



IDAL
INVEST IN LEBANON

INVESTMENT OPPORTUNITIES IN UPPER METN

2018

**UPPER
METN**

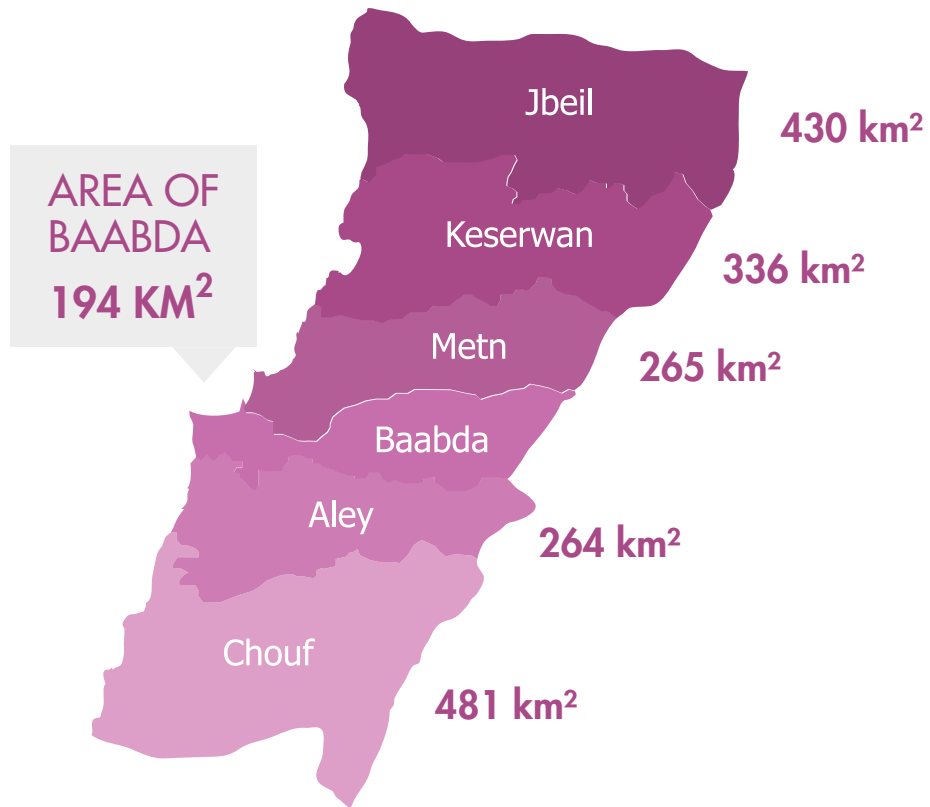


An aerial photograph showing a large-scale water reservoir project. The landscape is hilly and semi-arid, with several interconnected basins of varying sizes. The water in the basins is a vibrant blue, contrasting with the brownish-yellow earth. The basins are connected by narrow channels or roads. In the background, there are more hills and a hazy sky. The overall scene depicts a significant engineering and environmental project in a dry region.

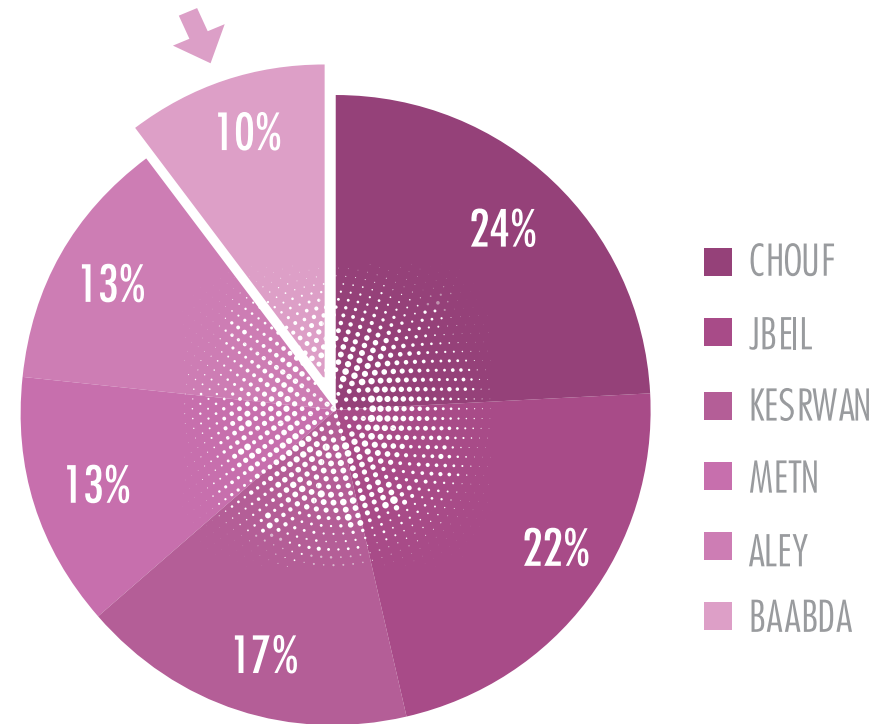
I. SOCIO ECONOMIC BASELINE ANALYSIS OF UPPER METN

Upper Metn is located in the Baabda district in the Mount Lebanon governorate

DISTRICTS OF MOUNT LEBANON GOVERNORATE



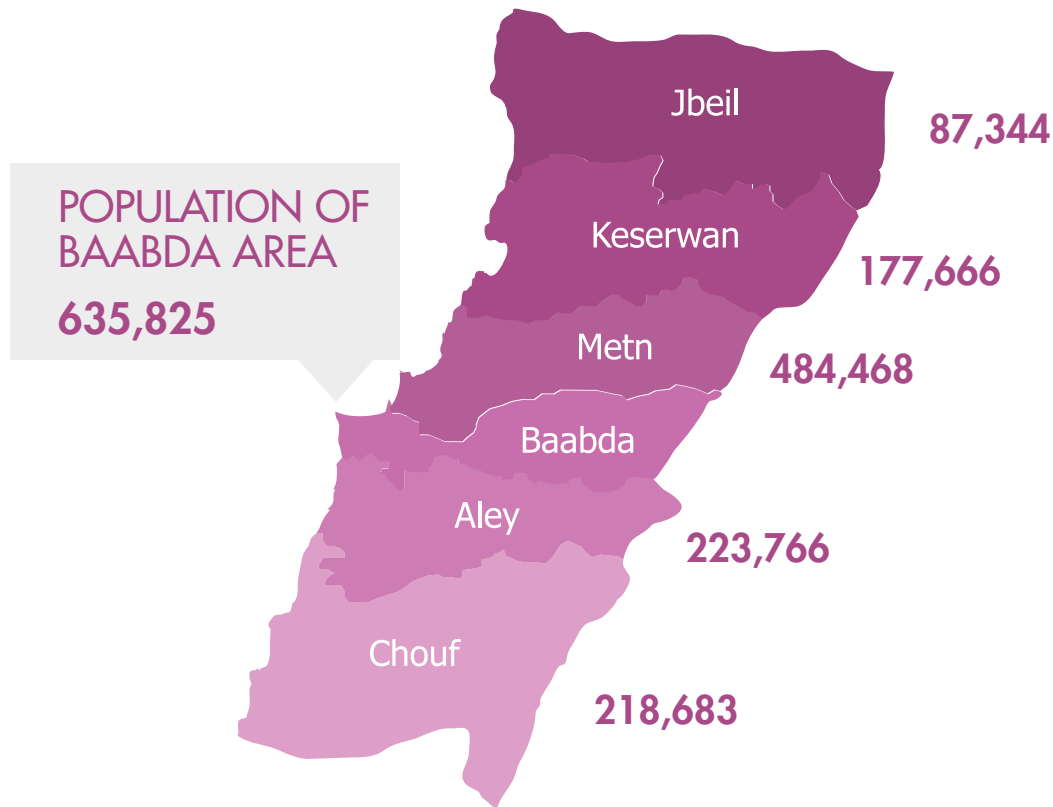
DISTRIBUTION OF MOUNT LEBANON GOVERNORATE AREA BY DISTRICTS (%)



Source: Localiban

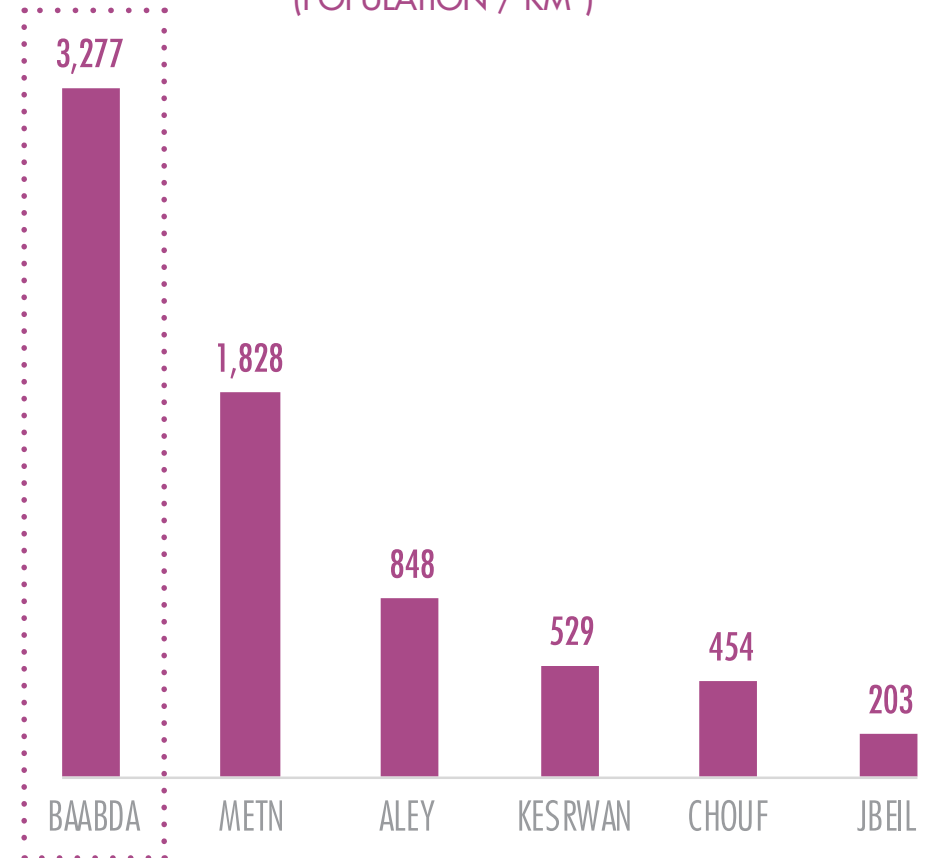
Baabda district is the most highly-densed area in the Mount Lebanon governorate

DISTRIBUTION OF POPULATION IN BAABDA GOVERNORATE*



*This includes Syrian & Palestinian refugees
Source: UN OCHA, 2016

POPULATION DENSITY BY DISTRICT IN MOUNT LEBANON
(POPULATION / KM²)

