaka	Production high losses, due to lack of post-harvest infrastructure
		Insufficient investment in greenhouse industry for watermelon production
		Insufficient cooling rooms for produce pre-cooling
OPPORTUNITIES (+)	**S (+) / O (+) STRATEGY**	**W (-) / O (+) STRATEGY**
Stable domestic demand		Support commercial farms in areas with production potentials
High export demand and rather well established relations with foreign buyers	Support investment in watermelon production using low tunnels technology	Support greenhouse construction for watermelon production
Potentials to develop the sector in Saranda and Lezha		Support increase cold storage capacities
THREATS (–)	**S (+) / T (–) STRATEGY**	**W (–) / T (–) STRATEGY**
Competition from Greek watermelon producers	Support investment in watermelon& melon production using both low tunnels and greenhouse technology to increase volumes improve earliness	

6.2. FINANCING NEEDS

6.2.1. Investment trends and financing needs

Investment trends

The main type of investment made by watermelon farmers is investment in low tunnels. This type of investment comprises irrigation system, and plastic cover, seedling and other related operations. Plastic cover has a life span of 3-4 years, while irrigation has a longer life. Investment in greenhouses for watermelon/melon production is a new trend in the value chain in Albania. Greenhouses may also be combined with low tunnels. However, one needs to clarify that greenhouses can be used for up to three production cycles, one of which could be watermelon production. Cold rooms do not represent a typical investment for watermelon consolidators/ wholesalers-exporters, at least at the present, as stated by the interviewed wholesalers/exporters. The dominant opinion is that while there is no need for cooling for short distances, refrigerated trucks are used in case of longer distances.

Investment financing needs

Following the SWOT analysis strategy and investment trends, investment-financing needs are summarised in the Table 13.

Table 13: Investment financing needs

Type of investment	Farmers	Consolidators/ exporters	Wholesalers/ exporters
1. Support plastic cover for existing greenhouse			
2. Support investment in watermelon production using low tunnels technology			
3. Support greenhouse construction for watermelon production			
4. Support increase cold storage capacities			

Source: Author elaboration

Low tunnels for watermelon production represent the typical and main investment in the watermelon value chain. Given supply (still available area for low tunnel investment) and demand (sustainable export demand) conditions, support low tunnels may be considered by financial institutions.

Greenhouses represent an interesting financing opportunity, particularly in Divjaka area (but not limited to) given the high profitability rate given the soil and climatic conditions which allows for up to three production cycles.

Despite the commonly held belief and practices that the cold storage is not needed in case of watermelon given the just-on-time supply practice – the buyer order the produce he needs, gets the product and export usually within a day - expert opinion inform that the watermelon may be stored for 2 to 3 weeks at a temperature 10°-13°C, and melon 7°-10°C . Hence, financing cold rooms for watermelon exporters may represent an opportunity for financial institutions.

Box 3: Public support schemes for Albanian agriculture

There are two major public support schemes for Albanian Agriculture, namely Annual National Support Schemes (ANSS), and EU like Rural Development Programme, IPARD. While the latest aims at enhancing competitiveness and implementing EU (safety, quality and environment) standards and targets the most competitive businesses, ANSS has multiple policy objectives and a broader coverage.

Objectives and measures for ANSS-2018 area summarized below:

- Increase of competitiveness by providing support to investment (construction of greenhouses, investments in marketing), supporting innovation technologies, and certification and insurance.
- Vertical and horizontal and business formalization.

While the ANSS have traditionally provided support for meeting multiple policy objectives, including increased competitiveness, recently there has been a growing attention towards meeting the standards.

National subsidy schemes have traditionally been changing from year to year (often drastically). The budget allocated for ANSS for 2018 is Euro 20 million. For investment support, similar scheme of partial grant policy (at least 50% public support) is valid.

Another major Program is EU like Rural Development Programme, IPARD, which enables support for investment aiming at improving competitiveness and meeting national and EU standards, through co-financing investment by a grant (e.g. 50% however the exact value depends on a number of criteria). It is expected that IPARD calls for applications (which will also highlight the details of the eligibility criteria) will start in the second half of 2018. For this programme a budget has been approved of 71 Mill Eur from EC and 24 Mill Eur grant from Albanian government (75% EU: 25% Albanian government), so there is a 94 Mill Eur grant available for investments at farm and processing level during 2014 – 2020.

6.2.2. Operating capital financing needs

Operating capital financing trends

In the recent past, input suppliers have used late payment for agricultural inputs they supply to farmers. Given problems encountered by input suppliers concerning payment collection from farmers, input suppliers now prefer on the spot cash transaction. Payment for farm produce supplied by buyers is made both within a short period of time or late payment. Payment within a very short period of time is made in case the buyer downstream (including exporter) make timely payment, and late payment is made in case international buyer make late payments particularly for groups of farmers; traders have more durable relationships and some larger farmers.

Operating capital financing needs

Since input suppliers prefer on the spot cash transaction, there is a need by the side of farmers for short term working capital. This is particularly needed in case of larger farmers; smaller farmers may accommodate working capital needs using own savings or borrowing from relatives. The need for farmers´ short term working capital is also to be explored in case buyers face problems with other buyer downstream (exporters).

As highlighted above, there is a time lag between the moment that the expenditure occur and the sales. Thus, there is a time window for short term loans to cover operational expenditure at farm level that could be covered by banks.

6.2.3. Value chain financing

Support to contact farming is included in the GoA support scheme for 2018 (measure 41: Support to green house seedlings) - government subsidizes 50% of seedling price to farmer through buyers subject to a contract between the buyer and the farmer. Interestingly, there have been promises numbers of application to benefit from this measure.

