



# GREENING MSD IN THE ALCP2 IN GEORGIA

**ALCP** | Alliances  
Caucasus 2

REGIONAL MARKET ALLIANCES IN THE SOUTH CAUCASUS



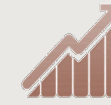
**647,998**  
HOUSEHOLDS  
IMPACTED  
*22% Indirect*



**\$38.9 Million**  
ADDITIONAL INCOME  
GENERATED FOR  
FARMERS



**1,135**  
NEW JOBS CREATED  
590 WOMEN, 545 MEN



**\$58.6M TOTAL**  
IN INCOME, JOBS,  
PROFIT TO ENTERPRISES

## ALCP PROGRAMME OVERVIEW

## SECTORS



DAIRY



MEAT



WOOL



HONEY



SILK



WILD BOTANICALS

GEO

ALCP

ARM

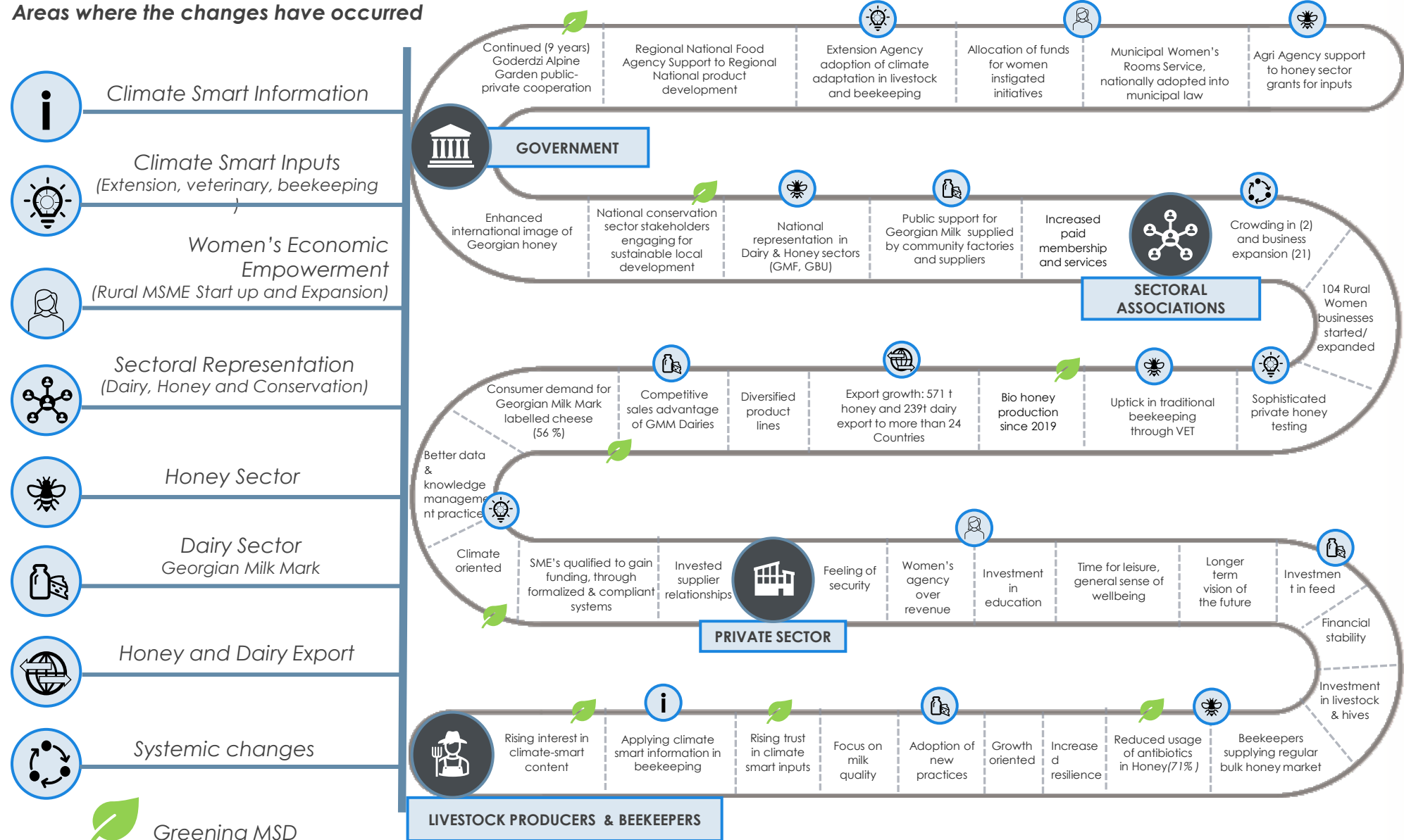
AZE

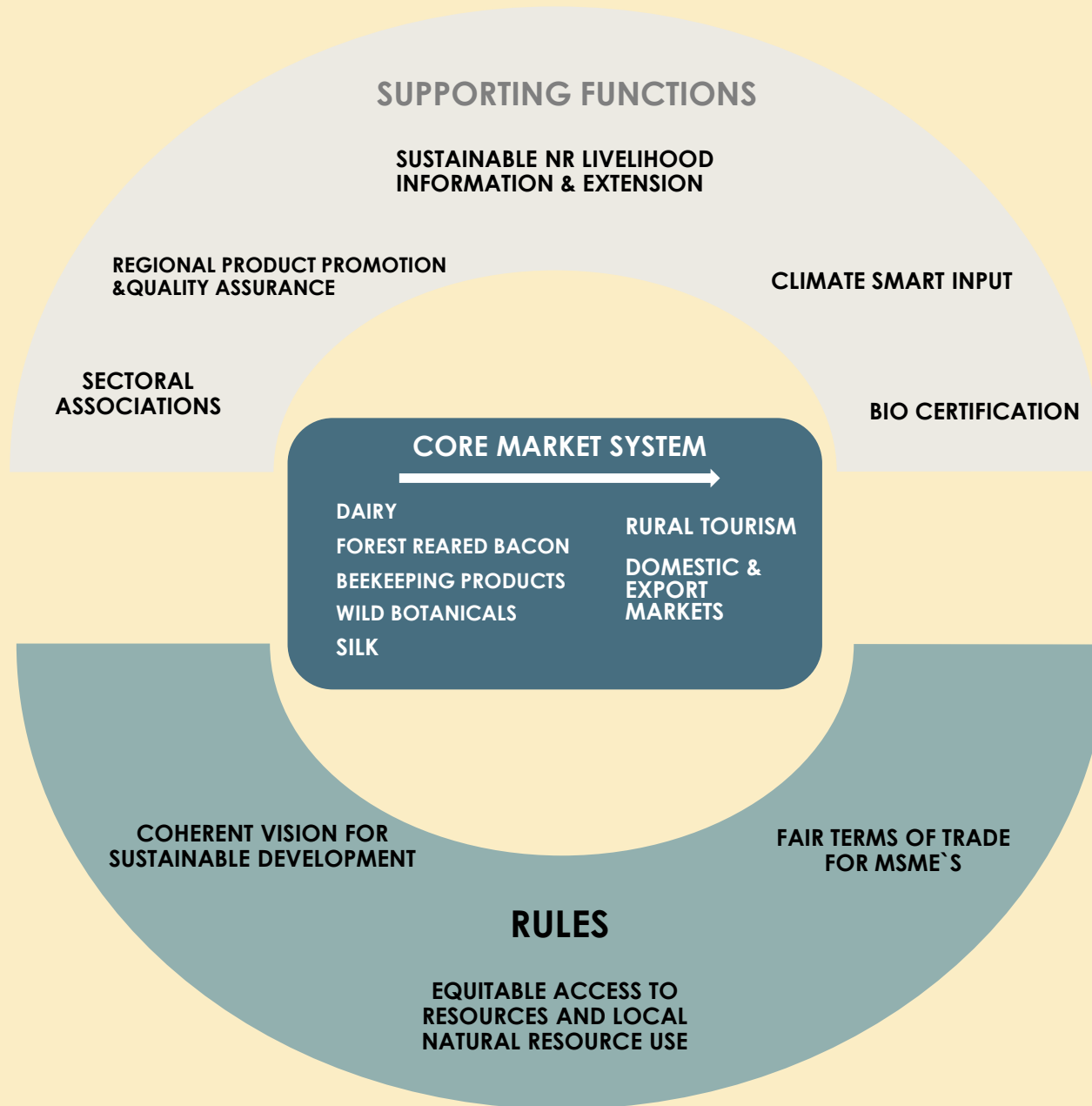
**ALCP** | Alliances  
Caucasus 2

REGIONAL MARKET ALLIANCES IN THE SOUTH CAUCASUS

# SYSTEMIC CHANGE DIAGRAM (2022-2024)

Areas where the changes have occurred





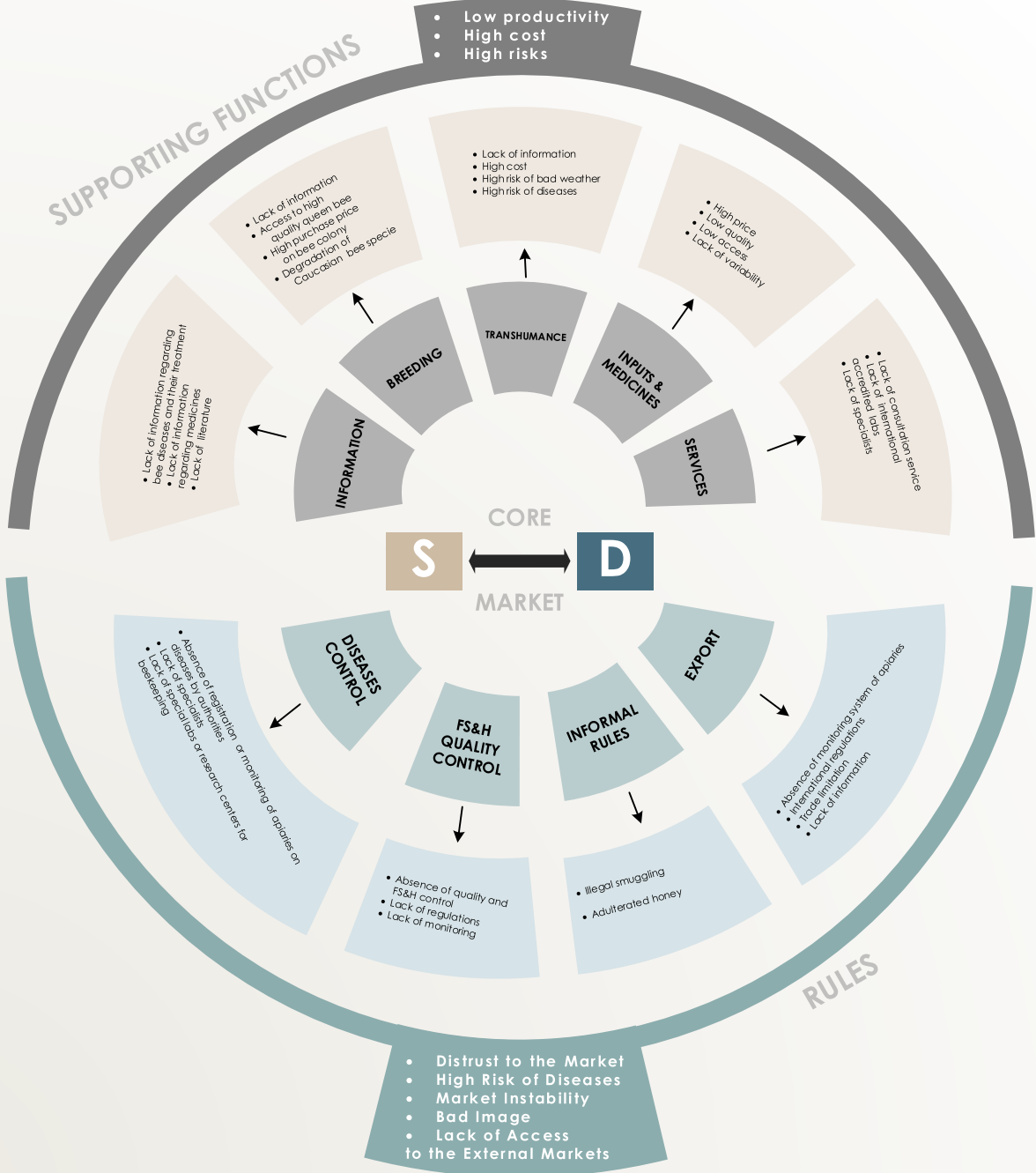