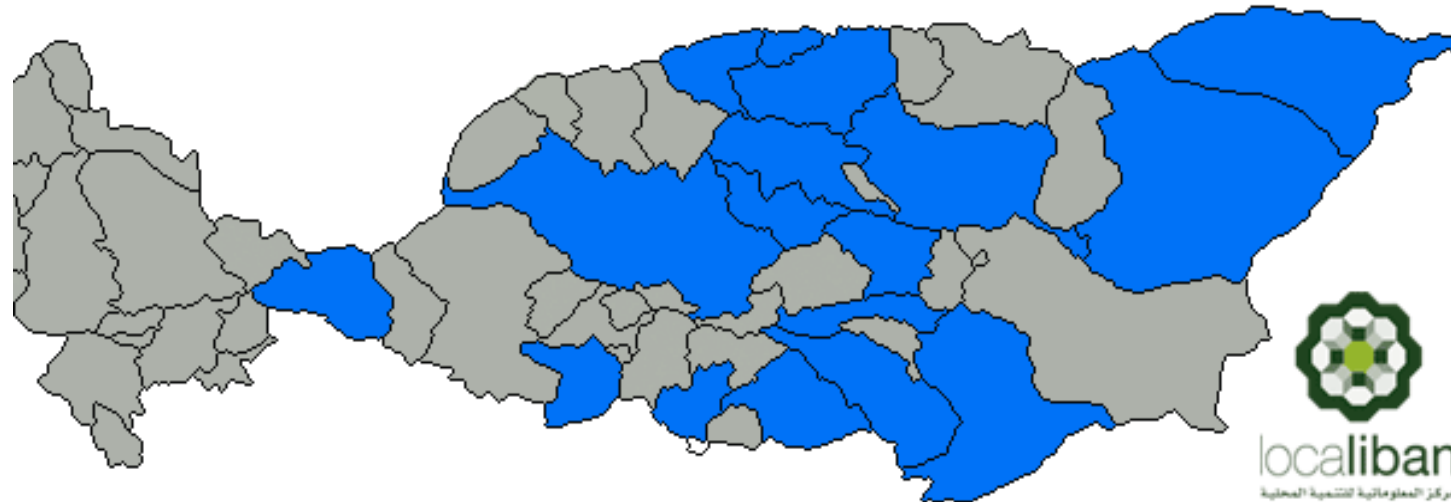


Upper Metn is one of **3 main regions*** in the Baabda district and is **composed of around 28 municipalities** joined together in an administrative union

UNION OF THE MUNICIPALITIES IN UPPER METN

Union of the Municipalities of the Southern Suburbs:
Ghbeiri, Burj el Barajnah, Haret Hreik

Union of the Municipalities of the of Southern Metn Coast:
Furn el Chebback, Ain El Remmeneh, Tahwitet el Nahr, Chiyah, Hazmieh

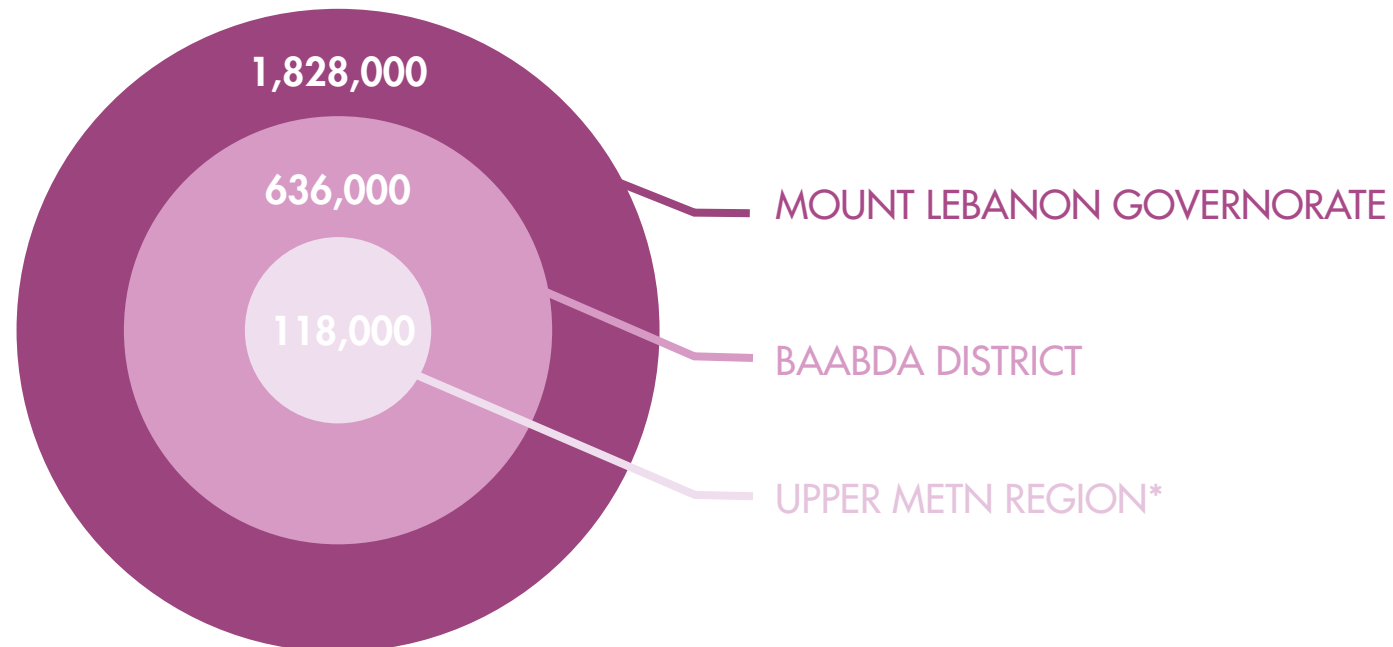


- Towns part of the union of the municipalities in upper metn
- Towns not part of the union of the municipalities in upper metn

**It is worth noting that some municipalities are not part of any union*
Source: Localiban

The resident population in the Upper Metn region accounts for 6% of Mount Lebanon governorate and 19% of Baabda district...

DISTRIBUTION OF POPULATION IN THE UPPER METN REGION VS. BAABDA DISTRICT VS. MOUNT LEBANON GOVERNORATE

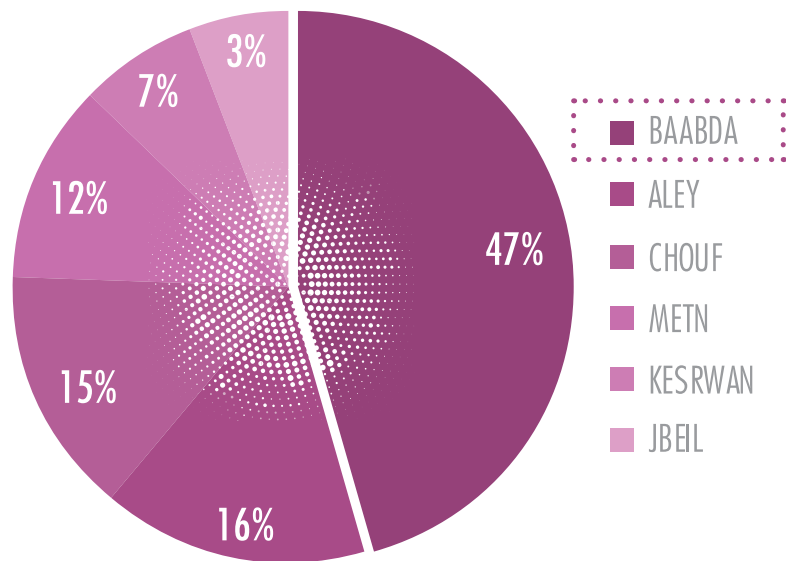


*Upper Metn region includes here 50 localities from Baabda, Metn and Aley districts that signed the charter for a sustainable Upper Metn region
Source: towards a sustainable territorial charter for the high Metn, 2013, UNOCHA

Baabda district has the **highest share of deprived Lebanese & Syrian refugees** among all the districts of Mount Lebanon governorate

DISTRIBUTION OF DEPRIVED LEBANESE POPULATION BY DISTRICT IN MOUNT LEBANON GOVERNORATE

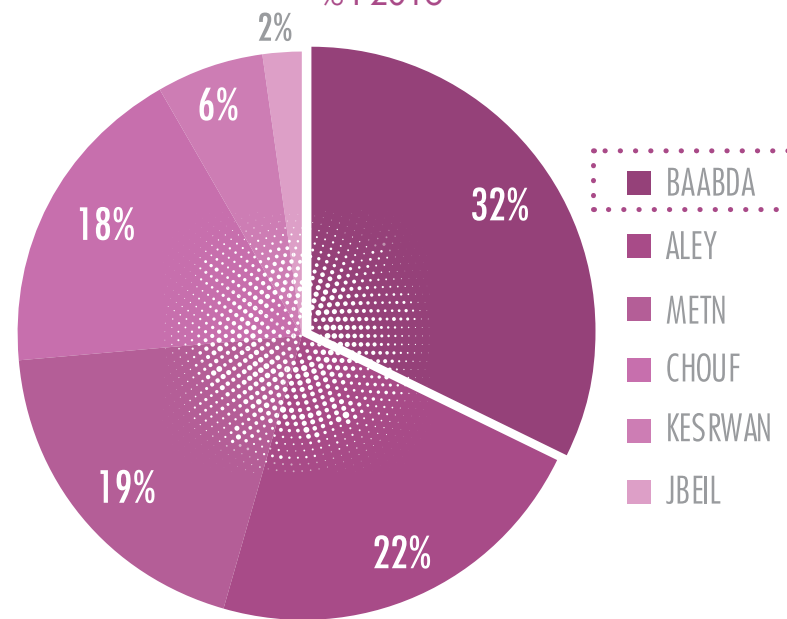
% | 2016



NO. OF DEPRIVED LEBANESE IN BAABDA:
150,000 OR 24% OF ITS TOTAL POPULATION

DISTRIBUTION OF SYRIAN REFUGEES BY DISTRICT IN MOUNT LEBANON GOVERNORATE

% | 2016



NO. OF SYRIAN REFUGEES IN BAABDA:
90,000 OR 14% OF ITS TOTAL POPULATION



II. COMPETITIVE ADVANTAGES OF UPPER METN REGION

The competitive advantages of the region will be assessed along **4 dimensions**

DIMENSIONS FOR ASSESSING UPPER METN

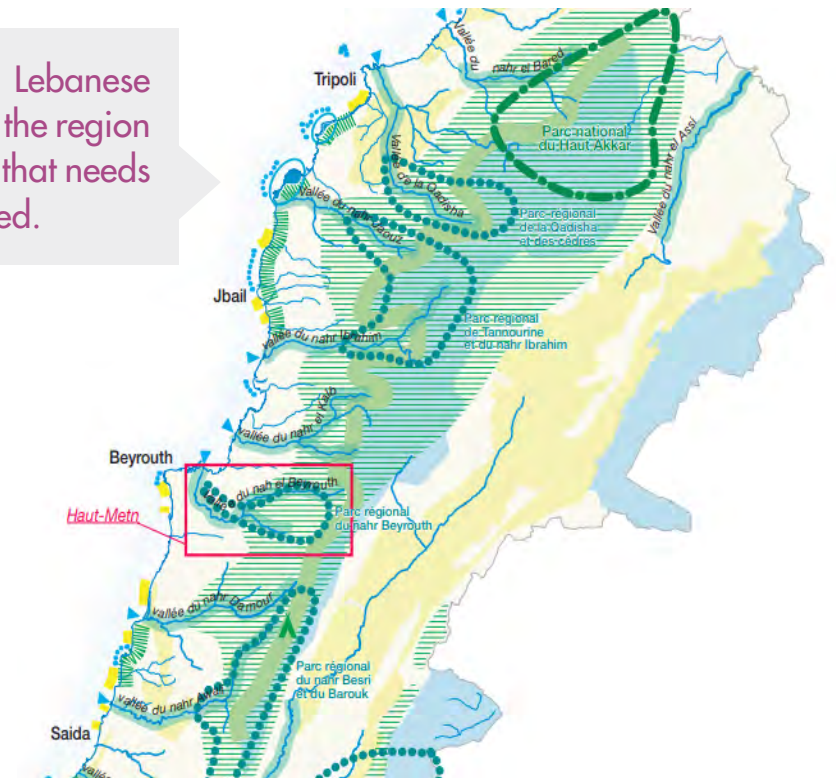
- 1. ACCESS TO RESOURCES**
Existing Natural Resources
Economic Assets
- 2. ACCESS TO MARKETS**
Infrastructure
Access to Markets
- 3. ACCESS TO HUMAN CAPITAL**
Technical & Vocational Schools
Universities
Quality of Labor Force
- 4. ACCESS TO FINANCE**
Access to Loans

The Upper Metn region is a region with a unique biodiversity



The master plan for the Lebanese territory (SDATL) identified the region as a regional natural park that needs to be created and protected.

