



The European Union
for Georgia

ENPARD: Support to Agriculture
and Rural Development



RURAL AND
AGRICULTURAL
POLICY AND
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INSTITUTE



HONEY VALUE CHAIN

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ABBREVIATIONS

ACDA	Agriculture Cooperative Development Agency
Aj	Adjara region
EU	European Union
gel	Georgian Lari
GoG	Government of Georgia
ICC	Information Consultancy Center of the MoA
Im	Imereti region
ITC	International Trade Center
Ka	Kakheti region
Kaz	Kazbegi district
KK	Kvemo Kartli region
MoA	Ministry of Agriculture
NSO	National Statistic Office of Georgia
PPP	Public-Private Partnership
RLKS	Rach-Lechkhumi Kvemo Svaneti region
RoR	Rest of the regions
ShK	Shida Kartli region
SJ	Samtskhe-Javakheti region
SZS	Samegrelo-Zemo Svaneti region
Tb	Tbilisi
PPP	Public private partnership

Summary and recommendations

Honey production in Georgia is concentrated among small- and medium-scale apiarists. Production and marketing practices have been very basic and characterized with significant diseconomies of scale. Productivity levels have been low mainly due to improper feeding practices and inadequate measures against diseases and pests. Production costs have been high and pricing strategies along the supply chain uncompetitive. There has been a very limited value addition along the supply chain. International trade has been small in value and volume, but illegal exports have been proliferating. Encounter of counterfeit products has been common in local markets. Formal extension and advisory services to apiarists has been non-existent, and availability of specialized input supply shops, limited. Honey market in EU is the largest, and honey consumption is expected to remain high. EU market also offers the most opportunities for developing country exporters. According to the projections, in EU in the next five years, honey imports are expected to increase further in order to compensate for the continuous decline of the European production. Recent inclusion of Georgian honey in the “third country list” and EU market import demand projections have provided good opportunities for Georgian honey sector; however, number of institutional improvements are required successfully to utilize this opportunity.

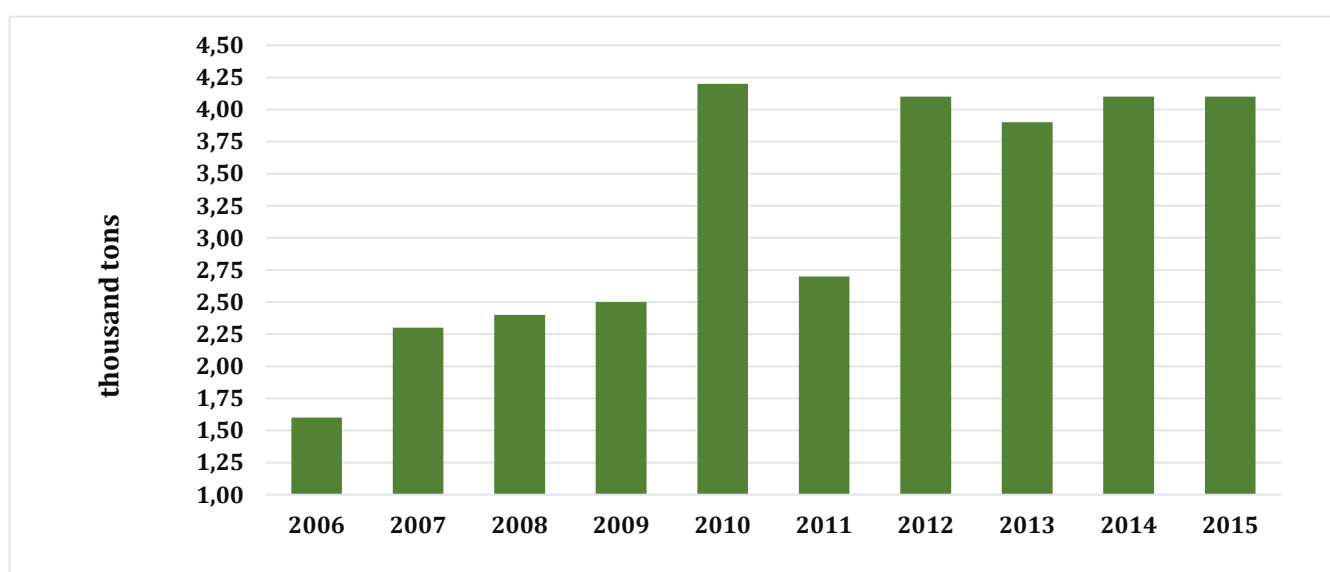
To address current challenges in production and marketing practices, and to enhance sector competitiveness it is essential in order of importance to

- improve apiarist knowledge of diseases and insects, flowering cycle of key melliferous flora, and food handling requirements, and business and financial skills
- implement policy measures that would enable the sector to attain economies of scale in production and marketing
- enhance credibility and efficiency of Georgian laboratory and food safety services
- support private sector to promote Georgian honey in international markets through PPP

Honey production

During 2006-15, honey production in Georgia has increased by 11 percent, and has reached 4.1 thousand tons (Figure 1, Table 1).

Figure 1. Honey production in Georgia



Source: NSO

Table 1. Honey production in Georgia

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
thousand tons	1.6	2.3	2.4	2.5	4.2	2.7	4.1	3.9	4.1	4.1

Source: NSO

Share of major production regions in national honey output was 76 percent. The largest honey production region in Georgia has been Samegrelo-Zemo Svaneti region contributing about a quarter to a national honey output; the remaining 51 percent were supplied by Kakheti (15 percent), Ajara (11 percent), Imereti (10 percent), Samtskhe-Javakheti (10 percent), and Kvemo Kartli (5 percent) regions.

The most notable growth in honey output was estimated in Samegrelo-Zemo Svaneti region (28 percent), followed in a descending order by Ajara (20 percent), Samtskhe-Javakheti and Kakheti (13 percent, each), Kvemo Kartli (8 percent), and the rest of the regions (10 percent) with the exception of Imereti; in Imereti region growth in honey output was a negative 14 percent (Figure 2, Table 2).

Figure 2. Regional share and growth in honey output



Source: NSO, estimates

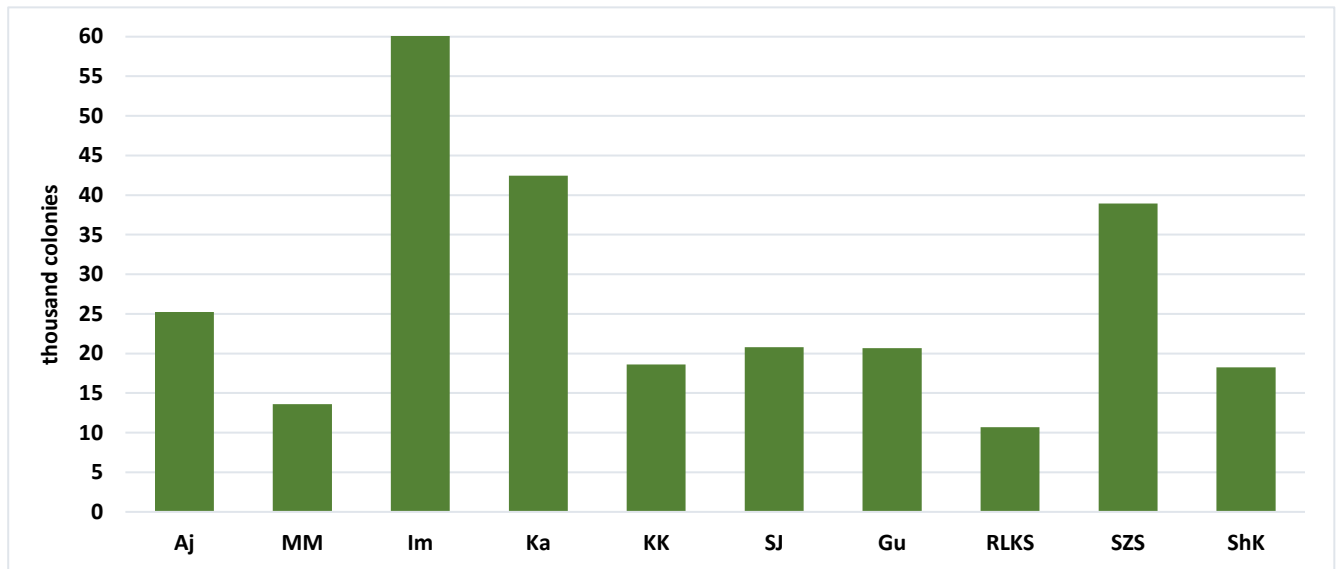
Table 2. Honey output in the Regions, thousand tons

Regions	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Samegrelo	0.1	0.4	0.3	0.5	1.1	1.1	1.2	1.3	1.1	0.9
Kakheti	0.3	0.3	0.4	0.1	0.5	0.4	0.5	0.6	0.9	0.9
Ajara	0.1	0.1	0.2	0.4	0.5	0.2	0.6	0.6	0.4	0.5
Imereti	0.4	0.5	0.4	0.8	0.3	0.3	0.2	0.1	0.1	0.1
Samtskhe-Javakheti	0.1	0.3	0.3	0.4	0.5	0.2	0.3	0.2	0.5	0.3
Kvemo Kartli	0.1	0.2	0.1		0.2	0.2	0.2	0.2	0.3	0.2
RoR	0.5	0.5	0.7	0.3	1.1	0.3	1.1	1.1	0.9	1.2

Source: NSO

As of July 2016, total number of bee colonies in Georgia has been 269.5 thousand. About 53 percent of all bee colonies has concentrated in three regions of the country - Imereti (22 percent), Kakheti (16 percent) and Samegrelo-Zemo Svaneti (14 percent) regions (Figure 3).