**SECTOR SELECTION**



**CLIMATE SMART INPUTS**

# BASELINE (2014)



## SUPPORTING FUNCTIONS

- Lack of Access to **Beekeeping Inputs** & Medicines
- Lack of **Information** & Systematic **Trainings**

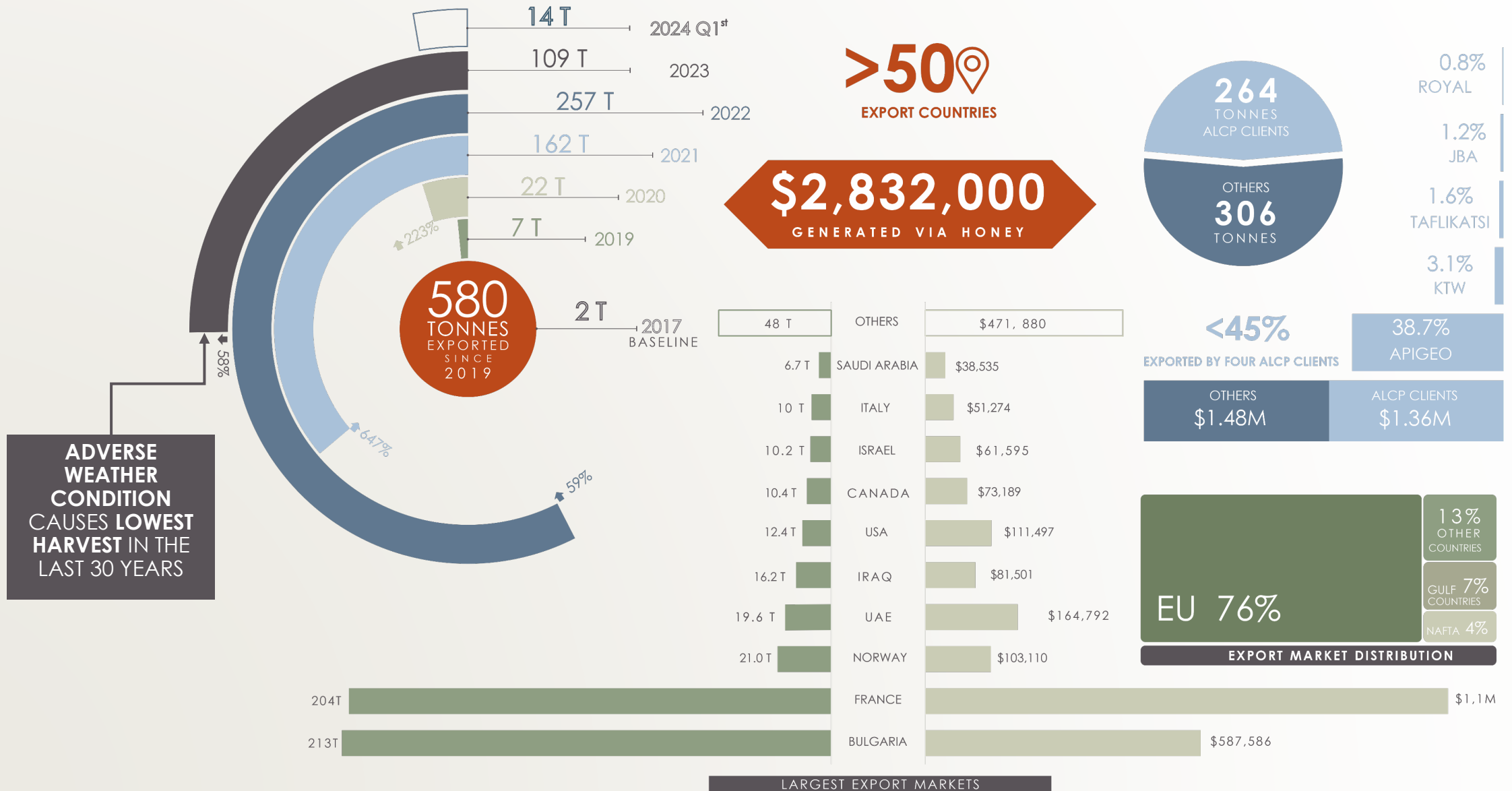
## CORE MARKET

- Limited **Domestic** Market & **Market Distrust**
- **Inaccessible** Export Market
- High **Dependency** on the Unstable Turkish **Smuggling** Market