70% OF THE TERRITORY OF THE REGION IS COVERED BY FORESTS & AGRICULTURE



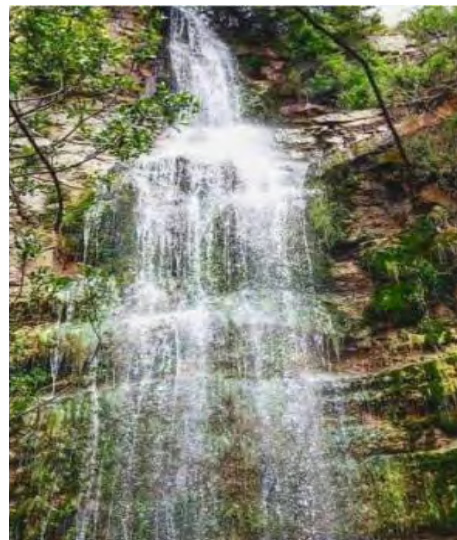
1. ACCESS TO RESOURCES

Upper-Metn is also an important **water reservoir** crossed by the Beirut river. The region also has **artificial lakes** to collect rainwater and water from the snow

MAJOR RIVERS IN THE UPPER METN REGION



HAMMANA WATERFALLS



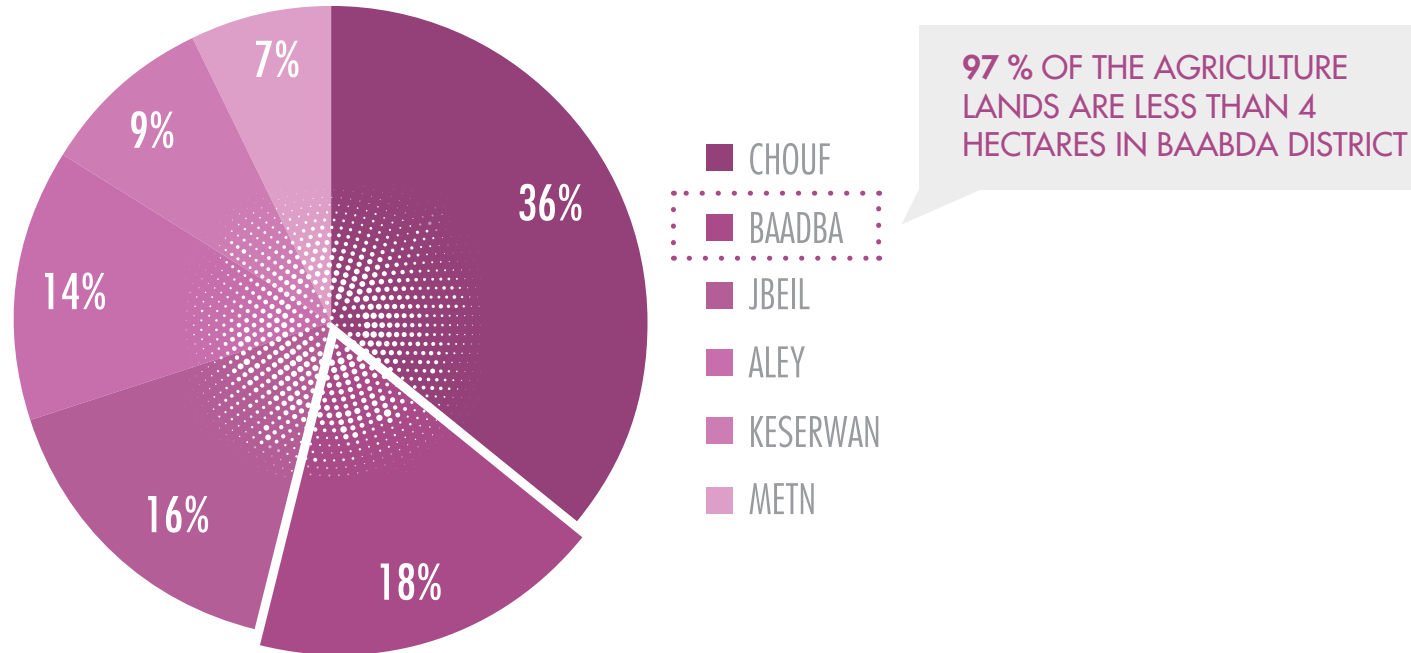
FALOUGHA LAKES



1. ACCESS TO RESOURCES

Baabda district has one of the **highest share of agriculture areas in Mount Lebanon** but the land is highly fragmented affecting economies of scale

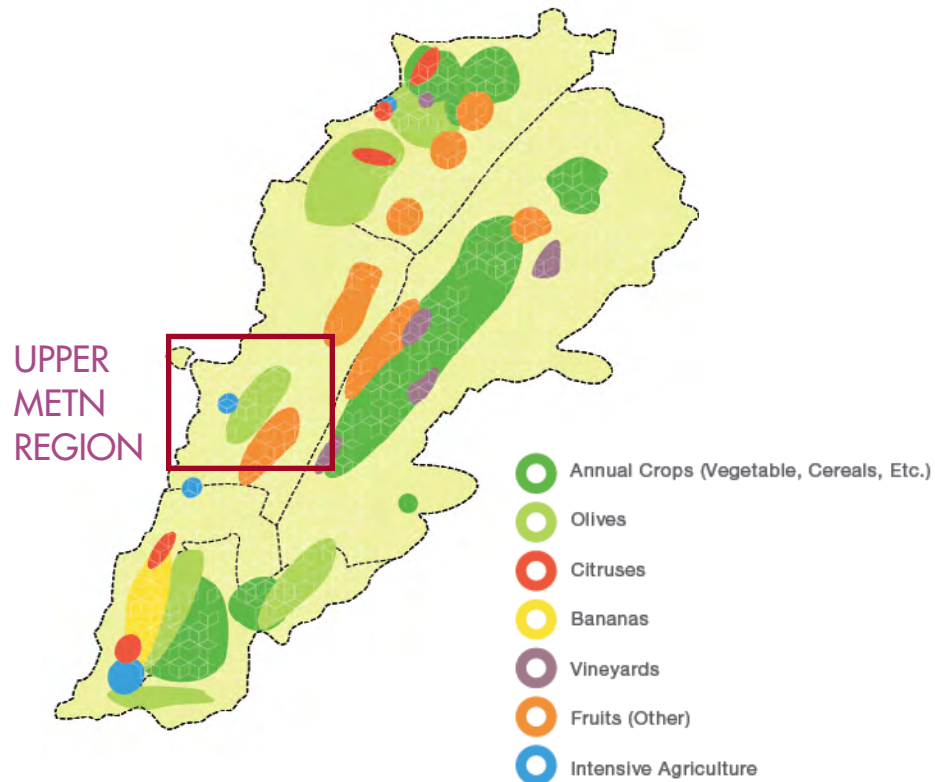
DISTRIBUTION OF USEFUL AGRICULTURE AREA IN MOUNT LEBANON GOVERNORATE
% | 2010



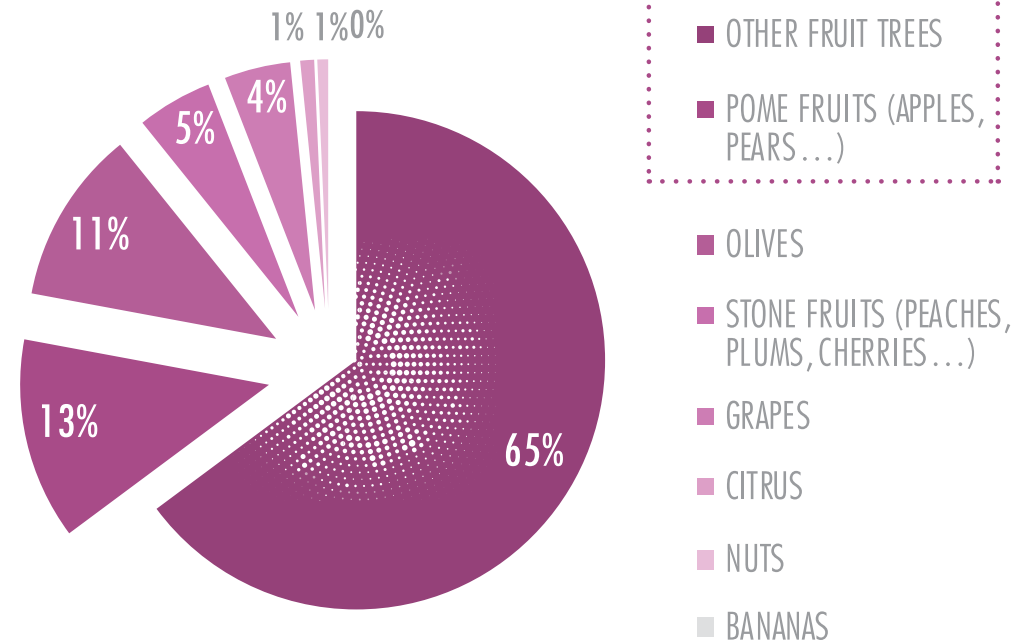
Source: Ministry of Agriculture, 2010 Agriculture Survey

This special ecosystem helps in the cultivation of a variety of crops

AGRICULTURE MAP OF LEBANON



DISTRIBUTION OF PERMANENT CROPS IN BAABDA DISTRICT
% | 2010



Source: Ministry of Agriculture, 2010 Agriculture Survey

1. ACCESS TO RESOURCES

New high-value crops are being cultivated in the area such as **Chestnut** creating the opportunity to develop agro-food industries around this highly demanded crop

TOP FIVE CROPS IN UPPER METN REGION



APPLES



OLIVES



CHERRIES



PINE NUTS



CHESTNUT

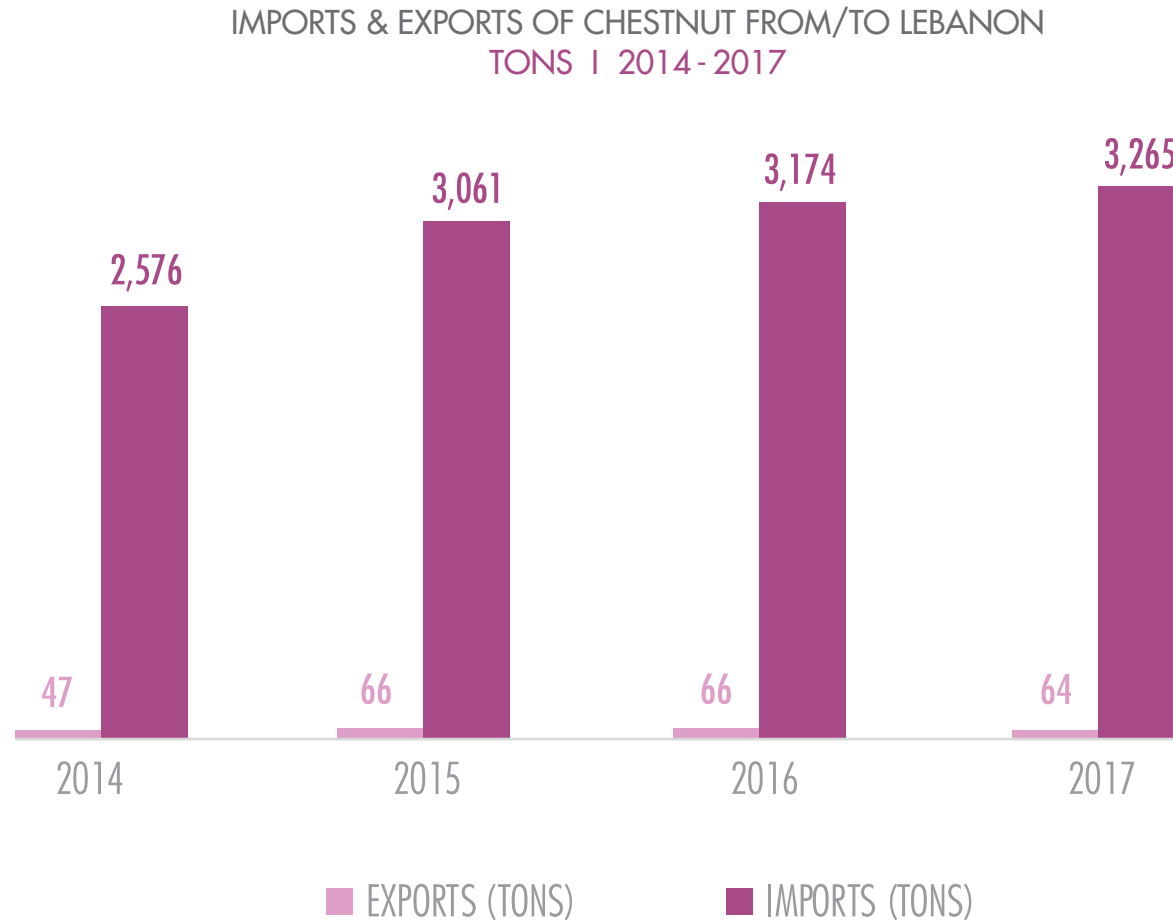


OVERVIEW OF CHESTNUT PRODUCTION IN BAABDA DISTRICT

6,000	Trees of chestnuts exist alone in Tarshish, Upper-Metn region
100	Tons of chestnuts were produced in 2014 in Tarshish
6,500	Tons of chestnuts are consumed in Lebanon
150	Number of Chestnut producers in Upper Metn

1. ACCESS TO RESOURCES

Lebanon heavily relies on import of **chestnut** which leaves ample opportunities to **increase production of this crop** at least to serve the local market...