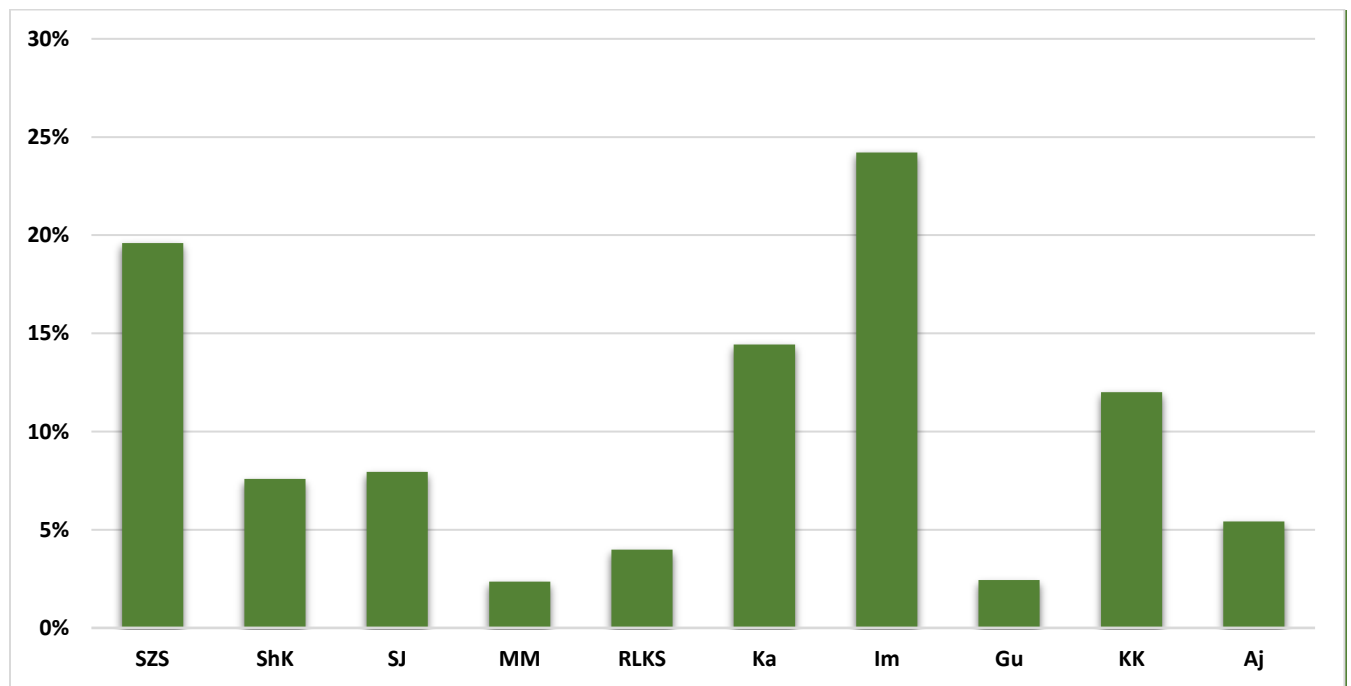
Figure 3. Bee colonies in the Regions



Source: ICC operative information

Around 3,688 apiarists in the country have had at least 10 bee colonies. About 58 percent of these apiarists have been based in Imereti (24 percent), Samegrelo-Zemo Svaneti (20 percent) and Kakheti Regions (14 percent) (Figure 4).

Figure 4. Proportion of apiarists with more than 10 hives



Source: ICC operative information, estimates

Beekeeping cooperatives

During the last two years, the GoG has provided technical and financial support to the establishment and development of beekeepers' cooperatives. One of the primary objectives of this support has been enhancing economies of scale in production and marketing of many small-scale producers. Provided support mainly focused on improving production capacity of apiarists and included on a cost-sharing basis allocation of registered first level cooperatives with beehives, and the second-level cooperatives (umbrella organizations) with honey extractors. In addition, more support measures have been in the pipeline, both for the first and the second level cooperatives.

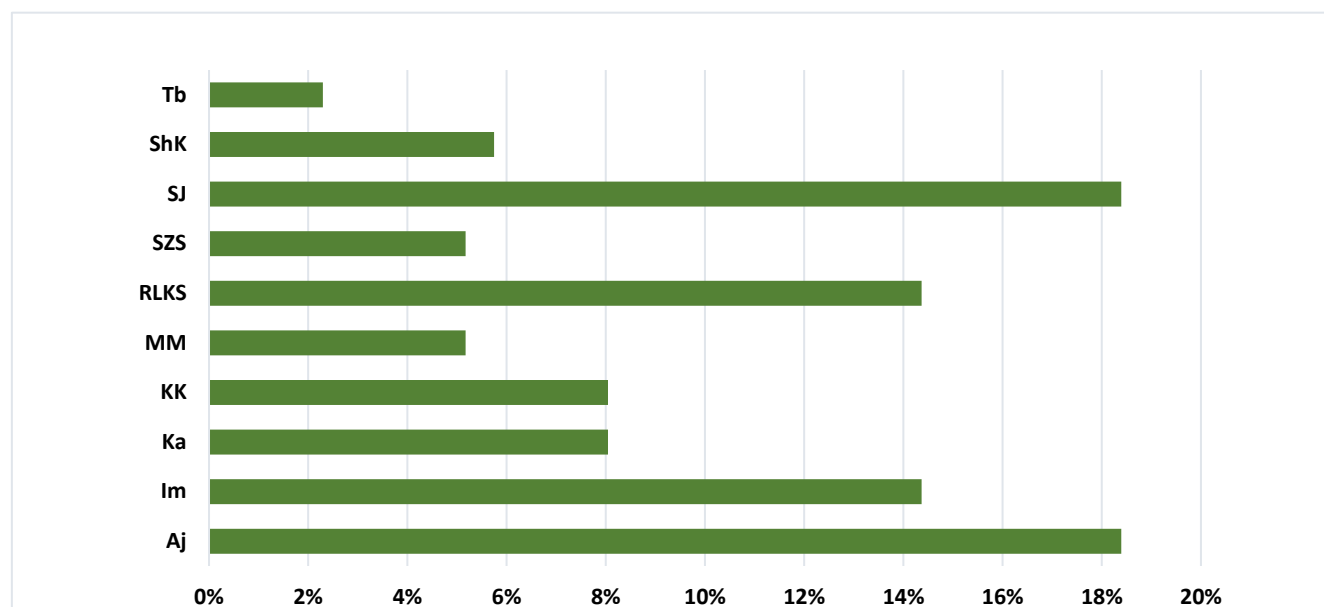
Total 174 beekeeper cooperatives have been established and registered throughout the country since 2014. The largest concentration of beekeeping cooperatives has been in Ajara region (18 percent of total number of registered beekeeper cooperatives), and the smallest in Tbilisi. Membership size of beekeeper cooperatives has ranged from 3 to 9 members. On average, number of beehives per cooperative and a number of beehives per cooperative members have been highest in Samegrelo-Zemo Svaneti region (243/26), and the lowest in Mtskheta-Mtianeti region (34/7). The highest yield of honey per bee colony has been reported in Kakheti (32 kg/bee hive), and the lowest in Mtskheta-Mtianeti (13 kg/bee hive) (Table 3, Figure 5).

Table 3. Apiarist Cooperatives

Region	# coops	average size	# hives per cooperative	# hive per member	kg/member
Ajara	32	5	89	18	15
Imereti	25	9	123	13	22
Kakheti	14	6	118	19	32
Kvemo Kartli	14	8	50	9	15
Mtskheta-Mtianeti	9	5	34	7	13
Racha-Lechkhumi Kvemo Svaneti	25	3	54	14	27
Samegrelo – Zemo Svaneti	9	7	243	26	23
Samtskhe-Javakheti	32	4	37	8	20
Shida Kartli	10	7	43	6	19
Tbilisi	4	6	149	20	17

Source: ACDA, estimates

Figure 5. Apiarist cooperative distribution by regions



Source: ACDA, estimates

In general, production and marketing activities pursued by beekeeper cooperatives have been similar to those followed by cooperative non-member apiarists, and unless membership size is not increased, improvements in economies of scale should not be expected.