The applicants for this measure (buyers and farmers) may be considered as realistic candidates for value chain financing. The banks may extend short-term loans for covering working capital need of buyers or investment loans to farmers using buyers as their agents.

7. CONCLUSIONS

Albania is one of the leading watermelon & melon producers in the region. Production of watermelon has remained at about 250,000 MT/year since 2000s, although yearly oscillations are observed. The production of watermelon is driven by both supply and demand conditions. Albania has good climate and land conditions, including early watermelon production. On the demand side, Albanian consumers prefer domestic products and, in terms of international trade - interestingly - Albania is 'visible' as international player for the export of both products - it ranks 29th for the export of watermelon and 50th for the export of fresh melons. Export of watermelon and melon occurs under increasing international demand for these products.

The main actors in the watermelon and melon value chain are input suppliers (mainly seedling suppliers) farmers, local consolidators and wholesalers. Typical investment made are low tunnels for watermelon cultivation, (a new trend in) greenhouse construction for watermelon cultivation, and less often investment in cold storages.

The watermelon value chain is structured around two main channels, namely domestic and export channel. The export channel is composed of two district sub-channels: the almost (quasi) coordinated and the integrated channel. In the first channel, there are cases of coordination between buyers-exporters and core groups of farmers – buyers' advice farmers on production technology including type of cultivars, supply inputs (in case buyers are inputs suppliers as well), buy the produce and sometimes perform late payments for farmers. This kind of relationships contains the potential for value chain financing. In case of integrated export channel, some actors deal with more than one stage in the value chain.

The study informs financial institutions and other interested actor in the sector support on the main financing opportunities. The main investment financing needs for watermelon value chain are investment in low tunnels, construction of greenhouse for watermelon production and investment in cold storages. While production from Divjaka may be increased by greenhouse watermelon, other potential areas such as Saranda and Lezha may be considered for investment.

There is a potential for value chain financing, particularly in cases where buyers are also input suppliers. In order to 'control' cultivars that are suitable for export and the seedling quality, the buyer-input supplier is interested to enter in a more durable relationship with the farmer, by proving them seedlings which farmers pay back at the time of produce supply. In such a case, exporters may become agents for financial institutions to reach other chain actors who would have been difficult to reach otherwise.

Watermelon & melon value chain is considered a priority sector for Albanian government based in its export potential - the sector has been included in all public financial support schemes, including recent support schemes. The current partial grant policy has important implications for financial institutions - they have the opportunity to finance 100% of the investment value out of which 50% short term loan (the part to be reimbursed by government) and 50% loan for the part to be paid by the beneficiary.

8. REFERENCES

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9. ANNEXES

Table 14: Watermelon and melon commercial farmers distribution by qark and size

	Between 1 and 5 dn	Between 6 and 10 dn	Between 11 and 20 dn	Between 21 and 50 dn	over 51 dn	Total	To to qark
Berat	27	8	11	4	3	53	18.7
Diber	17	1	0	0	0	18	6.4
Durres	3	1	4	4	1	13	4.6
Elbasan	0	3	0	0	0	3	1.1
Fier	9	12	38	34	5	98	34.6
Gjirokaster	7	2	0	0	0	9	3.2
Kukes	5	0	0	0	0	5	1.8
Lezhe	1	2	3	1	1	8	2.8
Shkoder	13	2	4	11	4	34	12.0
Tirane	2	11	4	6	2	25	8.8
Vlore	5	2	2	5	3	17	6.0
Total	89	44	66	65	19	283	100.0
% to size	31.4	15.5	23.3	23.0	6.7	100.0	

Table 15: Regionalization map

No	Measure	REGION											
		Berat	Dibër	Durrës	El-basan	Fier	Gjiro-kastër	Korçë	Kukës	Le-zhë	Shko-der	Tiranë	Vlorë
1	Apple		■					■					
2	Cherry	■	■		■			■					■
3	Walnuts, hazelnuts		■		■		■	■	■	■	■		■
4	Pomegranate	■		■	■	■				■	■		■
5	Chestnuts		■		■				■		■		■
6	Olives	■			■	■						■	■
7	Oilive groves renovation	■		■	■	■				■	■	■	■
8	Citrus	■				■						■	■
9	Vineyard	■		■	■	■	■	■		■		■	■
10	Strawberry					■							
11	Medicinal and aromatic plants	■	■		■		■	■	■	■	■	■	■
16	Melon/watermelon in low tunnels	■			■	■					■	■	■
12	Tomato, cucumber, paprika	■		■	■	■					■	■	■
18	Vegetables bee polination	■		■	■	■					■	■	■
14	Bio-mass heating system	■		■	■	■					■	■	■
19	Greenhouse automation system	■		■	■	■					■	■	■
13	Drip irrigation	■	■	■	■	■	■	■	■	■	■	■	■
15	Cover plastic replacement	■		■	■	■					■	■	■
17	Hail nets	■	■		■		■	■	■	■	■		■
25	Global GAP certification	■	■	■	■	■		■		■	■	■	■
27	Organic certification	■	■	■	■	■	■	■	■	■	■	■	■
28	ISO 22000 certification – olive oil	■			■	■						■	■
29	Insurance prime	■	■	■	■	■	■	■	■	■	■	■	■
41	Suppor to green house seedlings	■		■	■	■				■	■	■	■
43	Cereal cultivation	■	■	■	■	■	■	■	■	■	■	■	■
30,37	Cattle ear tag and milk supply	■	■	■	■	■	■	■	■	■	■	■	■
30	New born small ruminants ear tagged.	■	■	■	■	■	■	■	■	■	■	■	■
38	Beehives	■	■	■	■	■	■	■	■	■	■	■	■
21-24, 31,33-35, 44-52		■	■	■	■	■	■	■	■	■	■	■	■

Note:

Note:

Tiranë, 2019