## RULES

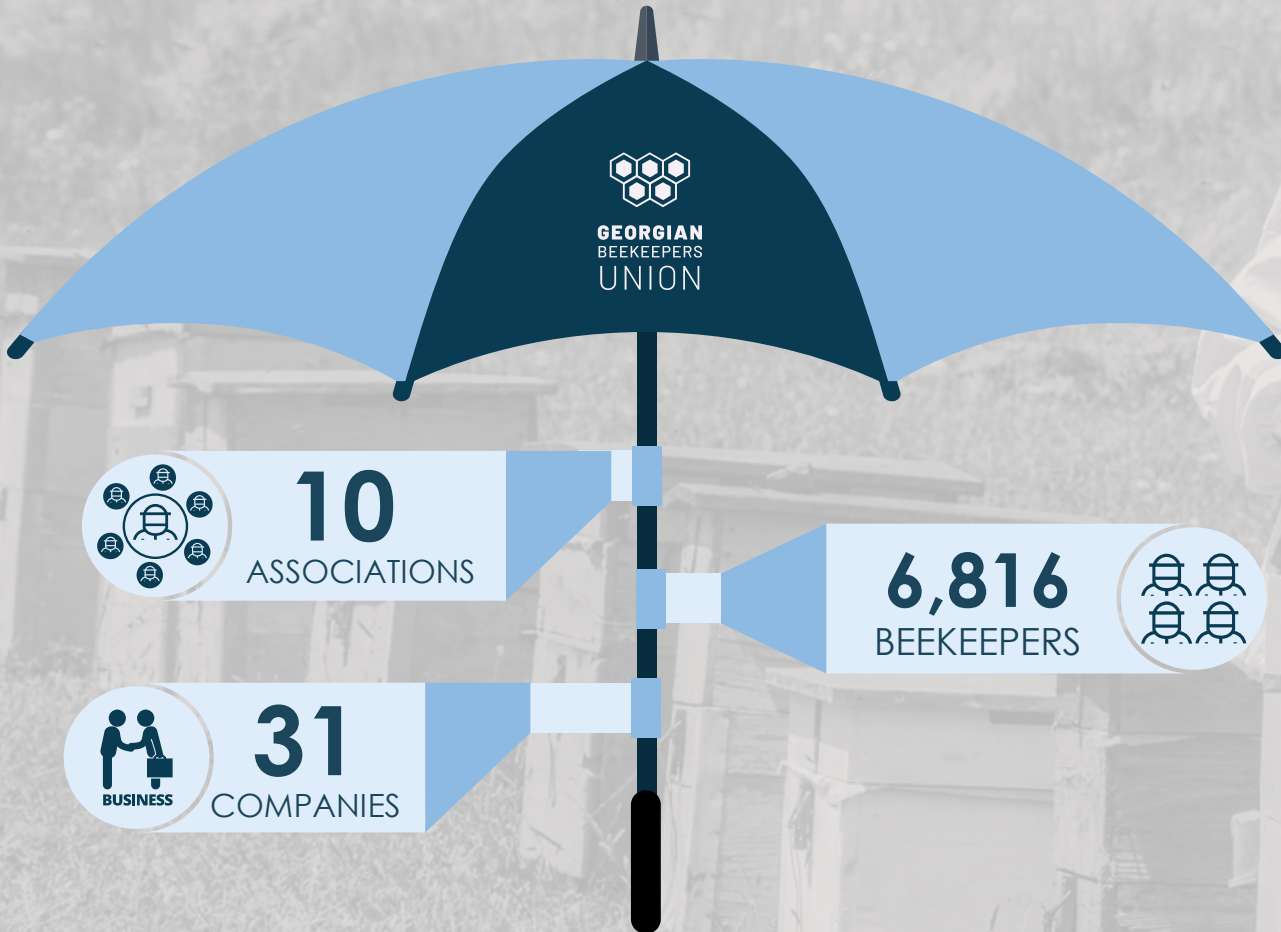
- High **Usage** of **Antibiotics**
- Absence of **Advocacy**
- Poor **Control** of the Sector & Absence of **Regulations**
- Lack of **Interest** from the **Government**
- **Pessimism** about the Sector's Prospects