Processors

There have been 17 honey processing companies in Georgia. Seven of them have been based in Tbilisi, and the rest in Kakheti (4), Guria (1), Imereti (4) and Kvemo Kartli (1) Regions.

Exporters and Importers

Eight registered honey export companies have operated in the country. Six of them have been Tbilisi based, while the other two - Samegrelo and Kakheti regions. The number of importers (11 companies) has been higher than exporters. Nine of the companies are Tbilisi based and the other two are located in Shida Kartli and Imereti regions.

Laboratories

Out of total eleven accredited public and private laboratories, seven laboratories have been in Tbilisi, 2 in Batumi, and 1 in each, Poti and Kutaisi. Reportedly, although accredited, laboratory services have been lacking international recognition and credibility.

Honey retail prices

During 2010-2016 average annual retail prices growth in Georgia was 5 percent. Along with average price increase, annual minimum and maximum prices also have increased by 3 percent and 5 percent, accordingly. Although honey prices were not characterized with significant variability throughout the analysis period, estimated coefficient of variation indicators have also discerned increasing pattern, greater than price levels (Tables 4-5, Figure 6).

Table 4. Honey annual retail prices, gel/kg

	2010	2011	2012	2013	2014	2015	2016	Growth
Mean	12.3	13.0	14.2	14.6	15.3	15.9	16.7	5%
CV	0.03	0.02	0.03	0.01	0.01	0.04	0.05	10%
Min	11.9	12.6	13.5	14.4	15.1	15.3	14.3	3%
Max	12.8	13.3	14.6	14.9	15.4	17.1	17.0	5%

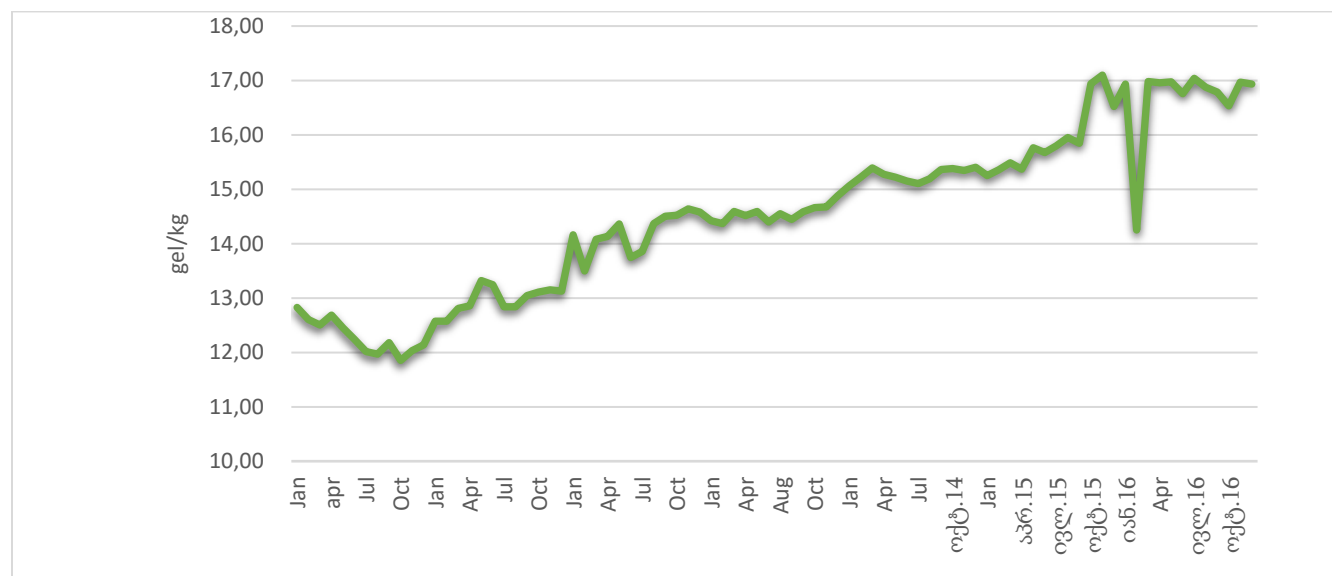
Source: NSO, estimates

Table 5. Honey monthly retail prices

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
2010	12.83	12.60	12.50	2.68	2.45	12.24	12.02	11.97	12.18	11.85	12.03	12.14
2011	12.57	2.57	12.81	12.85	13.32	13.24	12.84	12.84	13.05	13.11	13.15	13.13
2012	14.16	13.50	14.08	14.13	14.36	13.74	13.86	14.37	14.50	14.52	14.64	14.58
2013	14.42	14.37	14.59	14.51	14.59	14.40	14.55	14.44	14.59	14.67	14.68	14.88
2014	15.06	15.22	15.39	15.27	15.22	15.15	15.11	15.19	15.36	15.38	15.35	15.41
2015	15.25	15.35	15.49	15.37	15.76	15.67	15.80	15.95	15.85	16.94	17.10	16.52
2016	16.93	14.25	16.98	16.96	16.98	16.76	17.04	16.87	16.79	16.53	16.97	16.93

Source: NSO

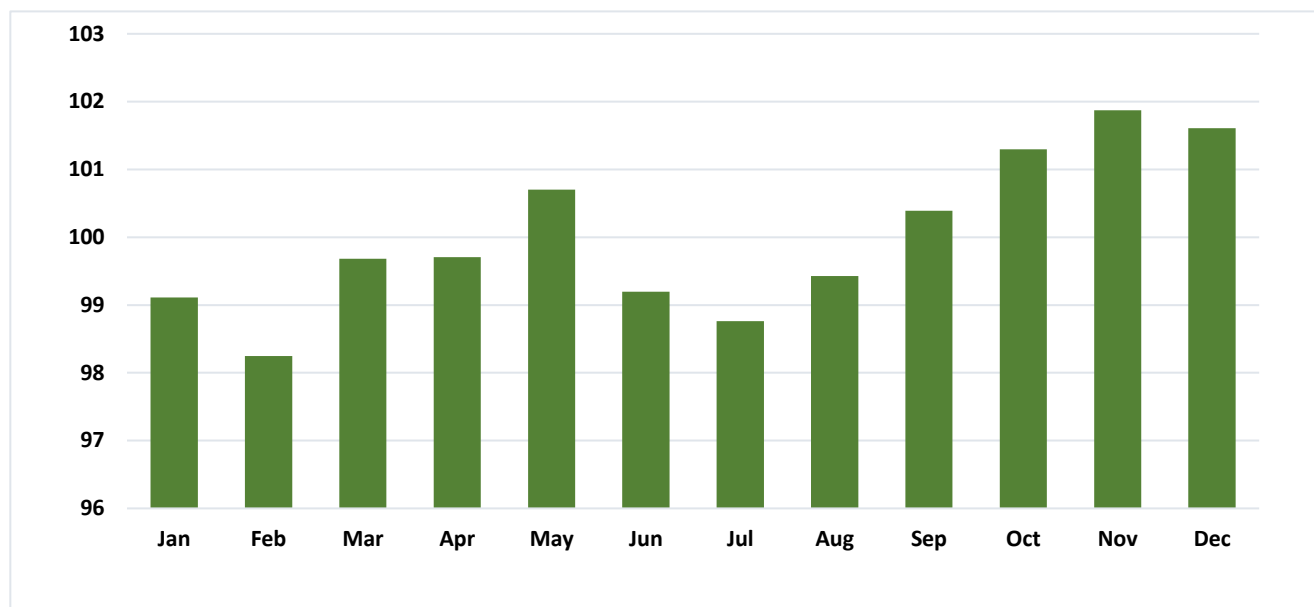
Figure 6. Honey monthly retail prices, gel/kg



Source: NSO

Honey retail prices were not characterized with noticeable seasonality. Peak periods corresponded to May and November, while troughs - to February and July. Overall, beginning from August prices trended upward through the end of the year, while during January-July, prices discerned volatility (Figure 7).