Source: Lebanese Customs

1. ACCESS TO RESOURCES

... specially that chestnut production requires a **moderate climate and fertile soil** which are available in the area but requires stronger market access

CHESTNUT PRODUCTION REQUIREMENTS

- 1 FERTILE SOIL & MOUNTAINOUS CLIMATE**
 - Chestnuts produce a better crop when subjected to chill temperatures
 - Trees can be found at altitudes between 200 and 1000 meters above sea level some mention between 300 and 750 m altitude.
 - They can tolerate maritime exposure, although growth is reduced.
 - Chestnuts require a well-drained soil. The most common mistake in chestnut cultivation is to plant them on sites that are too wet or too "heavy" (too much clay). Clay soils can be tolerated if there is good surface drainage (slope), but chestnuts do best on deep, sandy loams (rocks and gravel are okay). Soil pH should be acidic, between 4.5 and 6.5. Chestnuts won't tolerate calcareous (limestone) soils
- 2 TECHNICAL SKILLS**


There needs to be trainings and workshops for farmers on chestnut production techniques: training in fertilization, testing soil type and acidity, etc
- 3 ACCESS TO COOPERATIVE**

There needs to be in place a strong association that groups producers and help them access export markets
- 4 MARKETING**

Access to international trade fairs to market Lebanese chestnut production

1. ACCESS TO RESOURCES

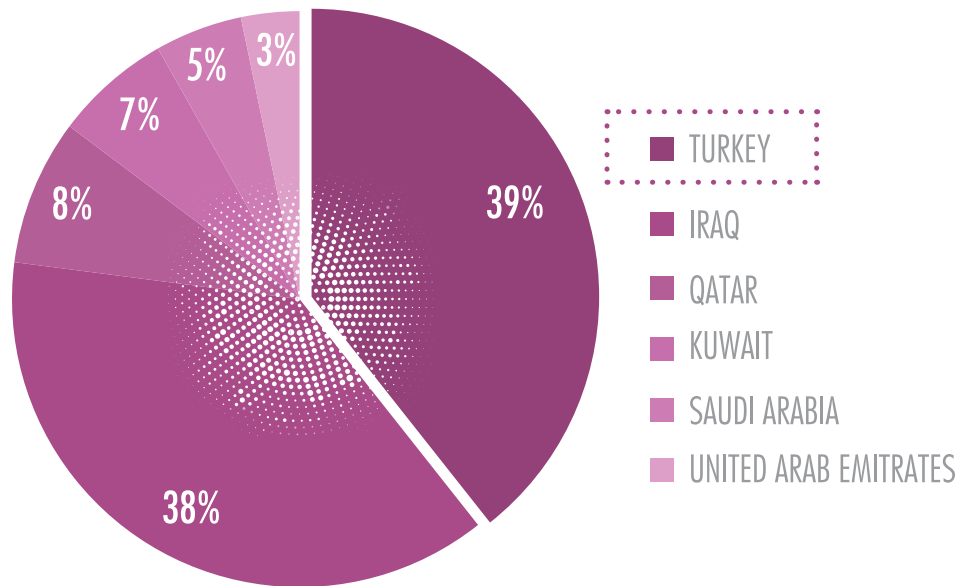
There are also opportunities to **develop high-value products** using chestnut crop to be introduced to the Lebanese and regional markets

	CHESTNUTS-BASED PROCESSED PRODUCTS		DESCRIPTION
1	DRIED CHESTNUTS		Used in soups & desserts
2	FROZEN CHESTNUTS		To increase their shelf-life as they are used in variety of recipes
3	FROZEN, SUGAR COOKED CHESTNUT PUREE		Yellow paste that is very sweet
4	PRE-COOKED CHESTNUT FLOUR		Used for pastries & baking
5	ROASTED & PEELED CHESTNUTS		Used as healthy snack
6	THERMALLY PROCESSED, GLASS PACKED CANDIED CHESTNUT		Marron glace

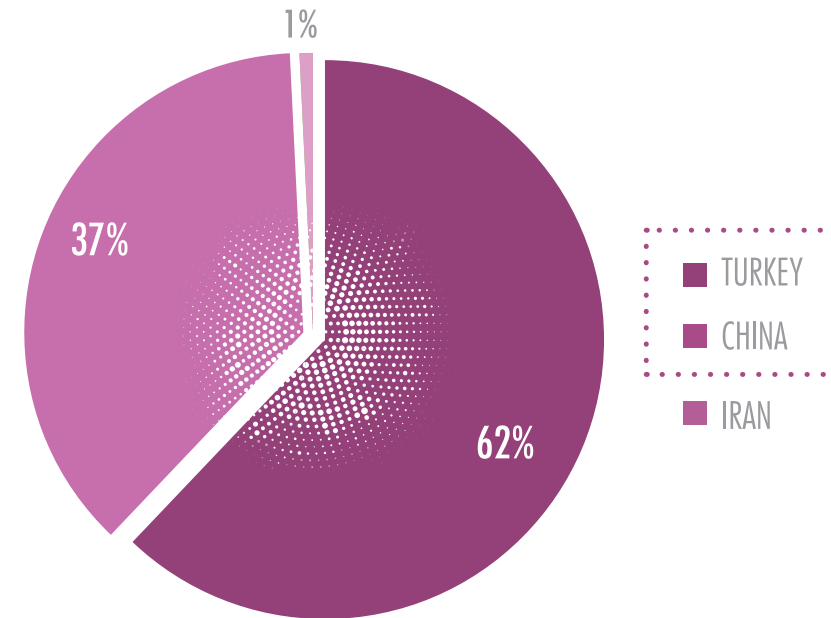
1. ACCESS TO RESOURCES

Chestnuts are mainly imported from the global market leaders - Turkey and China - while Lebanon exports to Turkey, Iraq and some other GCC countries

LEBANESE CHESTNUTS EXPORTS BY COUNTRY
% | 2017



LEBANESE CHESTNUTS IMPORTS BY COUNTRY
% | 2017



Source: Lebanese Customs

1. ACCESS TO RESOURCES

70% of the national production of pine nuts is concentrated in the Upper Metn region creating the potential for the development of high-value processed products

MAP OF PINE NUTS PRODUCTION IN THE MAJOR REGIONS OF LEBANON

45\$

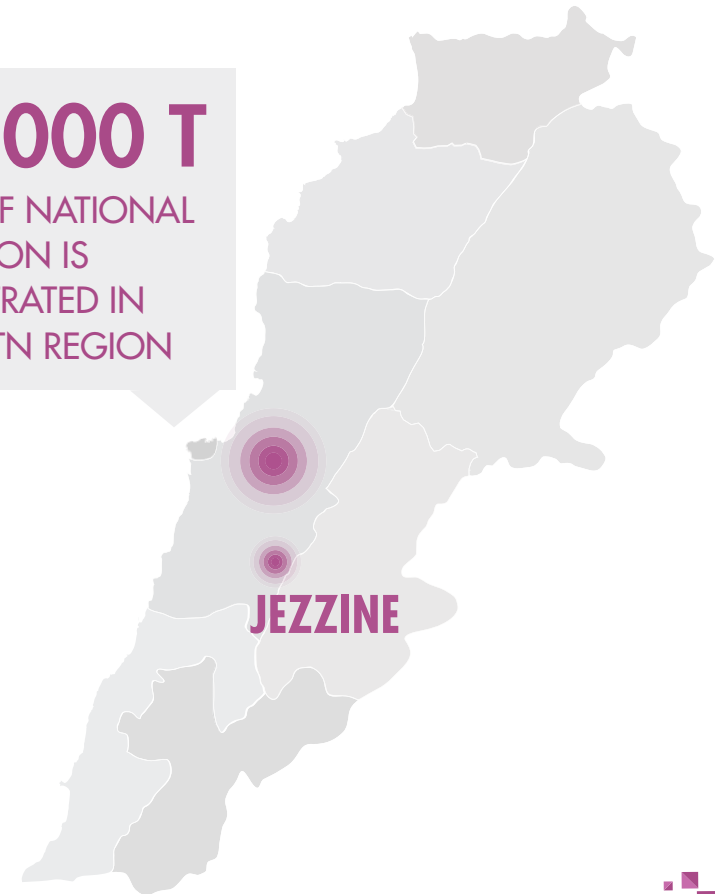
THE AVERAGE KILO
PRICE OF PINE NUTS

**25 MILLION
DOLLARS**

IS THE AMOUNT
GENERATED IN UPPER
METN FROM SALES
OF PINE NUTS

560,000 T

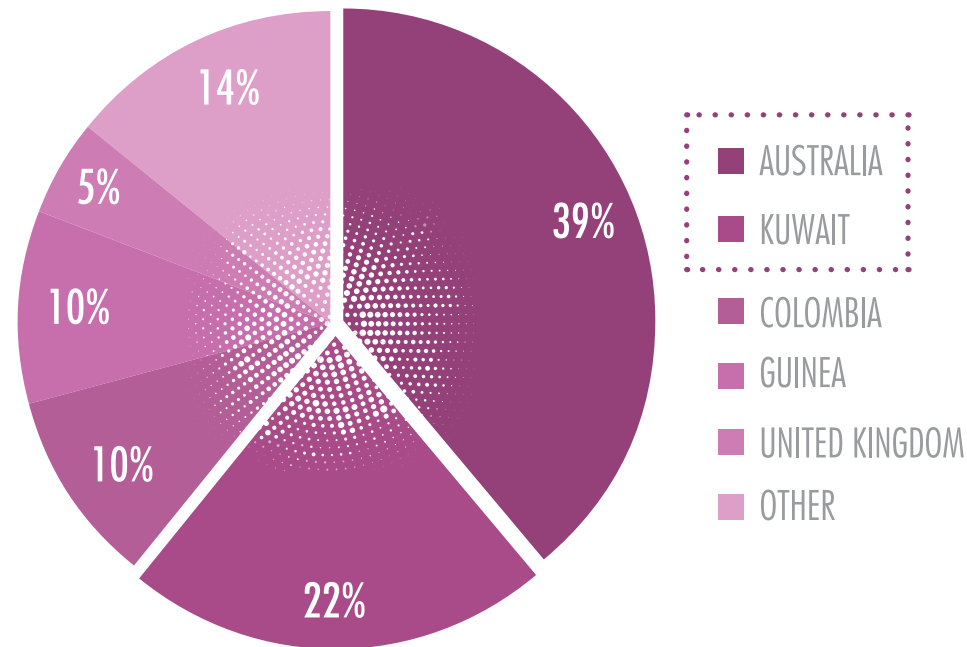
OR 70% OF NATIONAL
PRODUCTION IS
CONCENTRATED IN
UPPER METN REGION



1. ACCESS TO RESOURCES

Lebanon is a net exporter of pine nuts due to government policy of banning imports of pine nuts to Lebanon, with exports going primarily to Australia & Kuwait

LEBANESE PINE NUTS EXPORTS BY COUNTRY
% | 2017



1. ACCESS TO RESOURCES

Pine nuts have been gaining in popularity in recent years due to increased awareness on their **health benefits** thus creating the opportunity to derive high-value products from this crop...