# GEORGIAN HONEY EXPORT IMPACT



# SECTORAL ASSOCIATIONS IMPACT

ALCP2 INTERVENTIONS



SKALONA

APIGURU

INPUTS

APIGEO

TAPLIKATSI

ROYAL HONEY

TAPLI SAKHLSHI


MEGHONEY

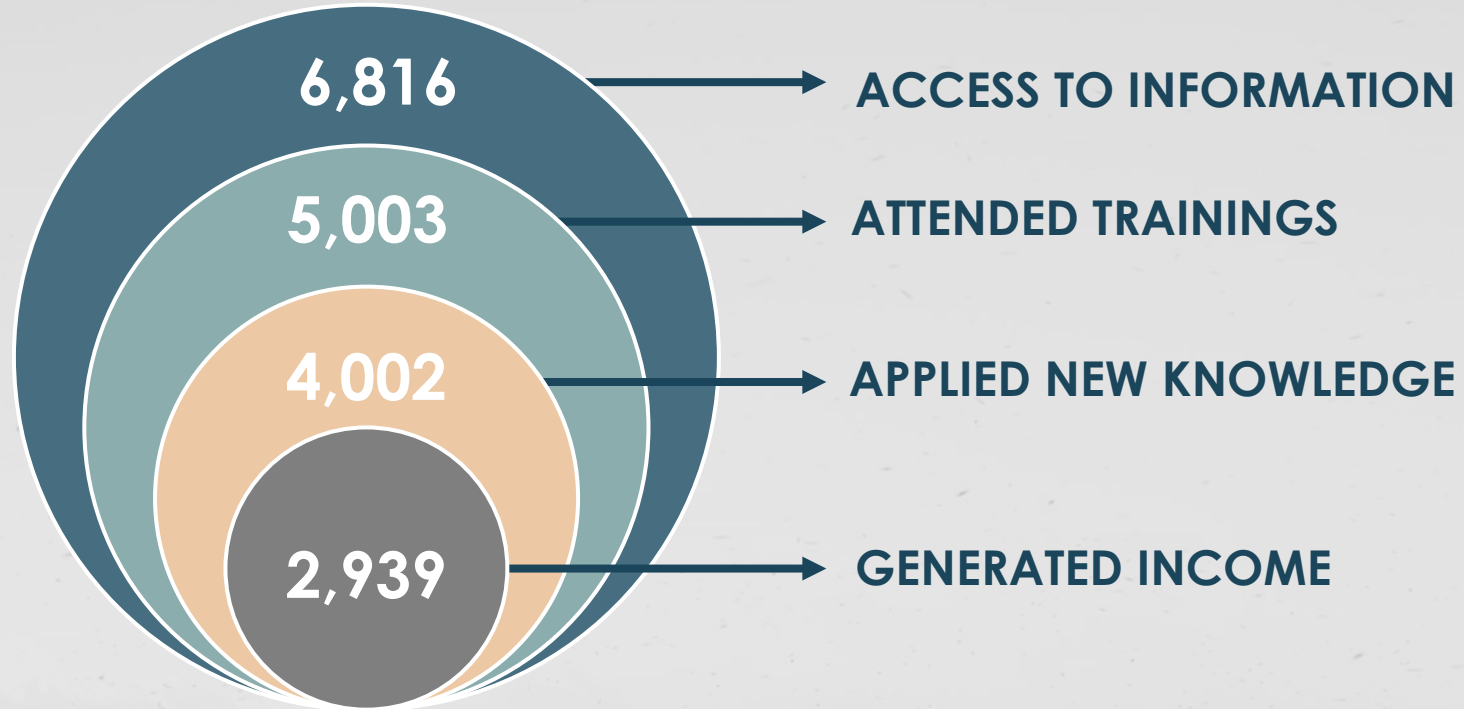
HONEY COMPANIES

GEORIGAN BEEKEEPERS UNION

JARA BEEKEEPERS ASSOCIATION

# HOUSEHOLD IMPACT

 **13%**  
WOMAN  
BEEKEEPERS



 **5.2M GEL**



# BENEFICIARY

# NON-BENEFICIARY

**79** BEEHIVES  
*+20% increase in 2023*



**26** BEEHIVES  
*-34% decrease in 2023*

SOLD **86%**  
of their honey



SOLD **78%**  
of their honey

**9%** MORTALITY RATE  
*79% of beehives had disease*



**37%** MORTALITY RATE  
*100% of beehives had diseases*

## BEEKEEPING PRACTICES

Avoiding  
Antibiotics

71%

49%

Avoiding  
Antibiotics

Controlling Microclimate  
in Beehives

64%

54%

Controlling Microclimate in  
Beehives

Diversifying Production  
(e.g pollen, propolis, queen bees, or royal jelly)

35%

11%

Diversifying Production  
(e.g pollen, propolis, queen bees, or royal jelly)



📅 08 09 2023

[ALCP2 News](#)

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Share

## Challenging Times For Georgian Beekeepers As 2023 Marks Worst Honey Harvest In Two Decades

*Georgian beekeepers face a tough year as adverse weather conditions lead to a sharp decline in honey production, affecting both domestic and international markets.*















Jara Official Trailer #1 (2016)



Copy link



EcoFilms

p r e s e n t s



0:02 / 2:09



YouTube



# LIQUID GOLD OF GEORGIA

Promoting Georgian honey for Georgian Beekeepers

SCROLL



Chestnut Alpine Blossom Acacia Linden Solikgo Mastobela Jara

## CHESTNUT HONEY

A rare honey for consumers who prefer a bitter-sweet and intense aroma. Chestnut is a mono-floral honey. Honeybees create it from the nectar of the flower of the chestnut tree (*Castanea sativa*). Chestnut honey is classified as blossom honey over 84%, with the rest as honeydew honey. The chestnut tree is indeed a very good source for nectar and pollen, but it also provides a lot of honeydew. Honeydew is a sweet and sticky liquid secreted by certain insects, usually aphids. Although honeybees prefer floral nectar during times of dearth—especially in the late summer—they will often collect the honeydew, transport it in their honey crops, and process it just like nectar. Chestnut honey is dark in colour with a reddish tone. Chestnut trees are mainly widespread in Western Georgia. The honey is harvested in the middle of the summer. The level of fructose is very high which makes the honey crystallize slowly. It is distinguished by bactericidal properties and proved to be of origin and healing of wounds, it is believed to benefit blood circulation, stimulate bile production and is used for the treatment of digestive system diseases. It also said to regulate arterial blood pressure and works to prevent thrombophlebitis, phlebitis, and proctitis.