Figure 7. Seasonality in Georgia honey retail prices



Source: NSO, estimates

Georgia international trade in honey

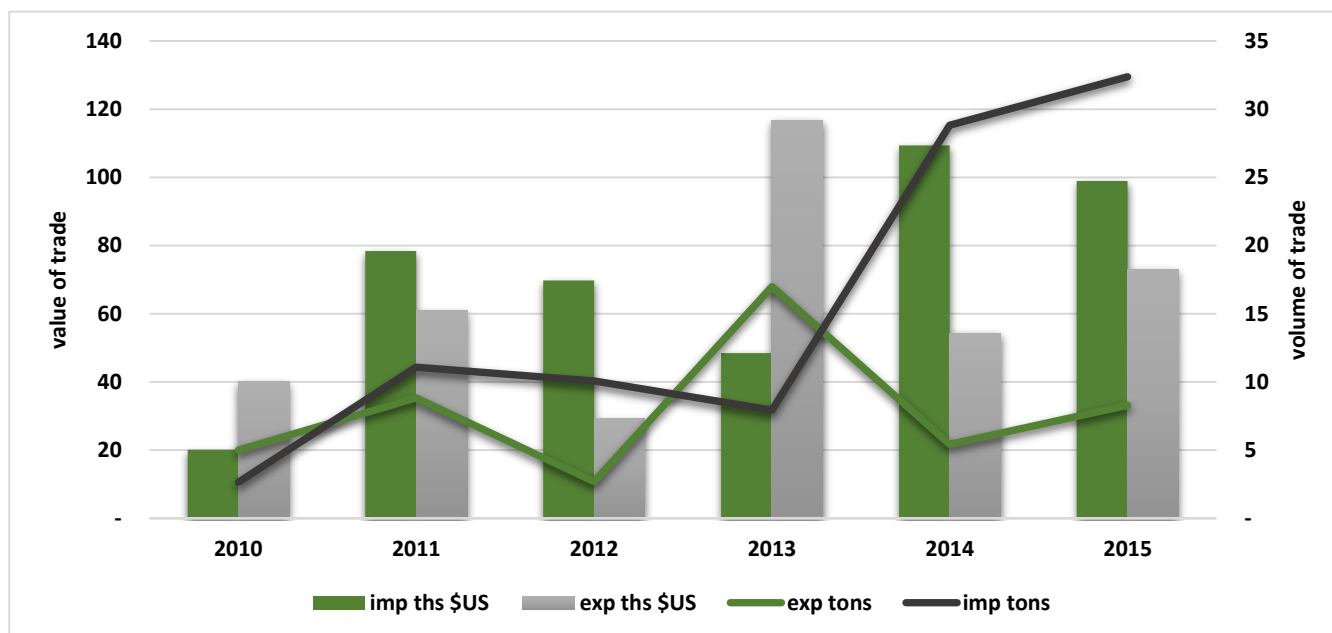
Through 2010-2015, trade in honey in Georgia has been small, both in value and volume terms. With the exception of 2010 and 2013, Georgia has been net importer of honey, both in value and volume (Table 6, Figure 8).

Table 6. Georgia honey trade

	2010	2011	2012	2013	2014	2015
Imports, ths \$US	20.09	78.38	69.72	48.48	109.39	98.96
Exports, ths \$US	40.00	60.82	29.16	116.68	54.25	73.09
Exports, tons	5.00	8.83	2.69	16.99	5.43	8.29
Imports tons	2.65	11.09	10.08	7.93	28.81	32.37

Source: NSO

Figure 8. Georgia honey trade



Source: NSO, estimates

From 2010 to 2015, value and volume of honey exports have increased, and increase in the value was greater than an increase in volume; value of exports has increased by 13 percent, while that of volume by 11 %. During this period the largest proportion of exports, both in value and volume, have been to Saudi Arabia. Underlying reason for estimated growth in exports has been increase in the export supply to China’s market, and to the markets other than 10 major export destinations (Table 7).

Table 7. Georgian honey export market destination

Export market	Export value		Export volume	
	Share	Growth	Share	Growth
Tot export		13%		11%
Saudi Arabia	37%	-19%	28%	-26%
Libya	17%	-100%	27%	-100%
Estonia	16%	-100%	19%	-100%
Azerbaijan	8%	-100%	6%	-100%
Iraq	6%	-11%	4%	-14%
China	6%	55%	7%	62%
HGK	4%	24%	3%	1%
RoW	7%	100%	6%	100%

Source: NSO, estimates

Reportedly, illegal exports to Azerbaijan (until recently) and Turkey, have been significantly higher than the registered. The highest demand in these markets has been on chestnut honey. Honey import growth was more pronounced than that of exports, and growth rates in value and volume amounted 38 percent and 65 percent, accordingly. Major import supplier both in value and volume, has been Ukraine. The most notable growth rates in imports were obtained in case of supplies from France, Ukraine and Russia (Table 8).

Table 8. Georgia market honey import suppliers

Import supplier	Import value		Import volume	
	Share	Growth	Share	Growth
Tot import		38%		65%
Ukraine	35%	105%	60%	113%
Germany	30%	-8%	18%	-6%
Estonia	13%	-100%	9%	-100%
Russia	6%	49%	1%	52%
France	3%	101%	2%	163%
Italy	4%	10%	2%	5%
Austria	4%	-100%	3%	-100%
RoW	5%	27%	4%	38%

Source: NSO, estimates

International prices and world trade

International annual average CIF prices in Europe with the exception of Australian extra light/ light amber honey prices have had downward trend. Prices on Argentinian, Mexican, and Chinese honey have declined by 6 percent, 3 percent and 3 percent, accordingly, while the variability of prices during the same period has increased by 25 percent, 14 percent, and 32 percent, respectively. Australian honey prices have increased by 4 percent, and the price trend has been more stable than for supplies from Argentina, China and Mexico. In general, price levels during 2015-16 have been lower than during 2012-14 (Tables 9-10, Figure 9).

Table 5. International CIF annual average prices, US\$/kg

	2010	2011	2012	2013	2014	2015	2016	Growth
Argentine 34mm								
Mean	3.4	3.4	3.2	3.8	4.3	3.9	2.4	-6%
CV	0.02	0.02	0.02	0.04	0.03	0.13	0.09	25%
Min	3.3	3.2	3.2	3.5	4.1	3.1	2.2	-7%
Max	3.6	3.4	3.4	4.1	4.5	4.4	2.9	-4%
Australian extra light/light amber								
Mean	3.5	3.8	3.8	3.9	4.9	4.9	4.5	4%
CV	0.04	0.01	0.00	0.02	0.09	0.06	0.06	6%
Min	3.3	3.7	3.8	3.8	4.1	4.6	4.2	5%
Max	3.7	3.8	3.8	4.1	5.4	5.3	5.2	6%
Chinese extra light amber								
Mean	2.3	2.3	2.2	2.1	2.1	1.9	1.9	-3%
CV	0.03	0.01	0.03	0.01	0.01	0.02	0.06	14%
Min	2.2	2.3	2.1	2.1	2.0	1.9	1.7	-4%
Max	2.3	2.3	2.3	2.1	2.1	2.0	2.0	-3%
Mexican Yucatan								
Mean	3.5	3.6	3.4	3.5	3.9	3.8	2.9	-3%
CV	0.02	0.02	0.02	0.04	0.03	0.07	0.10	32%
Min	3.4	3.5	3.3	3.3	3.7	3.3	2.5	-5%
Max	3.6	3.6	3.4	3.6	4.0	4.1	3.2	-2%