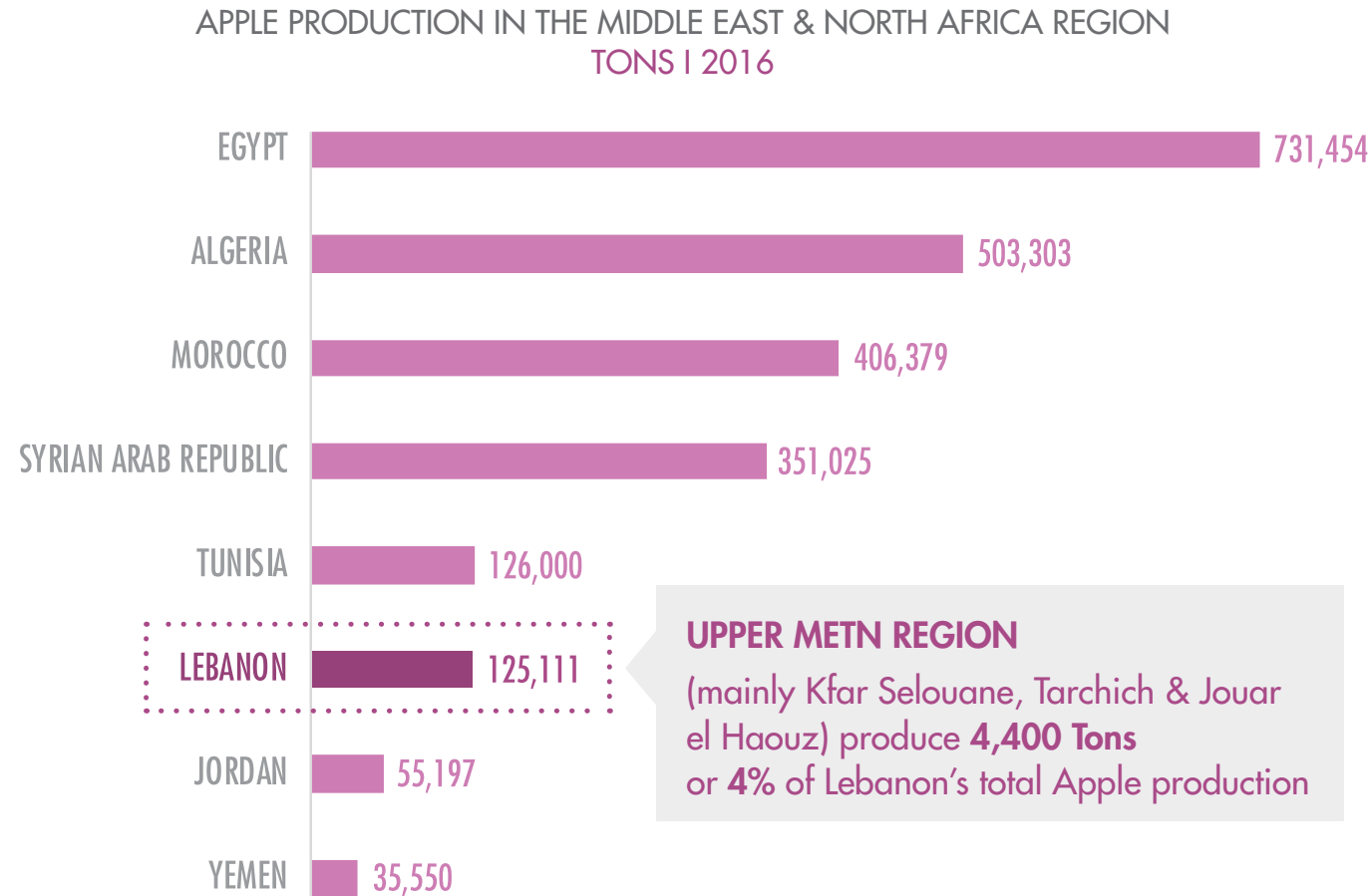
EXAMPLES OF PRODUCTS DERIVATIVES FROM PINE NUTS

	PINE NUTS BY-PRODUCT	PROCESSED PRODUCTS	
1 AGRO-FOOD INDUSTRY		Gourmet Pine Nut Oil	Pesto Sauce
		Pine Nut Milk	Granola & Crunch Bars
		Pine Nut Cream	Chocolate Bars
		Pine Nut Flour	Non-Dairy milk shakes
		Pine Nut Flakes	Gluten-Free Cakes & Pastries
	2 COSMETICS		Pine Nut Essential Oil

NON-EXHAUSTIVE

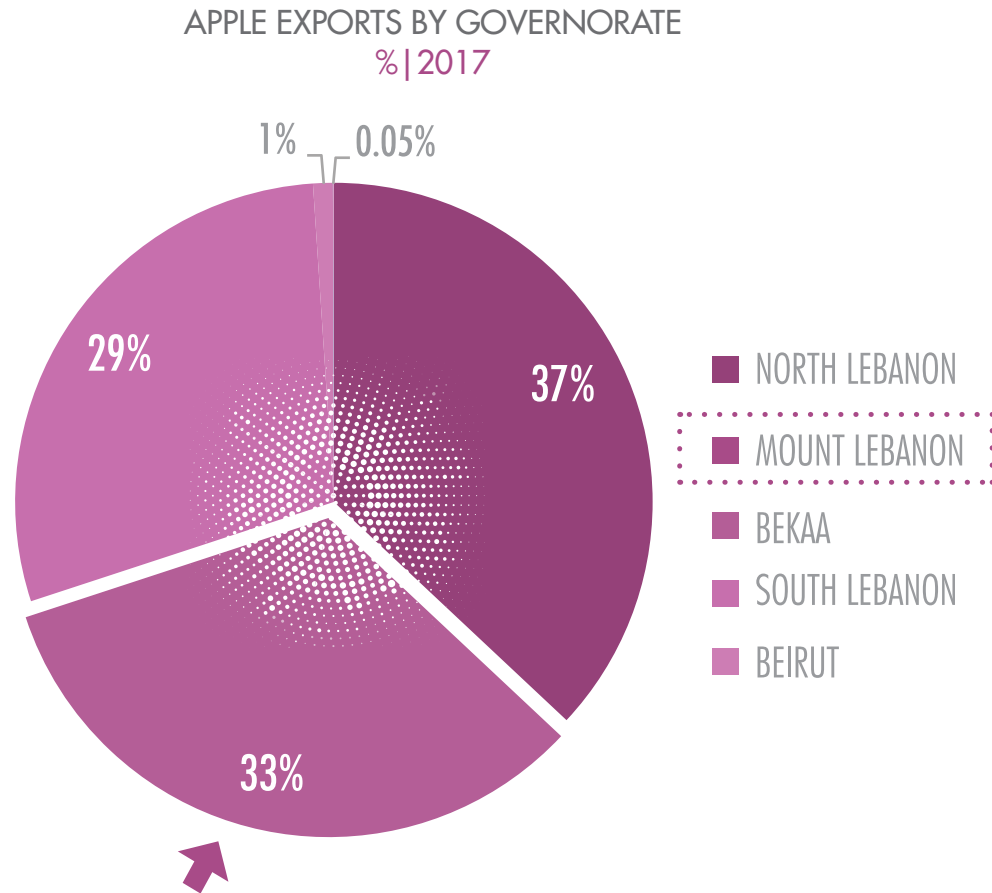
1. ACCESS TO RESOURCES

Production of fruits, mainly apples, remain **the 2nd largest agriculture product** in the Upper Metn region after pine nuts although its share of national production is negligible at 4%

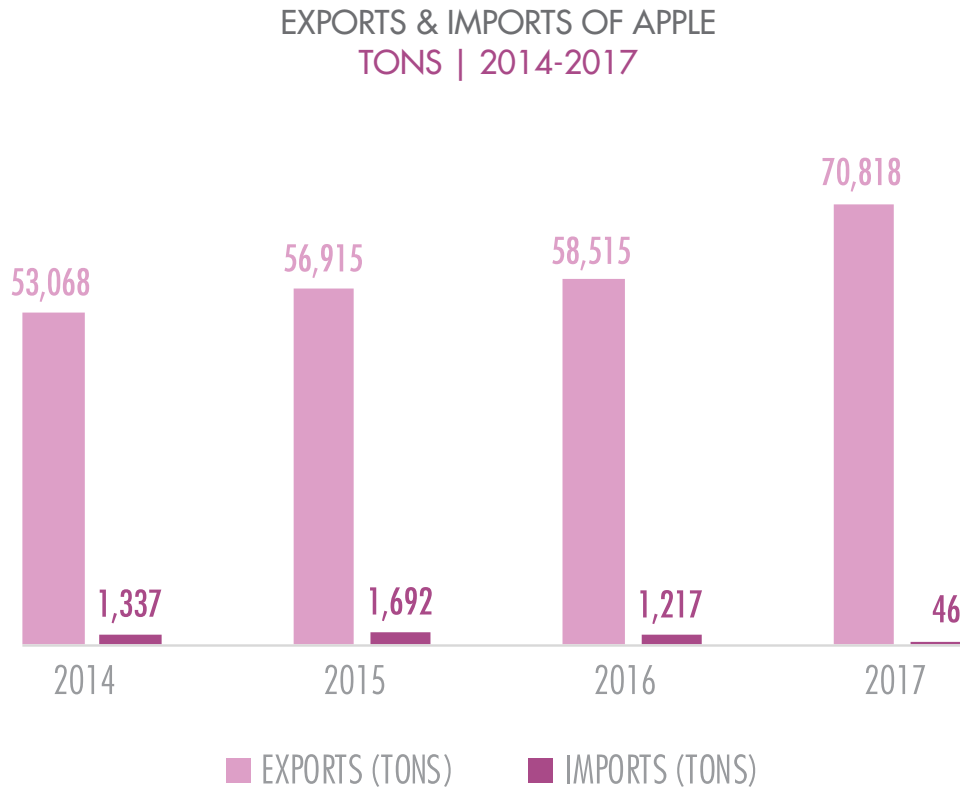


1. ACCESS TO RESOURCES

Lebanon is a net exporter of apples with **Mount Lebanon governorate the 2nd largest exporter in the country**



Source: IDAL's Calculations





Source: Lebanese Customs

1. ACCESS TO RESOURCES

There are various **opportunities** for the development of new high-value processed products from apples that could be destined for the local and regional markets...

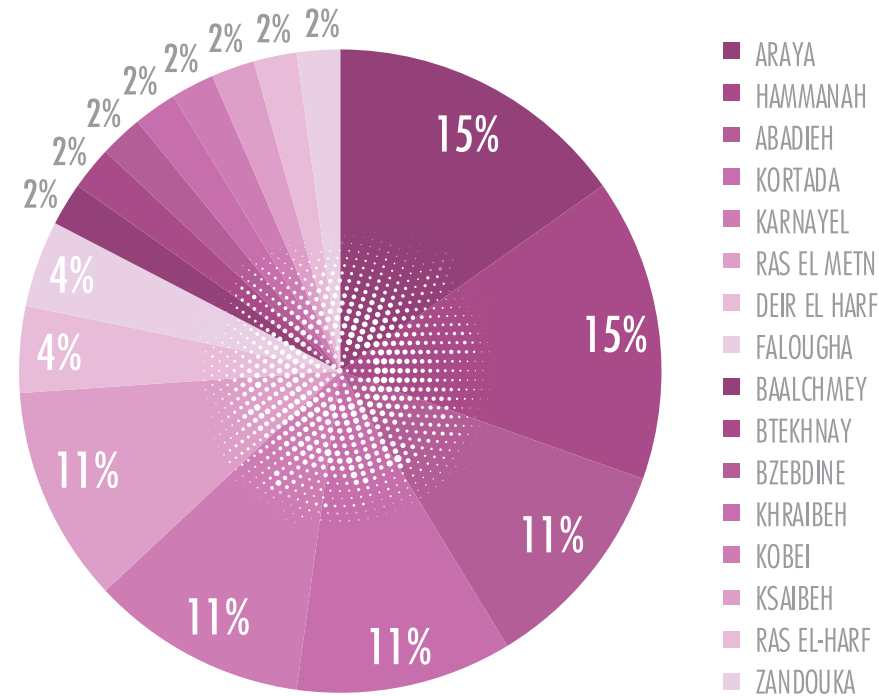
POPULAR PROCESSED APPLE BY-PRODUCTS

NON-EXHAUSTIVE

1	APPLE SAUCE		Natural sweetener Very lucrative market today dominated by 2 brands mostly Hipp and Bledina. Very high potential to develop this product in Lebanon and cover the region
2	APPLE CHIPS		Healthy low-calorie snack High growth of global apple chips production (CAGR 2018-2026 of 5.7%)
3	APPLE CIDER VINEGAR		Used in salad dressings, marinades, vinaigrettes, food preservatives, and chutneys. Global market of Apple Cider Vinegar is estimated at approximately US\$ 1,229.2 Million by the end of 2026.
4	APPLE BASED JUICES (CIDER)		Alcoholic beverage made from the fermented juice of apples.