## Ajara

The Autonomous Republic of Ajara is another coastal region located in the southwest of Georgia. This picturesque region is known for its beauty with subtropical landscapes, 121 km coastline, forested green hills and mountains. The region has a great variety of ecosystems: the lowlands of Ajara are full of citrus, *Citrus reticulata* plantations and tea is grown. A bit higher the mountains forests contains Chestnut *Castanea sativa*; Linden *Tilia begoniifoli*; four types of *Rhododendron* *Rhododendron ponticum*; Spurge Laurel *Daphne mezereum*; Ground-ivy *Glechoma hederacea*; Guelder Rose *Viburnum opulus*; Sycamore *Acer pseudoplatanus* and other trees. The alpine zone includes untouched hectares of alpine wildflowers such as: Salt Cedar *Tamarix ramosissima*; Largest Masterwort *Astrantia maxima*; Welled Thistle *Carduus acanthoides*; Hyssop *Hyssopus angustifolius*; Creeping Savory *Satureja laxiflora*. The region is famous for its chestnut honey which has a special bittersweet taste. In Ajara, there are two national parks and two protected areas which cover more than 20% of the region. Annually, the sun shines for an average of 192 days a year and rainfall is 1466 mm.

### Discover Honey Flowers Of The Region

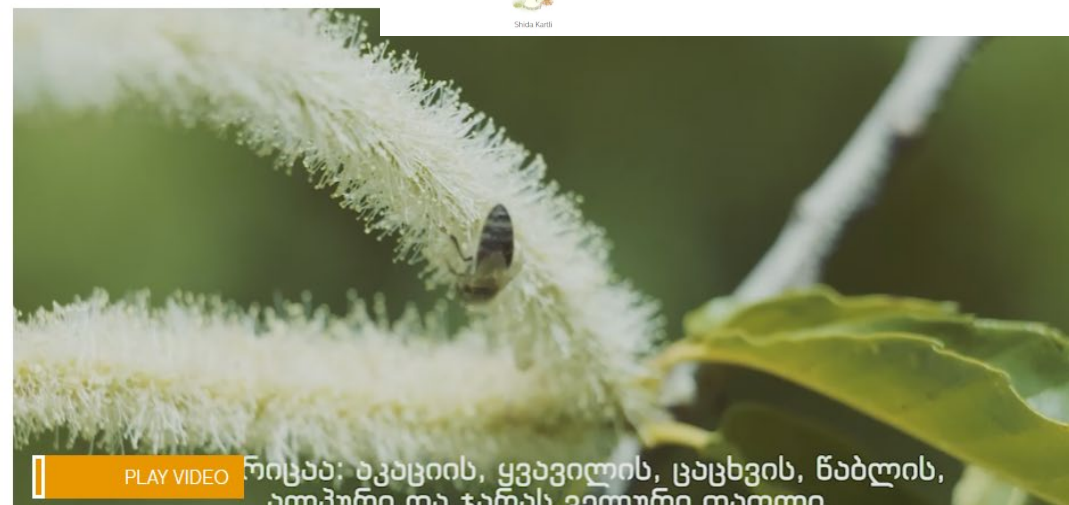
- Carum carvi
- Castanea sativa
- Centaurea depressa
- Centaurea iberica

SCROLL

## Land of the Oldest

Land of wine, is also known as the land of covered; Home for 13,000 flora species, a true bliss for Caucasian Grey bee to produce wild honey called Jara.

LOGUE



PLAY VIDEO

წიკა: ზვაციის, ყვავილის, ცაცხვის, წაბლის, უკუპონი და ჯარისკედი

Upper Cover holds the honey comb and protects the hive from the outside world



Bread Chamber is the part of the hive where the eggs, larvae and pupae develop. Some of the cells in this part of the hive also hold pollen, nectar or honey, which is used to feed the developing larvae.

Bottom Cover should be carved in a way to perfectly fit with upper cover.

## WHAT IS JARA?

Jara is a traditional beehive that has been used since ancient times for domesticating bees in Georgia.

There is no evidence for when exactly Jara appeared. However, several local folktales note that ancient inhabitants found the bees in a tree hollow that they called this place in the forest 'the bee tree'. Later, locals understood that the 'bee trees' could be replicated. They collected swarms of wild bees and settled them into hollowed wooden logs and then placed them high up in trees to protect them from bears. Such wooden logs usually have a diameter of 10-15 cm and a length of 1-2 m.

## WHAT MAKES JARA HONEY SPECIAL?

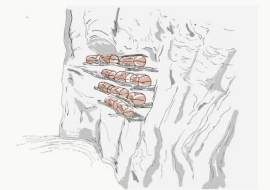
Jara honey is a very rare top-quality organic wild honey found in Georgia. It is 100% pure and wild.

Wild beekeeping techniques are rare these days, but Georgia is one of the few places in the world that has preserved wild beekeeping in remote dwellings located in the subtropical and

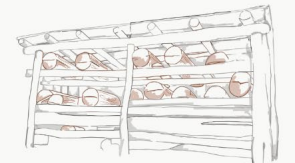
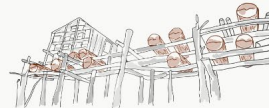
## WHAT ARE THE JARA SITES?