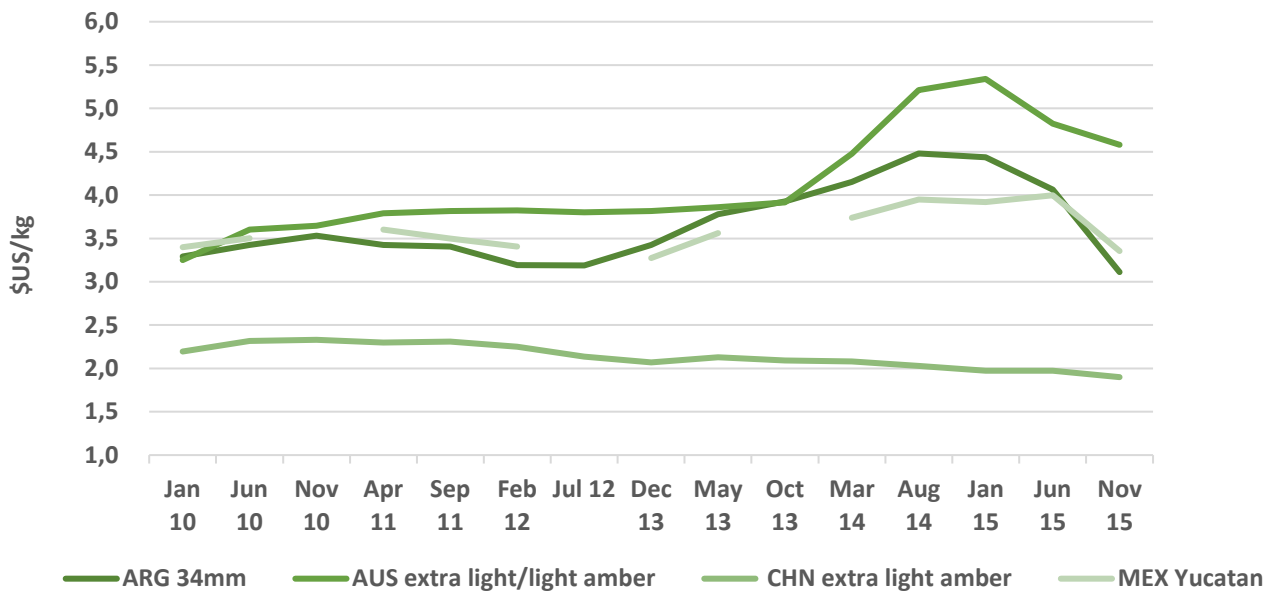
Source: Agranet, estimates

Table 10. International CIF monthly prices

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
Argentine 34mm, CIF NW Europe (US\$/t)												
2010	3,290	3,306	3,341	3,450	3,433	3,425	3,425	3,436	3,475	3,489	3,531	3,550
2011	3,413	3,425	3,425	3,425	3,425	3,425	3,425	3,425	3,408	3,308	3,273	3,200
2012	3,186	3,193	3,175	3,192	3,200	3,196	3,190	3,190	3,190	3,190	3,333	3,425
2013	3,531	3,644	3,780	3,780	3,780	3,799	3,800	3,800	3,862	3,925	4,075	4,131
2014	4,125	4,125	4,154	4,235	4,308	4,334	4,378	4,480	4,500	4,466	4,412	4,416
2015	4,435	4,435	4,420	4,337	4,290	4,065	3,740	3,693	3,560	3,360	3,111	3,080
2016	2,855	2,689	2,374	2,194	2,180	2,180	2,180	2,250	2,308	2,405	2,428	2,400
Australian extra light/light amber, CIF NW Europe (US\$/t)												
2010	3,250	3,260	3,461	3,600	3,600	3,600	3,600	3,600	3,600	3,600	3,645	3,700
2011	3,748	3,750	3,750	3,790	3,800	3,801	3,815	3,815	3,815	3,824	3,825	3,825
2012	3,825	3,825	3,825	3,825	3,825	3,814	3,800	3,800	3,800	3,800	3,800	3,816
2013	3,848	3,860	3,860	3,860	3,860	3,860	3,886	3,900	3,900	3,915	4,017	4,050
2014	4,077	4,290	4,476	4,600	4,600	4,719	4,850	5,210	5,300	5,317	5,400	5,386
2015	5,340	5,340	5,286	4,722	4,675	4,825	4,833	4,785	4,769	4,725	4,580	4,555
2016	4,550	4,550	4,550	4,550	4,550	4,550	4,550	5,200	4,810	4,240	4,248	4,250
Chinese extra light amber, CIF NW Europe (US\$/t)												
2010	2,195	2,195	2,200	2,236	2,300	2,318	2,327	2,330	2,330	2,330	2,330	2,330
2011	2,330	2,330	2,321	2,300	2,300	2,311	2,320	2,320	2,311	2,272	2,270	2,270
2012	2,265	2,251	2,219	2,187	2,180	2,159	2,135	2,118	2,107	2,090	2,074	2,070
2013	2,070	2,070	2,070	2,105	2,130	2,130	2,110	2,096	2,090	2,090	2,090	2,090
2014	2,090	2,090	2,082	2,070	2,062	2,050	2,050	2,030	2,025	2,025	2,025	2,013
2015	1,975	1,975	1,975	1,975	1,975	1,974	1,930	1,930	1,926	1,925	1,899	1,902
2016	1,969	1,980	1,973	1,939	1,930	1,930	1,930	1,850	1,802	1,750	1,699	1,690
Mexican Yucatan, CIF NW Europe (US\$/t)												
2010	3,400	3,358	3,409	3,518	3,550	3,502	3,468	3,450				
2011		3,600	3,614	3,603	3,577	3,570	3,565	3,551	3,500		3,465	3,465
2012	3,428	3,407	3,400	3,413	3,418	3,395					3,254	3,274
2013	3,275	3,344	3,400	3,498	3,561	3,591	3,626					
2014	3,650	3,685	3,738	3,843	3,908	3,934	3,950	3,950	3,950	3,950	3,950	3,948
2015	3,920	3,920	3,950	4,070	4,067	3,998	3,825	3,742	3,679	3,577	3,353	3,300
2016	3,135	3,072	3,051	3,146	3,155	3,155	3,155	2,500	2,568	2,626	2,602	2,585

Source: Agranet

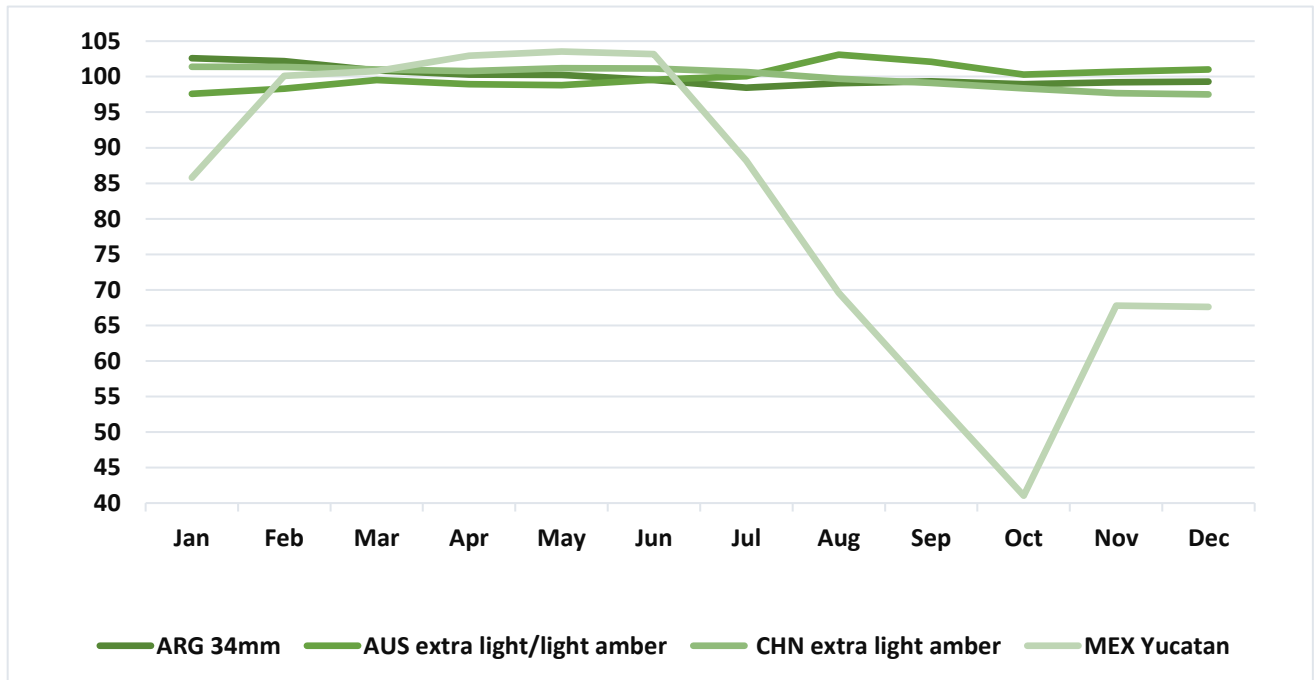
Figure 9. Trend in international CIF prices



Source: Agranet, estimates

Mexican honey prices have had more pronounced seasonality than those from other supply countries. Prices on Mexican honey have been lower during August-December relative to January-July period. Australian honey prices peaked in September, while Chinese and Argentinian prices have been higher during January-February compared to the rest of the months (Figure 10).

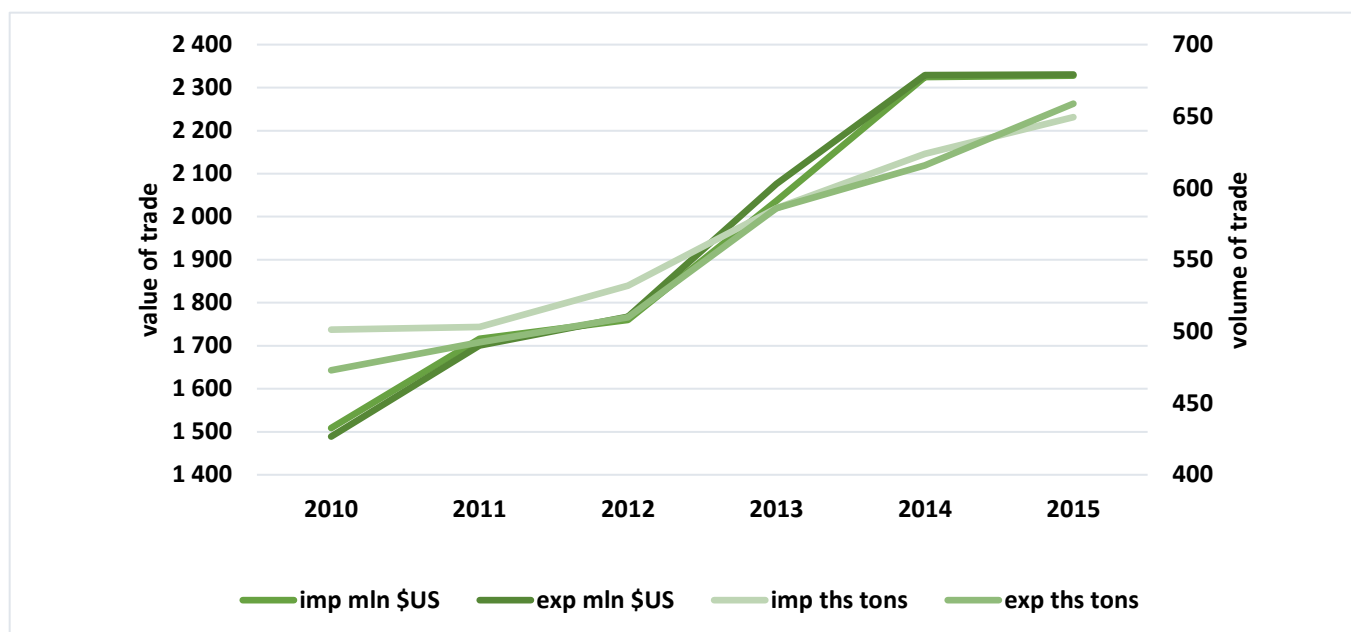
Figure 10. Seasonality in international CIF prices



Source: Agranet, estimates

World trade in honey, both export and imports, and both in value and volume have been increasing (Figure 11, Table 11).