74% of all industrial companies in the region are concentrated in 6 major towns...

DISTRIBUTION OF INDUSTRIAL FACTORIES BY TOWNS IN UPPER METN REGION
% | 2017

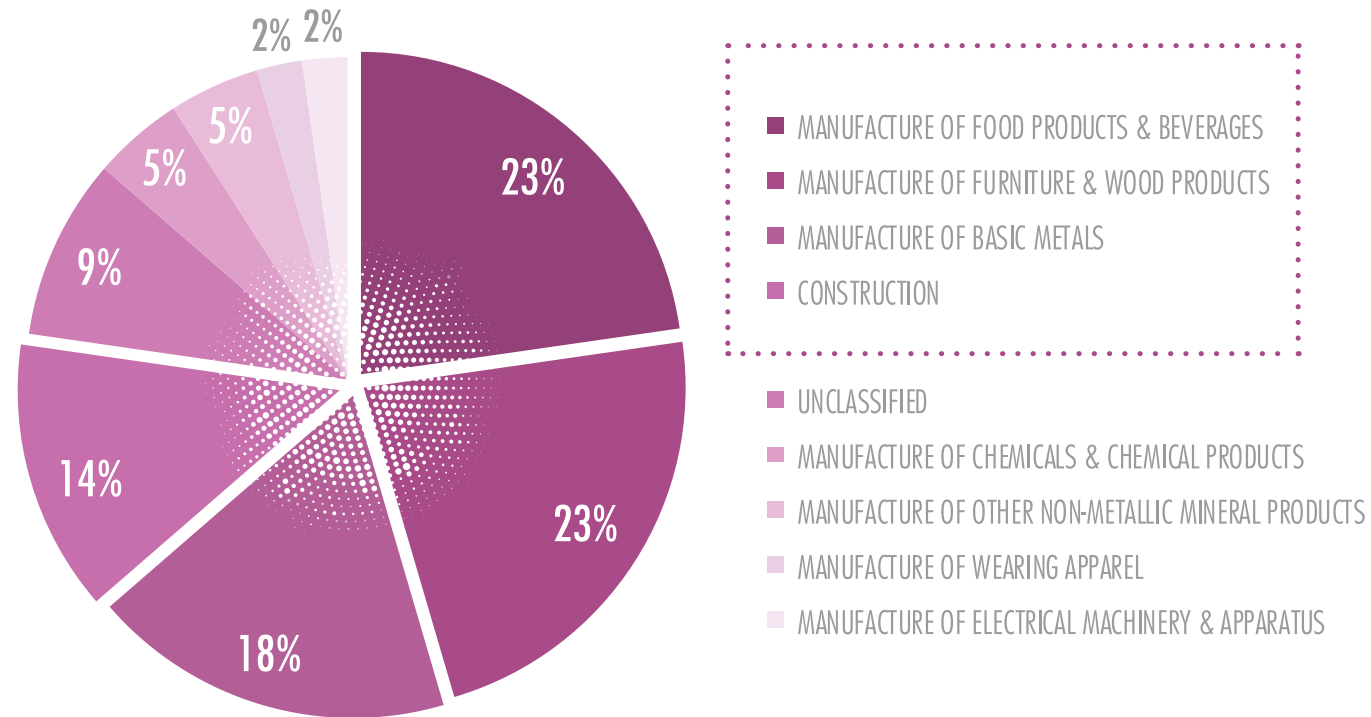


NO. OF INDUSTRIAL COMPANIES
IN UPPER METN REGION
**44 OR 11% OF TOTAL COMPANIES
IN BAABDA DISTRICT**

1. ACCESS TO RESOURCES

...and 4 main industrial sub-sectors. However only **1 company is a major employer in the region** with the rest employing on average less than 5 employees...

DISTRIBUTION OF INDUSTRIAL FACTORIES BY SUB-SECTORS IN UPPER METN REGION
% | 2017

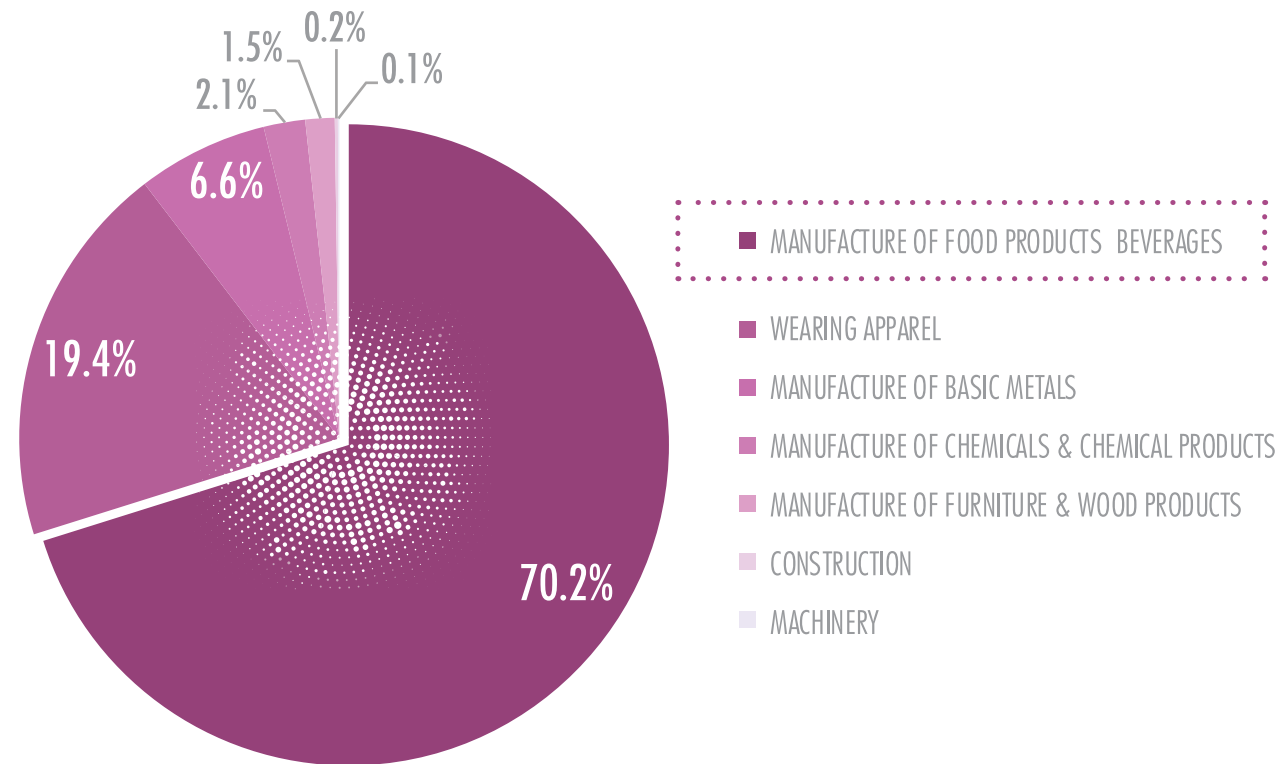


SOHA COMPANY IN FALOUGHA EMPLOYS 450 EMPLOYEES

1. ACCESS TO RESOURCES

The food and beverages sector is the largest manufacturing employer employing more than 70% of total labor force in the region

DISTRIBUTION OF EMPLOYEES BY MANUFACTURING SUB-SECTOR IN UPPER METN REGION
% | 2018

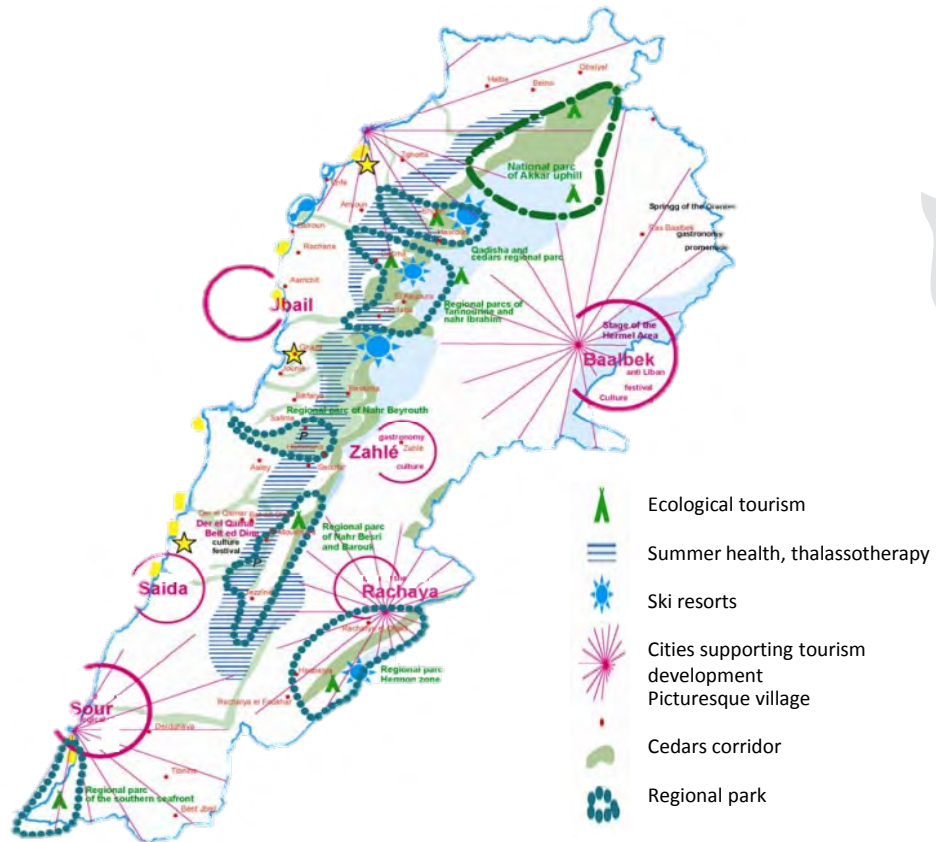


Source: IDAL's Analysis

1. ACCESS TO RESOURCES

Due to its **unique natural resources, picturesque towns and moderate climate**, the region is a major touristic destination all year long

MAP OF LEBANON'S TOURISTIC ATTRACTIONS



MAP OF UPPER METN TOURISTIC ATTRACTIONS



Source: L'institut D'aménagement Et D'urbanisme - Île-de-france

1. ACCESS TO RESOURCES

The region has an **adequate supply of hotel rooms** that meets the demand especially during the high summer season...