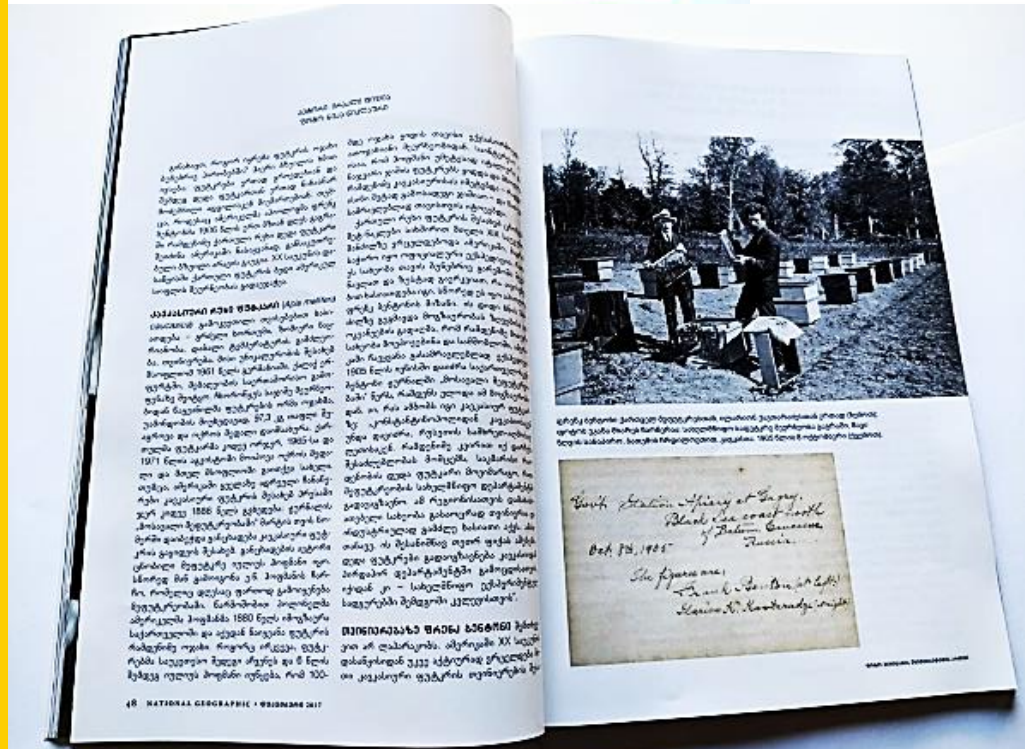
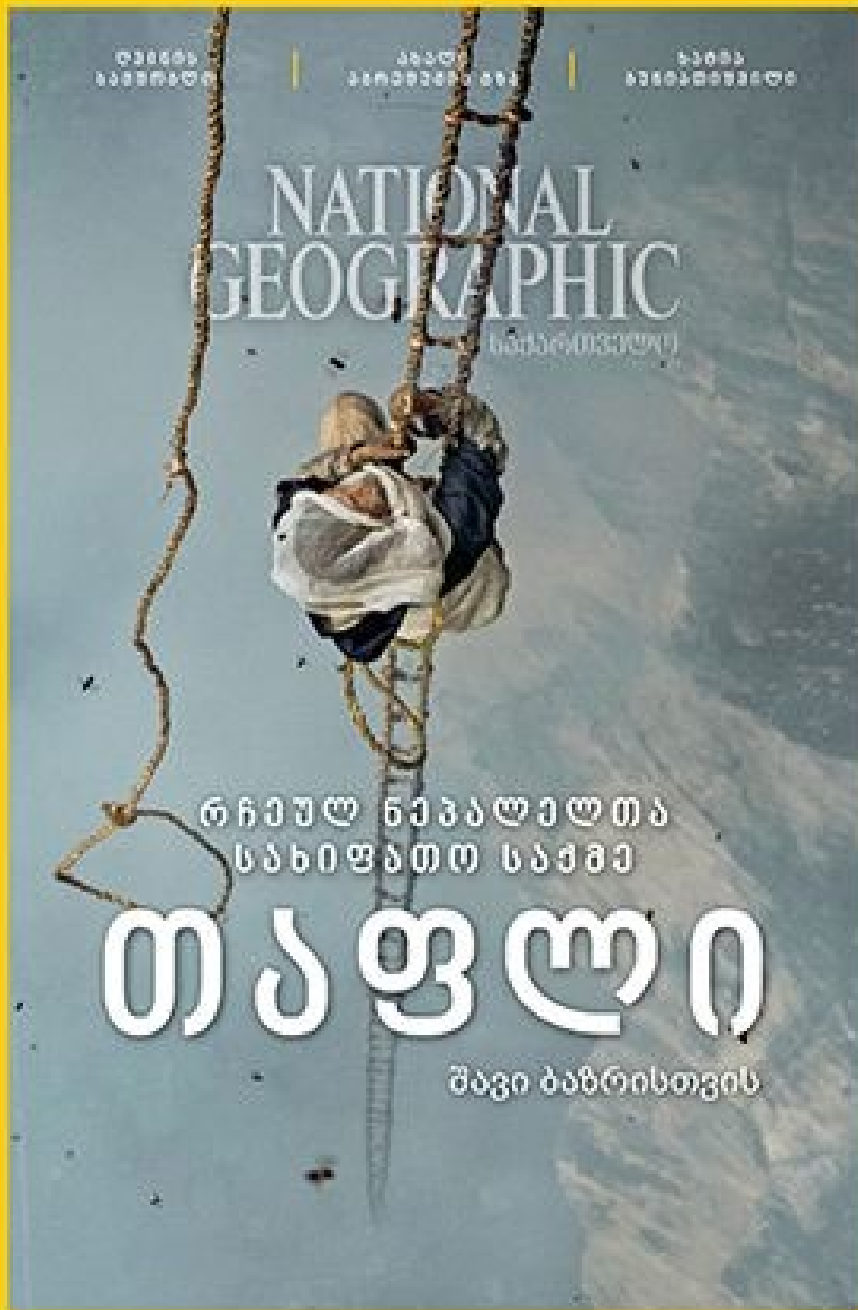


Traditionally Jara was hanged, in the forest, in a tree at 4-5 km walk from the village, to protect the hive from bears and other wild animals. It was common practice when the daily routine of locals



Rock is the safest place for Jara but the most difficult for harvesting. The Jara hives, placed on wooden supports on cliff faces, at about 1200 meters above sea level, are mesmerizing and