Figure 11. World trade in honey



Source: ITC

Table 11. World trade in honey

	2010	2011	2012	2013	2014	2015
Imports, ths tons	501	503	532	586	624	649
Exports, ths tons	473	492	510	586	616	659
Imports, mln US\$	1,509	1,716	1,760	2,037	2,325	2,328
Exports, mln US\$	1,489	1,701	1,768	2,076	2,329	2,330

Source: ITC

World export growth in value and volume accounted 9 percent and 7 percent, respectively. Top 10 exporters made up 61 percent of the value and 68 percent of the volume of world trade. China has been major exporter of honey both in value (12 percent) and volume (21 percent). The most significant growth was observed in exports from Ukraine - 33 percent in value and 39 percent in volume (Table 12).

Table 12. World exports

EXPORTER	EXPORT VALUE		EXPORT VOLUME	
	SHARE	GROWTH	SHARE	GROWTH
World		9%		7%
China	12%	10%	21%	7%
New Zealand	7%	23%		
Belgium			4%	7%
Argentina	10%	-1%	11%	-4%
Mexico	6%	13%	6%	10%
Germany	7%	5%	4%	4%
India	4%	17%	5%	17%
Viet Nam	4%	17%	5%	19%
Spain	5%	4%	4%	4%
Ukraine	3%	33%	4%	39%
Brazil	4%	8%	4%	4%
RoW	39%	8%	32%	5%

Source: ITC, estimates

Growth in world imports in value was similar to that of exports, but in volume was lower. The largest importer both in value (24 percent) and volume (26 percent) has been USA. The most significant growth in import value was in China (52 percent), and in volume in Poland and Spain - 12 percent, each (Table 13).

Table 13. Import trends

IMPORTER	IMPORT VALUE		IMPORT VOLUME	
	SHARE	GROWTH	SHARE	GROWTH
World		9%		5%
USA	24%	15%	26%	9%
Germany	16%	2%	15%	-1%
France	6%	8%	5%	7%
UK	6%	2%	7%	4%
Japan	6%	3%	7%	-2%
Belgium	3%	12%	4%	8%
Italy	4%	10%	3%	10%
China	2%	51%		
Poland			3%	12%
Spain	3%	14%	4%	12%
Saudi Arabia	3%	3%	3%	3%
RoW	27%	10%	23%	5%

Source: ITC, estimates

Overview of EU honey market¹

Honey market in EU is the largest, and honey consumption is expected to remain high. EU market also offers the most opportunities for developing country exporters. In order to be successful in EU market, Georgian honey sector should ensure supply of consistent quantity of honey, should work on price and cost reduction in the supply chain to be price competitive in the new market situation, diversify customer base to prevent dependence on a small number of buyers or just one market, and expect harsh competition from informal markets and supplies from Ukraine. According to the projections, in EU in the next five years, honey imports are expected to increase further in order to compensate for the continuous decline of the European production.

Production

EU is the second largest global producer of honey. However, it is not self-sufficient and is dependent on honey imports from other countries; around 40 percent of EU's consumption needs have been met through honey imports. European imports of honey increased considerably between 2011 and 2015, amounting to more than 339,000 tons in 2015. In the last few years, Europe has produced around 234,000 tons of honey per year. Between 2009 and 2013 European honey production fluctuated somewhat, resulting in an almost equal production in 2013 as in 2009, totaling 209,000 tons. The decline in European production between 2011 and 2013 was mainly attributed to production decreases in Germany and Spain. However, production in other major European honey sources such as Romania, Hungary and Poland was also under pressure. The decrease in European production was mainly due to the decrease in bee colonies, which was largely the result of bee diseases and intensive use of chemicals in agriculture that are deadly for bees. Since 2013, the amount of colonies has been stabilizing. However, the threat of declining populations of bees is still a major concern as intensification of agriculture and use of pesticides continues.

Imports

The continuous increase of European honey imports is mostly attributed to the substantial decrease of the European beekeeping sector, but is also the result of various problems related to major honey sources in previous years, such as droughts. Germany is the largest honey importer, representing a share of 26 percent of the total volume of European imports, amounting to more than 88,000 tons in 2015. The UK (12 percent of total imports), France (10 percent), Belgium (10 percent) and Spain (9 percent) are the other main European importers. Honey importers in these countries process the honey and sell it both domestically and abroad. In the next five years, honey imports are expected to increase further in order to compensate for the continuous decline of the European production. Between 2010 and 2015, honey prices on the international market saw a continuous rise, with prices for Mexican and Argentinean honey reaching 3,400 US\$/ton FOB and sometimes even up to 4,000 US\$/ton. As a result, the overall European imports increased by 11 percent in value.

The two main European importers of honey, Germany and the United Kingdom, experienced a significant increase in value of 11 percent and 6 percent, respectively. Countries with an even higher increase of imports in value include Hungary (+88 percent), Croatia (+66 percent) and Bulgaria (+44 percent). Since the end of 2015, international honey prices have been dropping considerably to levels below USD 2,500/ton

¹ Source: Center for the promotion of imports from developing countries

FOB for Mexican and Argentinean honey. This decrease was caused by a combination of an increased supply from traditional honey producers, good harvests worldwide and strong stock positions, which have resulted in a balance shift between demand and supply. As a result of the decreasing prices, honey stocks in South America became quite high as importers stopped buying in anticipation of further price drops and an increase of supply options.

The markets of Germany, the UK and France account for around 50 percent of total European honey imports. Germany is the leading market, absorbing 26 percent of total imports. Imports are also increasingly directed to countries in Central and Eastern Europe. This development is mostly attributed to the shift of Ukrainian honey exports from Russia to the European Union. In fact, due to recent developments in relations between Ukraine and Russia, the European Union quadrupled imports of Ukrainian honey between 2011 and 2015.

To strengthen trade relations with Ukraine, the European Union currently allows importers to source 5,000 tons of honey on a duty-free basis. Because of geographical proximity, Ukrainian exports are largely directed to countries such as Poland, Romania and Bulgaria. Honey imports from developing countries increased significantly between 2011 and 2015, amounting to 199,000 tons (€ 466 million) and representing 59 percent of total honey imports directed to Europe.

The largest supplier of honey to the European market is China, with imports amounting to more than 98,000 tons, 29 percent of total honey imports directed to Europe. Chinese honey supplies are stable and sufficient, while the prices for honey are low because of low labor costs. Despite some quality issues with Chinese honey (mostly concerning residues), China remains the largest supplier of honey to Europe. Other large developing country suppliers include Mexico (7 percent share), Argentina (3 percent), and Brazil (2 percent). It is important to note that until recently, Argentina was at the forefront of supplying honey to Europe and until 2010 was the second largest supplier of honey to Europe. However, bad climate conditions and GMO pollen in Argentinian honey have caused a decline in Argentinian supplies to Europe.

Consumption

Europe is the largest global consumer of honey, being responsible for more than 20 percent of the total global consumption. China, the US and Turkey are the other major global honey consumers. Between 2009 and 2013, consumption remained stable despite increasing prices on the global market. Apparent consumption only fluctuated slightly, amounting to almost 362,000 tons in 2013. After an increase in consumption between 2009 and 2011, European honey consumption decreased slightly between 2011 and 2013.

Germany is the leading market for honey, representing 23% of total European honey consumption (around 85,000 tons). Other major consumers of honey in Europe are the UK (12 percent of total European consumption), France (10 percent), Spain (8 percent) and Poland (7 percent).

According to figures on growth rates of apparent consumption, the fastest growing consumption markets in the period 2009-2013 were Ireland (+26 percent annually), Latvia (+22 percent annually), Romania (+15 percent annually), Croatia (+14 percent annually), Estonia (+11 percent annually), and Malta (+11 percent annually).