LIST OF HOTELS & CAMPSITES IN UPPER METN
2018

HOTELS	STARS	NO. OF ROOMS
VALLEY VIEW	4	31
PINELAND	4	43
CHERRY BLOSSOM	4	16
HAMMANAH PLAZA	3	20
RAMI HOTEL	3	25

CAMPSITES

HEDEL VALLEY

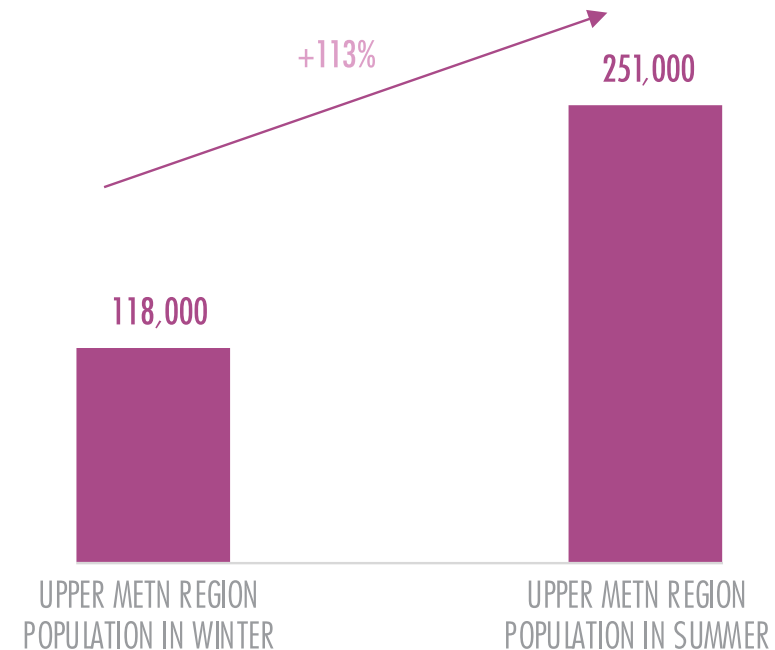
NATURAL LAND

NEW VALLEY

ARSOUN VILLAGE

PANDA PALACE

POPULATION OF UPPER METN BETWEEN WINTER & SUMMER SEASONS
2012



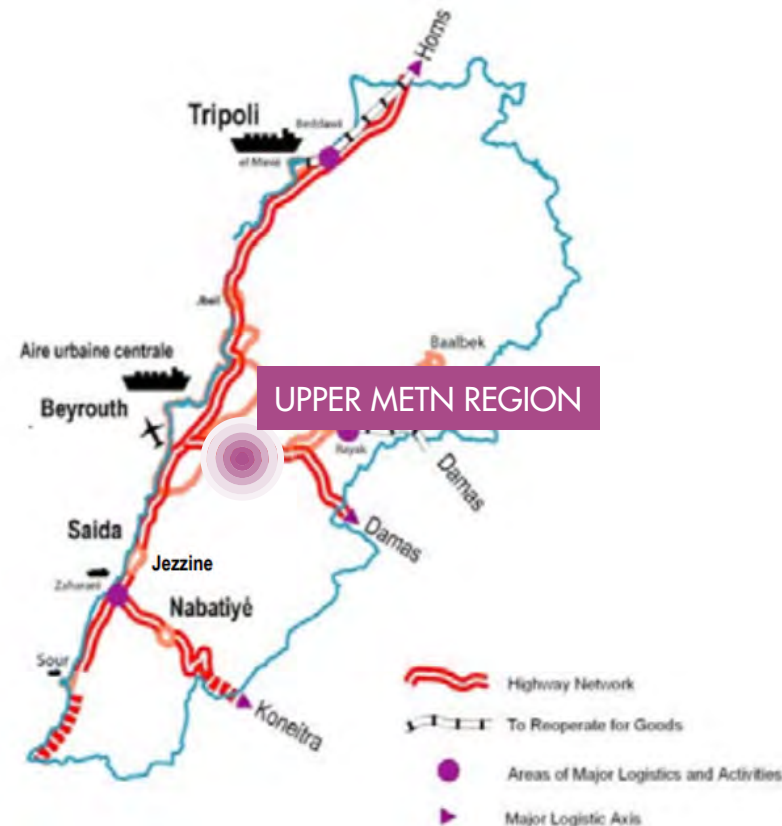
Source: IDAL's Survey, 2018

Source: L'institut D'aménagement Et D'urbanisme - Île-de-france

2. ACCESS TO MARKETS

The region is easily accessible from the capital Beirut through its modern transport network and is on a **major trade route linking the capital to Damascus**

MAP OF TRANSPORTATION INFRASTRUCTURE
2005

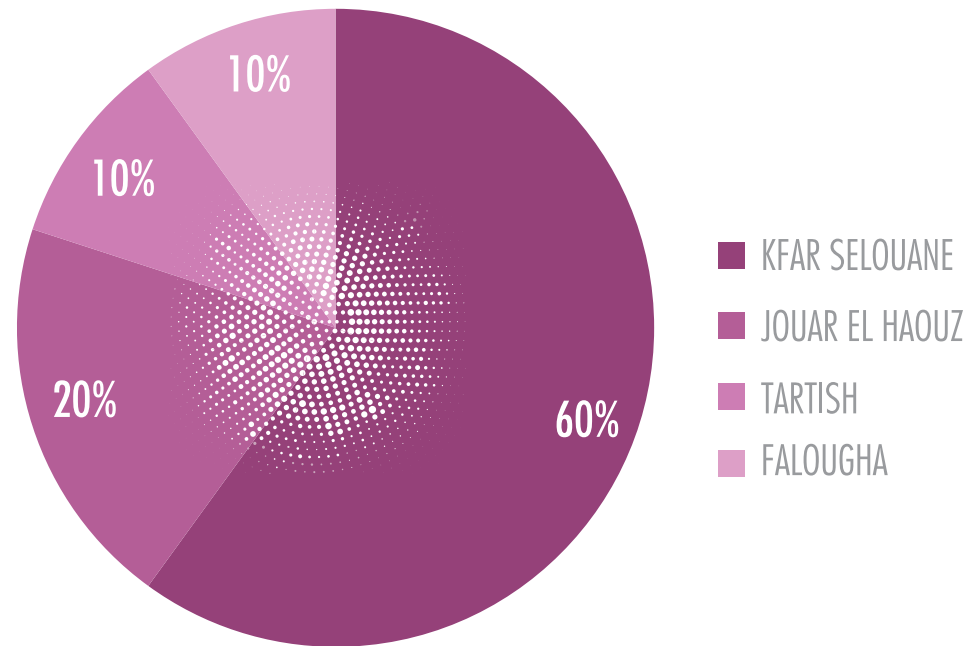


Source: Council for Development & Reconstruction

2. ACCESS TO MARKETS

Upper Metn region is served by **10 cold storage houses** supporting the agriculture sector in the area to reach export markets

DISTRIBUTION OF COLD STORAGE HOUSES IN UPPER METN
% | 2018

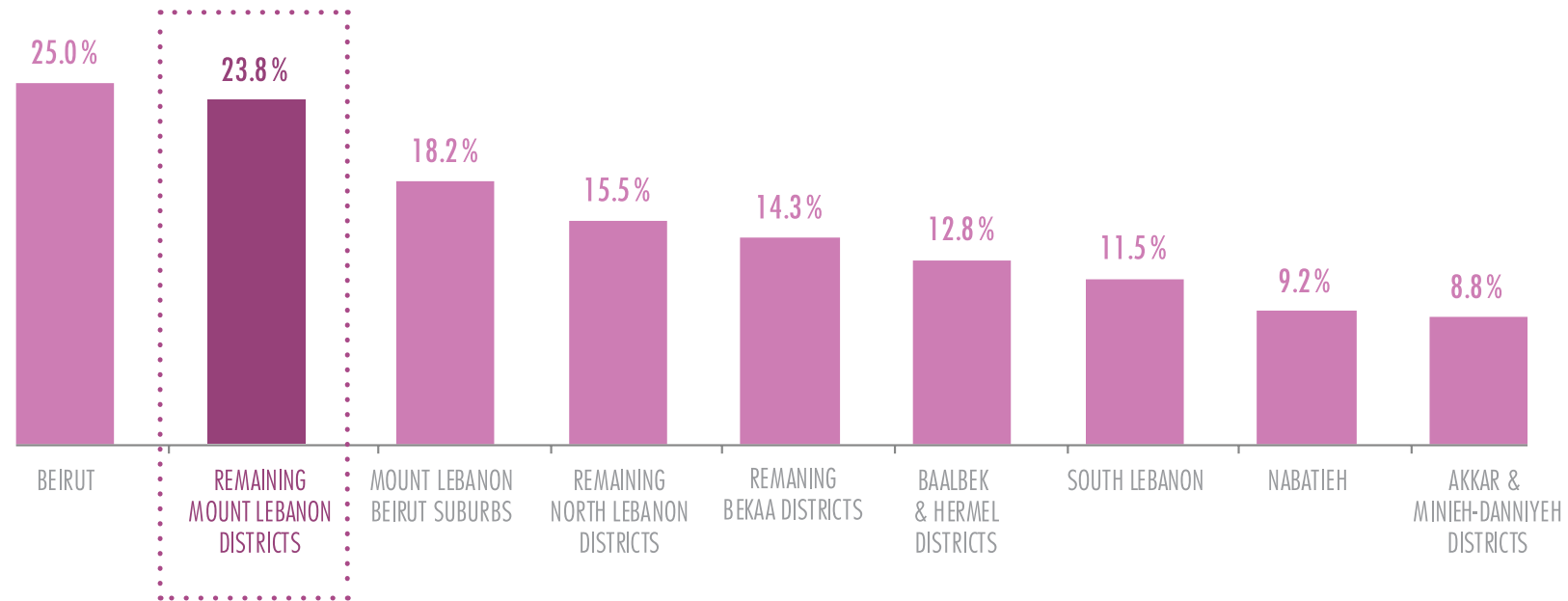


TOTAL NO. OF COLD STORAGE HOUSES IN UPPER METN= **10**

3. ACCESS TO HUMAN CAPITAL

Residents of Upper-Metn* have a **high education attainment** compared to the rest of the country despite the lack of universities and technical schools serving the region

DISTRIBUTION OF RESIDENTS WHO HAVE A UNIVERSITY ATTAINMENT LEVEL BY REGIONS
% | 2009



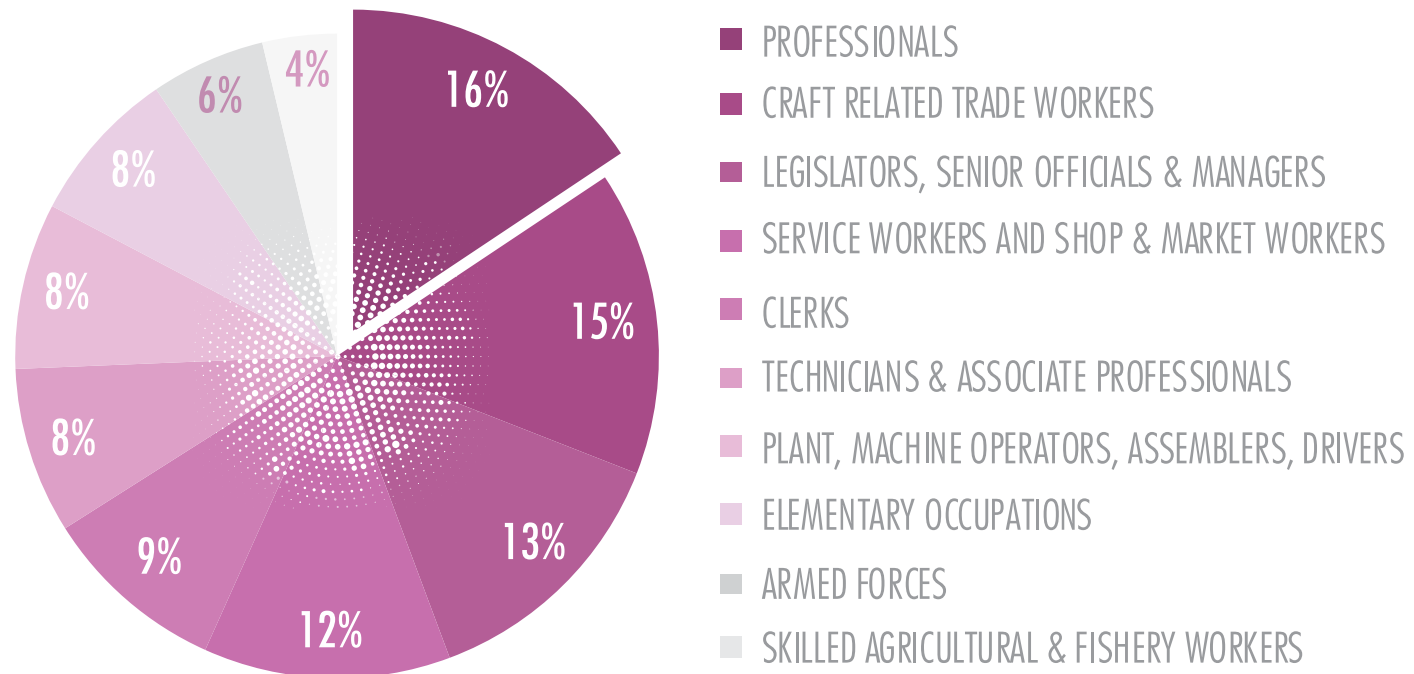
Source: CAS, 2009 Labor Statistics

*Remaining Mount Lebanon is used as a proxy for Upper Metn region due to the lack of statistical data on the region per se

3. ACCESS TO HUMAN CAPITAL

The level of skills in the region* is also high with 16% of employed people are considered professionals

DISTRIBUTION OF EMPLOYED PEOPLE BY OCCUPATION IN CURRENT WORK IN REMAINING MOUNT LEBANON DISTRICTS
% | 2009

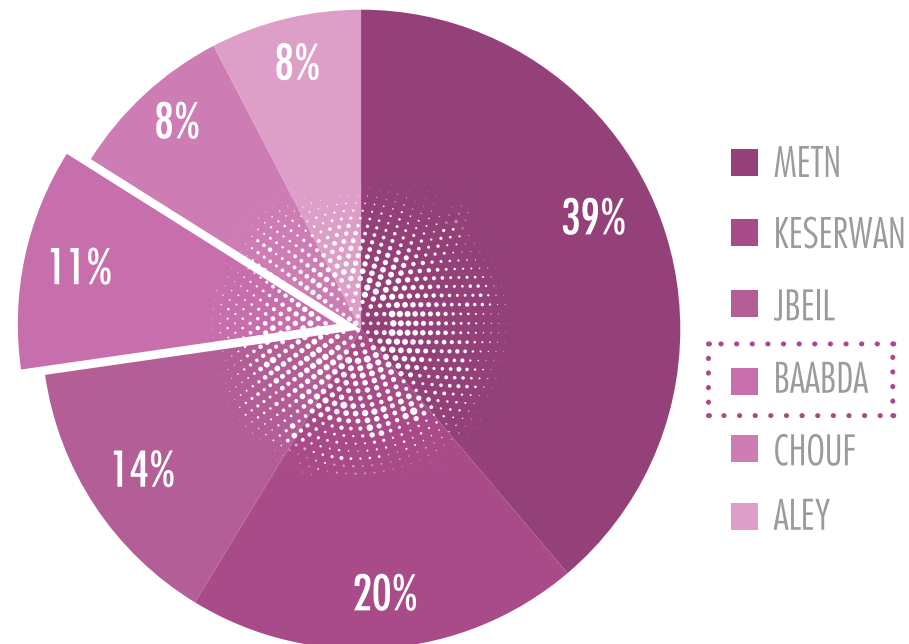


Source: CAS, 2009 Labor Statistics

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Businesses in the region have access to subsidized loans and constitute **11%** of total loan amounts in Mount Lebanon governorate

DISTRIBUTION OF SUBSIDIZED KALAFAT LOANS BY DISTRICT IN MOUNT LEBANON
% | 2018



NO. OF LOANS IN
BAABDA DISTRICT = **695**
TOTAL AMOUNT OF
KAFALAT LOANS: = **134**
BILLION LEBANESE LIRA

The competitive advantages of the Governorate can be summarized as follow

DIMENSIONS FOR RATING UPPER METN

1.

ACCESS TO RESOURCES

- **Natural Resources and Economic Assets:** fertile soil and water resources, and vast agricultural and forestry lands covering 70% of the region.

2.

ACCESS TO MARKETS

- **Infrastructure:** The region is easily accessible from the capital through its modern transport network and is on a major trade route linking the capital to Damascus.

3.

ACCESS TO HUMAN CAPITAL

- **Educational Attainment and level of skills:** High level of educational attainment with around 24% having a university degree in the Mount Lebanon districts (the second highest share in all Lebanon) and high level of skills with more than 16% of employed people having a professional occupation.

4.

ACCESS TO FINANCE

- **Access to Loans:** Businesses in the region have access to subsidized loans and constitute 11% of total loan amounts in Mount Lebanon Governorate (or the fourth largest recipient of loans in the Governorate).

An aerial photograph of a vast pine forest. The trees are densely packed, with a mix of green and brownish-green hues. In the lower center, a small, irregularly shaped pond is visible, surrounded by trees. The background shows rolling hills and more forest, with some distant structures and a road visible on the right side. The overall scene is a natural, undisturbed landscape.

III. CLUSTER DEVELOPMENT STRATEGY IN UPPER METN

Based on the comparative advantages of the region, IDAL identified **2 high-value and high potential clusters** for development in the Upper Metn region...

THE FOREST PRODUCTS* CLUSTER DEVELOPMENT INITIATIVE IN UPPER METN

WHY FOREST PRODUCTS?

- 70% of the territory of Upper Metn is forestry and agriculture;
- 70% of total Lebanon's production of pine nuts is concentrated in the Upper Metn region;
- The existence of a strong cooperative for the supply chain of pine nuts;
- It is a natural cluster that already exists mainly in Ras el Metn where most of the production is located (10 permanent pine nuts processing facility and 50 seasonal ones);
- Existence of highly experienced labor force specialized in picking pine nuts.

CHALLENGES

- The population of Upper Metn is mainly elderly where the young people moved to Beirut or emigrated for economic opportunities
- 19% of households in Upper Metn benefit from financial help from a relative living abroad;
- Small local consumer market;
- High competition from other towns also famous for forest products such as Jezzine, Bekassine.

WE RECOMMEND THE FORMATION OF A **FOREST PRODUCTS CLUSTER** THAT WOULD HELP:

- **CREATE HIGH-VALUE JOBS**
- **FOSTER ENTREPRENEURSHIP**
- **REDUCE OUTWARD MIGRATION**
- **PROMOTE ECONOMIC GROWTH**
- **REDUCE PRODUCTION COSTS**
- **INCREASE EXPORT POTENTIAL**

*Forest products include pine nuts, chestnuts, other type of nuts, molasses...

For instance the **pine nuts processing cluster** could have an area of around 22 ha* and includes pine processing factories, packaging center, agro-food production factories and other auxiliary facilities

FOREST PRODUCTS PROCESSING CLUSTER ** - CONCEPT

Production Houses

With an area of 15 ha (150,000m²) and Include:
Pine nuts processing
Chestnut processing
Cold storage facilities
Auxiliary facilities such as food packaging centers

Showroom (2 ha)
Includes around 9 wholesalers and food retailers in addition to agreements with international distributors

R&D Centers and Incubators (5 ha) to develop new high value processed products from the forest products

Vocational Education and Training (VET) at the following levels: picking nuts, food processing, packaging and food safety

FOREST PRODUCTS PROCESSING CLUSTER – DESIGN CONCEPT



* this value was selected based on benchmarking of agro-food clusters in other countries which have similar characteristics (cluster's specialization, size, and production capacity)

The apple products cluster is another **initiative** that can be considered given the comparative advantages of the region in the production of apples

THE APPLE PRODUCTS CLUSTER DEVELOPMENT INITIATIVE IN UPPER METN

WHY APPLE PRODUCTS?

- Apples are the second largest agriculture product in the Upper Metn region after pine nuts.
- 4,400 tons of apples are produced in the region alone or 4% of total national production
- Lebanon is a net exporter of apples with Mount Lebanon Governorate the second largest exporter in the country

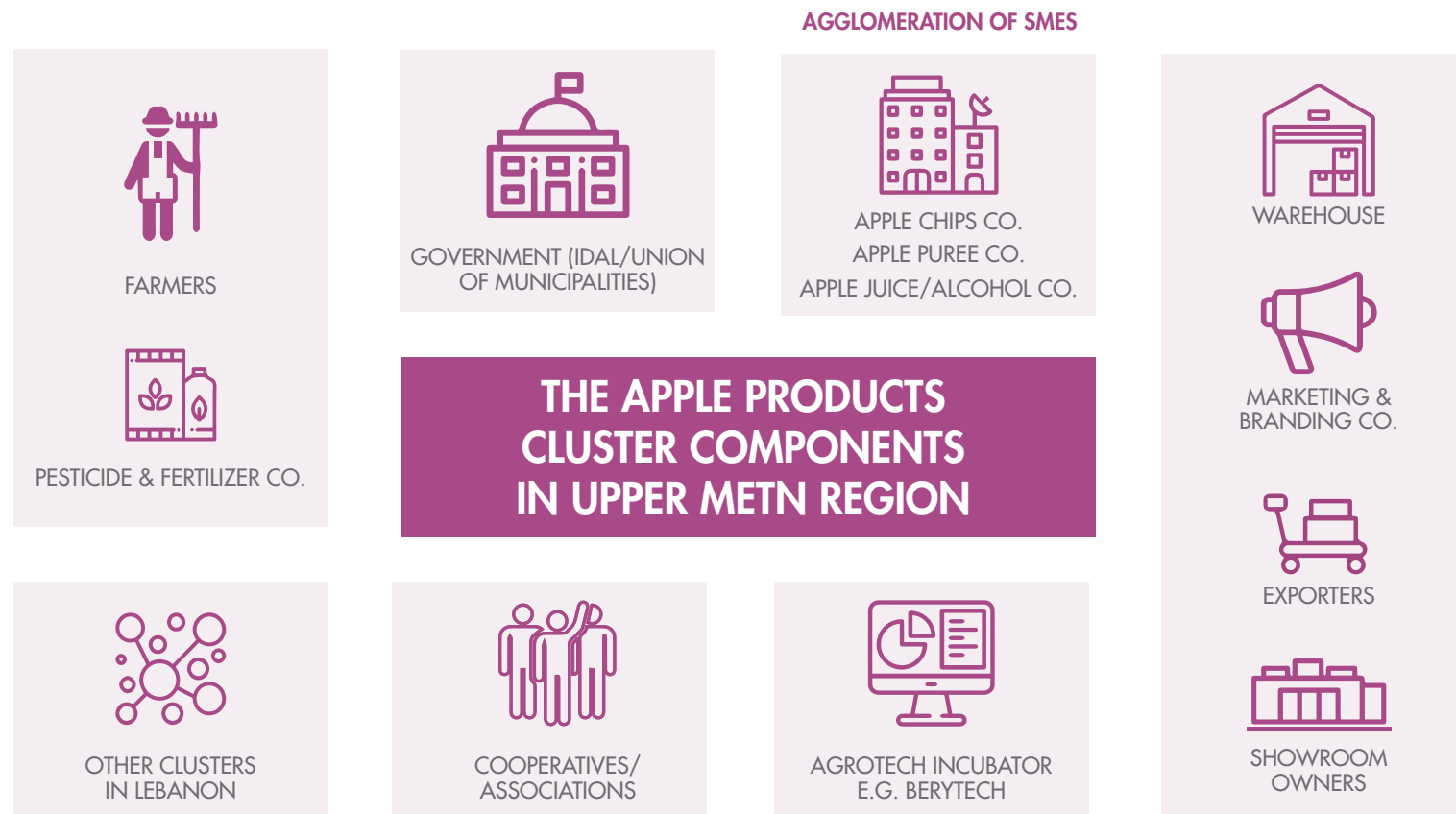
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- **REDUCE PRODUCTION COSTS**
- **INCREASE EXPORT POTENTIAL**

The apple products cluster in Upper Metn needs to be strengthened and linked to other apple clusters in Lebanon to increase its competitiveness...



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