EU legally binding requirements for imports from third countries

EU food legislation is established according to the principles of traceability, risk analysis and precautionary measures. It will be essential Georgian supplies to meet EU safety and quality requirements. In Georgia, the lack of proper measures against diseases along with other negative impact has resulted in high residue levels of antibiotics in honey; specifically, residue levels of antibiotics such as metronidazole, chloramphenicol, and sulfonamide have been above allowable levels in EU. Another issue with the quality of Georgian honey is the level of humidity in honey that also has been in excess of allowable levels in EU. Honey supply from Georgia to EU market should comply with the:

(a) Honey specific EU legislation - Directive (EC) 110/2001 (amended by Directive 2014/63/EU regarding honey labeling requirements)

This directive sets European requirements for honey quality standards and labelling. Requirements regarding honey composition are specifically described in the table 14.

Table 14. Composition criteria for honey

1.1. Fructose and glucose content (sum of both) – blossom honey – honeydew honey, blends of honeydew honey with blossom honey	not less than 60 g/100 g not less than 45 g/100 g
1.2. Sucrose content – in general – false acacia (<i>Robinia pseudoacacia</i>), alfalfa (<i>Medicago sativa</i>), Menzies Banksia (<i>Banksia menziesii</i>), French honeysuckle (<i>Hedysarum</i>), red gum (<i>Eucalyptus camaldulensis</i>), leatherwood (<i>Eucryphia lucida</i> , <i>Eucryphia milliganii</i>), Citrus spp. – lavender (<i>Lavandula</i> spp.), borage (<i>Borago officinalis</i>)	not more than 5 g/100 g not more than 10 g/100 g not more than 15 g/100 g
2. Moisture content – in general – heather (<i>Calluna</i>) and baker's honey in general – baker's honey from heather (<i>Calluna</i>)	not more than 20 % not more than 23 % not more than 25 %
3. Water-insoluble content – in general – pressed honey	not more than 0.1 g/100 g not more than 0.5 g/100 g
4. Electrical conductivity – honey not listed below, and blends of these honeys – honeydew and chestnut honey and blends of these, except for those listed below – exceptions: strawberry tree (<i>Arbutus unedo</i>), bell heather (<i>Erica</i>), eucalyptus, lime (<i>Tilia</i> spp.), ling heat	not more than 0,8 mS/cm not more than 0,8 mS/cm
5. Free acid – in general – baker's honey	not more than 50 milli-equivalents acid per 1,000 g not more than 80 milli-equivalents acid per 1,000 g
6. Diastase activity and hydroxymethylfurfural content (HMF) determined after processing and blending (a) Diastase activity (Schade scale) – in general, except baker's honey – honeys with low natural enzyme content (e.g. citrus honeys) and an HMF content of not more than 15 mg/kg	not less than 8 not less than 3
(b) HMF – in general, except baker's honey – honeys of declared origin from regions with a tropical climate and blends of these honeys	not more than 40 mg/kg (subject to the provisions of (a), second indent) not more than 80 mg/kg

Source: Centre for the Promotion of Imports from developing countries

(b) Legislation on maximum Residue Levels (MRL) for residues (Regulation 396/2005)

The EU has set maximum Residue Levels (MRLs) for pesticides in food products, and this regulation has established maximum residue levels for pesticide in food. When bees collect nectar in areas where farmers have applied excessive amounts of pesticides, the MRL for the applied pesticides may be in excess.

(c) General EU food legislation with respect to food safety and traceability (Regulation (EC) No 178/2002), legislation on hygiene of foodstuffs (Regulation (EC) 852/2004)

Food safety is a key issue in EU food legislation. The General Food Law is the legislative framework for food safety in EU. To guarantee food safety and to allow appropriate action in cases of unsafe food, honey from Georgia should be traceable through the entire supply chain. An important aspect of controlling food safety hazards is defining critical control points (HACCP) by implementing food safety management principles. In addition, each batch of honey must be accompanied by a health certificate and stamped by authorized veterinarian (EU Regulation (EC) 1664/2004).

After arrival in EU, honey is subject to official controls. If EU authorities find that the safety of honey cannot be guaranteed, honey will be taken off the market and will be registered in the EU's Rapid Alert System for Food and Feed.

(d) Legislation on antibiotics residues laid down in Regulation (EC) No 470/2009 of 6 May 2009 in conjunction with Commission Regulation (EU) No 37/2010 of 22 December 2009

Legislation of the EU prohibits honey imported from countries outside of the "third country list". The Residue Monitoring Plan (MRP) guarantees that the honey imported into the EU does not contain any prohibited residues or veterinary drugs. In the end of 2016 Georgia was included in the "third country list" for honey (Commission Implementing Decision (EU) 2016/2092 of 28 November 2016). Georgia has submitted a plan for honey to the Commission, and it was assessed as to be providing sufficient guarantees. According to the Plan provided in GoG decision # 22 as of January 2016 on monitoring rules on substances and residue in live animals and animal products

- sample can be taken on every stage of a honey supply chain, with a pre-condition of traceability to initial stage of a supply chain;
- for the first 3000 tons, the Plan requires 10 samples per 300 tons, and for every additional 300 tons one sample;
- the break down of samples for testing purposes should be as follows:
 - 50 percent of the samples should be tested on antibacterial substances including sulphonamids and quinolones, and carbamates and pyrethroids;
 - 40 percent of the samples - on chloro organic compounds including polychlorobiphenyls and organophosphorus compounds; and
 - the remaining 10 percent of the samples - as deemed necessary, including testing on mycotoxins.

The GoG has already adopted equivalent legislation to the EU honey legislation. The only remaining institutional shortcoming has been limited capacity of local laboratory services and its limited international recognition and credibility.

Local production and marketing practices

In general, beekeeping has been a family enterprise, involving all adult members of households. Majority of beekeepers have had additional jobs and income sources.

Small scale beekeepers included ones with 10 to 40 bee colonies, medium scale with 40 to 160 bee colonies, and large-scale apiarists with at least 160 bee colonies.² About 5 percent of beekeepers are large, 45 percent are medium-scale, and about a half has been represented by small scale apiarists. Generally, apiarists in low lands have had more bee colonies than those in mountainous regions. In general, commercial beekeeping has been nomadic.

Commonly, apiarists have been involved only in honey production, and specialization in production of other beekeeping products such as royal jelly, beeswax, propolis, queen bees, bee families and a pollen has been rare. Beeswax and bee families are by products of honey production, and has been mainly self-utilized by beekeepers, and only the surplus has been marketed.

Majority of apiarists have had 10-frame wood hive systems. Fewer growers have the mix of 12-frame hives, polystyrene hives, and ruth frame systems.

Honey harvest starts in May-June and lasts until August-September. Honey yields are variable, and in general productivity levels in Georgia are low compared to other countries. There are differences in the honey yield among small-, medium-, and large-scale apiarists. In general yield levels of small-, medium-, and large-scale beekeepers ranged between 7-8 kg/hive, 12-13 kg/hive, and 20-22 kg/hive, respectively. Large-scale producers have been more commercially oriented and production practices have been more advanced than those of small- and medium-scale producers.

In general bee colonies rest during October-March. During the rest period, bee colonies have been fed with natural honey and sugar water. Hive repairs take place during November-February/March.

The source of clean water in bee yards is either central system, wells or a spring water. Apiarist views in regard to hygienic practices in production and marketing have differed and included fencing/ protection of beehives from livestock, testing of water, utilization of stainless equipment and tools, use of food grade plastic barrels (with enamel paint inside) for honey keeping, placement of hives on elevation, flame disinfecting of tools, cleaning of premises before honey extraction, washing of equipment and tools with hot water, prevention of honey comb introduction from one hive to another, etc.

Bee colonies have been taken to mountains during April-May, and have been kept there through September. Main reason for taking bee colonies to mountainous areas has been availability of more feed. In general, feeding practice has been poor, mainly due to limited understanding of a flowering cycle of key melliferous flora, and a high transportation cost associated to moving beehives from one place to another.

Honey is produced using extractor. Often extractors have been custom made. Commonly, honey has been kept in plastic barrels with enamel paint inside. It has been rare to keep honey in stainless barrels and glass jars.

² Apiarists with less than 10 bee colonies have been viewed as hobby producers

The most common diseases have been varroa, nosema and acarapitoz. The first two has been found throughout the country, while acarapitoz has been mainly encountered in Western part of the country. Also, in some bee yards throughout the country, American and European foulbrood diseases have been reported. According to market actors, occurrence of all these diseases has increased during the last ten years.

Very often measures against diseases are implemented for the sake of implementation. Monitoring for mites and parasites among apiarists is rare to decide whether there is a need for treatment, when to start treatment, how to treat and to learn whether treatment has been successful.

Formal extension/ advisory services to beekeepers have been nearly non-existent. The main sources of advice have been fellow beekeepers and employees of specialized input supply shops.

Beekeeping pharmaceuticals, tools and equipment have been mainly available in specialized input supply shops in Tbilisi and other major urban centers. Reportedly, during the last decade prices on pharmaceuticals have increased, while prices on tools and equipment largely have remained unchanged.

Apiarists face challenges to expand their production activities. There are two major factors impending expansion. One has been the limited access to credits, financial institutions do not qualify beehives as a collateral, and the other has been the lack of skilled labor.

Production impending factors in order of importance have included diseases and insects, unfavorable weather conditions (drought, heavy winds, and heavy rains), lack of skilled labor, quality and price of equipment and tools, high cost of bee hive transportation, and the quality of pharmaceuticals.

Honey is traded for cash, and there has not been practice of in-kind exchanges. Peaks of honey sales/ demand are in May, and July/August-December periods. The highest demand has been on chestnut honey, and the pace of sales of other types of honey, reportedly, has been slow.

During the last decade both farmer prices and demand have increased considerably, and increase in demand has been greater than that in supply.

Buyers have had requirements on quality, price and volume. Reportedly, the most challenging for beekeepers has been meeting volume requirements and ensuring consistency in the characteristics of supplied honey. Majority of beekeepers have not packed and labeled honey. Product has been delivered in different capacity glass and plastic jars.

Honey market actors include apiarists, collectors, exporters and importers. Main customers have been households, tourism sector, confectionary sector, retail outlets, export markets, and the Government.

Apiarist major challenges in marketing has included meeting buyer requirements on volume, buyer strong negotiation power, poor linkages in output markets, existence of large volumes of counterfeit products, and a limited capacity to meet packaging requirements.

Apiarists have sold honey both at bee-yard and made deliveries to buyers. Deliveries to buyers have been mainly based on preliminary verbal agreements. Small-, medium- and large-scale apiarists have utilized different sales channels for honey marketing. Small-scale apiarists have sold the largest proportion of their honey directly to consumers at bee-yards; smaller proportion of honey has been supplied to collectors. For medium-scale beekeepers, the largest buyers have been collectors, followed in a descending order of importance by large apiarists, consumers at bee yard, tourism sector, confectionary sector and retail outlets. In case of large-scale apiarists, the largest market has been retail outlets, followed in order of importance by tourism sector, export markets, confectionary sector, government procurement, exporters, and consumers in bee yards (Table 15).

Table 15. Ranking of buyers/ clients of small-, medium- and large-scale apiarists in ascending order

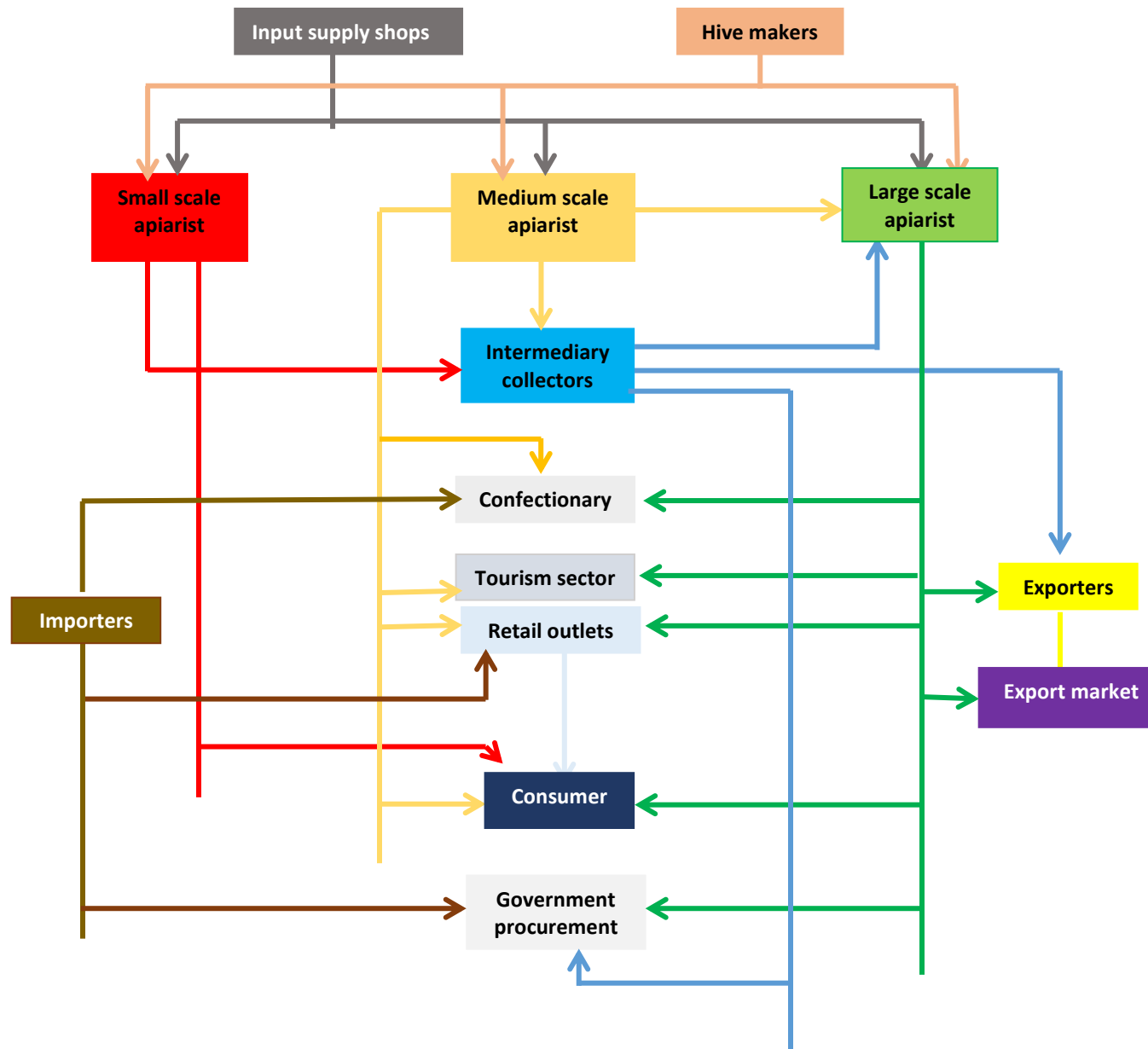
BUYERS	SMALL	MEDIUM	LARGE
Bee yard/ consumer	1	3	7
Collector	2	1	
Large-scale apiarist		2	
Retail outlet		6	1
Tourism sector		4	2
Confectionary		5	4
Government procurement			5
Exporter			6
Export market			3

Source: interview of market participant

Buyers of honey, accumulated by collectors, have been large-scale apiarists and exporters. Often collectors have participated in Government procurement tenders.

Reportedly, illegal exports have been higher than legal supplies to export markets. Major markets for illegal exports have been Azerbaijan and Turkey. Exporters (international traders) mainly have been sourcing honey among collectors and large-sale apiarists. The highest export demand has been on chestnut honey. Importers mainly have supplied retail chains properly packed and labelled honey, and also have participated in Government procurement tenders. Diseconomies of scale and a limited adherence to required terms and conditions often have placed local suppliers of honey at competitive disadvantage with importers in Government procurement tenders. Large-scale apiarists and specialized exporters have been involved in legal exports. Figure 12 presents mapping of honey value chain.

Figure 12. Honey value chain mapping



Honey production cost structure, and gross, marketing and distribution margins

Apiarist having at least 30-50 bee colonies, on average, incur GEL 3 to produce 1 kg of honey. The largest share in total costs has been accounted by labor cost (about 50 percent), followed by expenditures on moving beehives (around 25 percent), measures against diseases and insects (around 20 percent), and winter feeding (about 5 percent). Labor cost includes unpaid labor (family labor) and a hired labor; share of hired labor cost is about 20 percent, and that of unpaid labor is around 80 percent. Table 16 presents gross, marketing and distribution margins of apiarist, collector, and a retailer.

Table 16. Gross, marketing, and distribution margins

ACTOR		UNIT	VALUE
Retailer	Sales price	GEL/kg	16.00
	Buy price	GEL/kg	12.00
	Handling cost	GEL/kg	1.80
	Gross margin	GEL/kg	2.20
		%	14%
	Marketing margin	%	25.00%
	Distribution margin	GEL/kg	4.00
%		66.67%	
Collector	Sales price	GEL/kg	12.00
	Buy price	GEL/kg	10.00
	Handling cost	GEL/kg	0.50
	Gross margin	GEL/kg	1.50
		%	13%
	Marketing margin	%	12.50%
	Distribution margin	GEL/kg	2.00
%		33.33%	
Apiarist	Sales price	GEL/kg	10.00
	Production cost	GEL/kg	3.00
	Gross margin	GEL/kg	7.00
		%	70%
	Marketing margin	%	62.50%

Source: interview of market actors

Results indicated that the highest gross margins were generated by beekeepers (7 GEL/kg), followed by retailers (2.2 GEL/kg), and collectors (1.5 GEL/kg) in a descending order.

Marketing margin estimates showed percentage of the final average selling price taken by beekeeper, collector, and a collector. The major proportion of marketing margin was taken by apiarist (62.5 percent), followed by retailer (25 percent) and collectors (12.5 percent) in a decreasing succession.

Estimates of distribution margins demonstrated proportions of profit taken by retailer and a collector; retailer has taken the major share of total profits beyond apiarist level. They have received a share of 67 percent in the distribution margin, while collectors – 33 percent.