# BIO CERTIFICATION GUIDELINES FOR BEEKEEPERS



## JARA HONEY PRODUCTION HANDBOOK for Beekeeping Programmes at VET Colleges





## Liquid Gold of Georgia

*The beauty of Georgian honey*



はちみつ発祥の地  
 ジョージアから初上陸

東ヨーロッパと西アジアの交差点に位置するジョージア。豊かな自然と温暖な気候に恵まれ、一説ではワイルドハニーの産地とされる。また、紀元前から養蜂も盛んで、「はちみつ発祥の地」とも言われている。現在もおよそ200の養蜂家が古来からの伝統を引き継ぎ、その採取方法と養蜂技術は、「無形文化遺産」に認定されているほどだ。

写真の品は日本初上陸となったジョージアの希少はちみつ「Wild JARA Honey」(Wild JARA Honey) (ワイルドジャラハニー)。「JARA」とは、木で作られた養蜂の巣を指す。環境汚染のない海拔1200メートル級の崖沿いや高い木の上に設置され、収穫は年に一度、年間でも1000本程度、はちみつ産地のわずか0.1パーセントしか収穫しない。

もちろん非加熱・無濾過・無添加の200種類以上の天然活性成分が含まれたナチュラルで濃厚な味わい、甘すぎないすっきりとした後味を堪能できる。パンやチーズ、ワインなどとの相性も抜群。蜂の巣ごとじっくり詰め込まれた、本物のオーガニックがここに。

写真：大土博雄、文：品田賢直



WILD JARA HONEY  
 Wild JARA Honeyは、福岡県大分県  
 市に本社を構えるMYM International  
 がジョージアより独占輸入。国際的な  
 有機認証であるEUオーガニック認証(ア  
 ーローフ)を受けている。安心・安全、  
 食卓で特別な味わいのはちみつだ。

Wild JARA Honey 300g 8,500円  
 Wild JARA Honey 100g 4,100円(税別)

お問い合わせ  
 MYM International  
 電話0942-31-0101



# JARA HONEY IN JAPAN

# CLIMATE SMART INPUTS



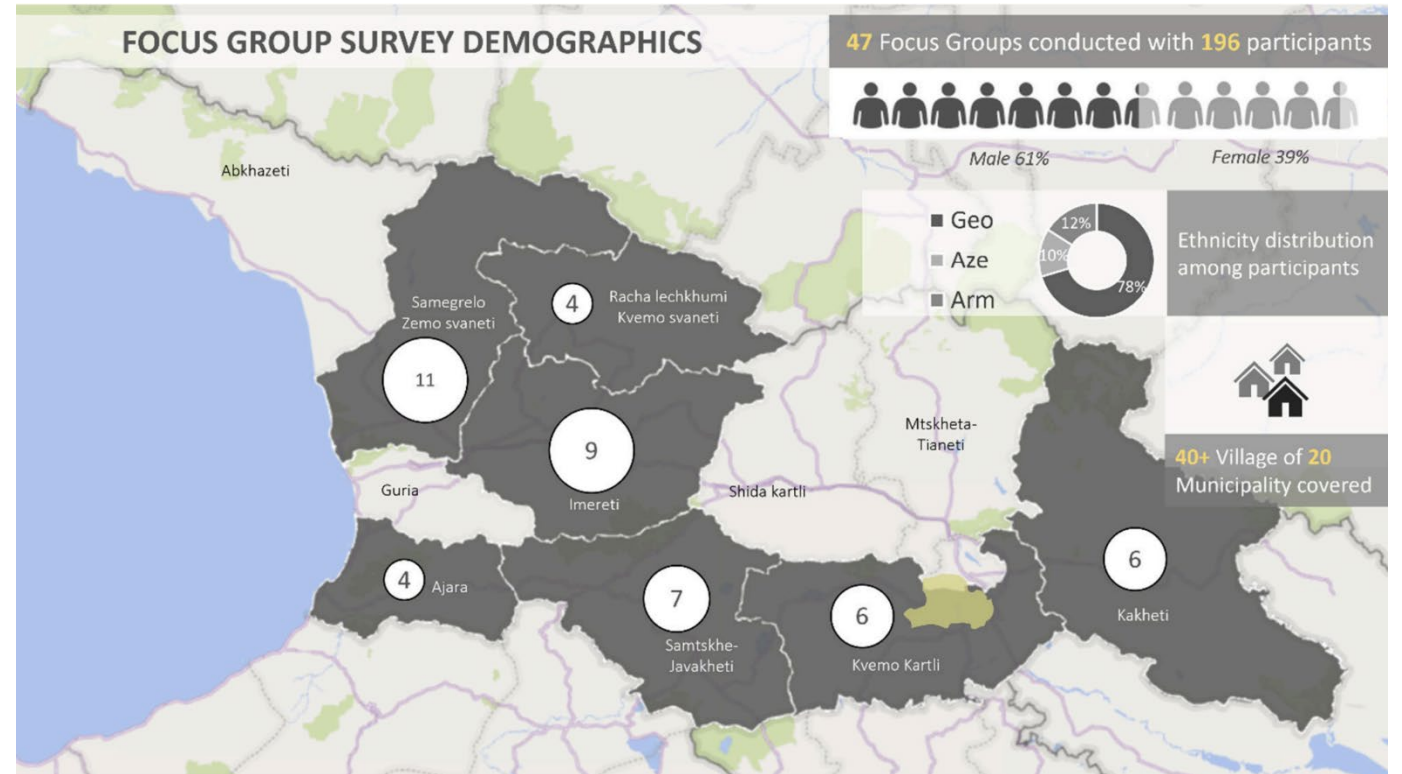


ALCPI | Alliances 2  
Caucasus  
REGIONAL MARKET ALLIANCES IN THE SOUTH CAUCASUS

## ALLIANCES CAUCASUS 2

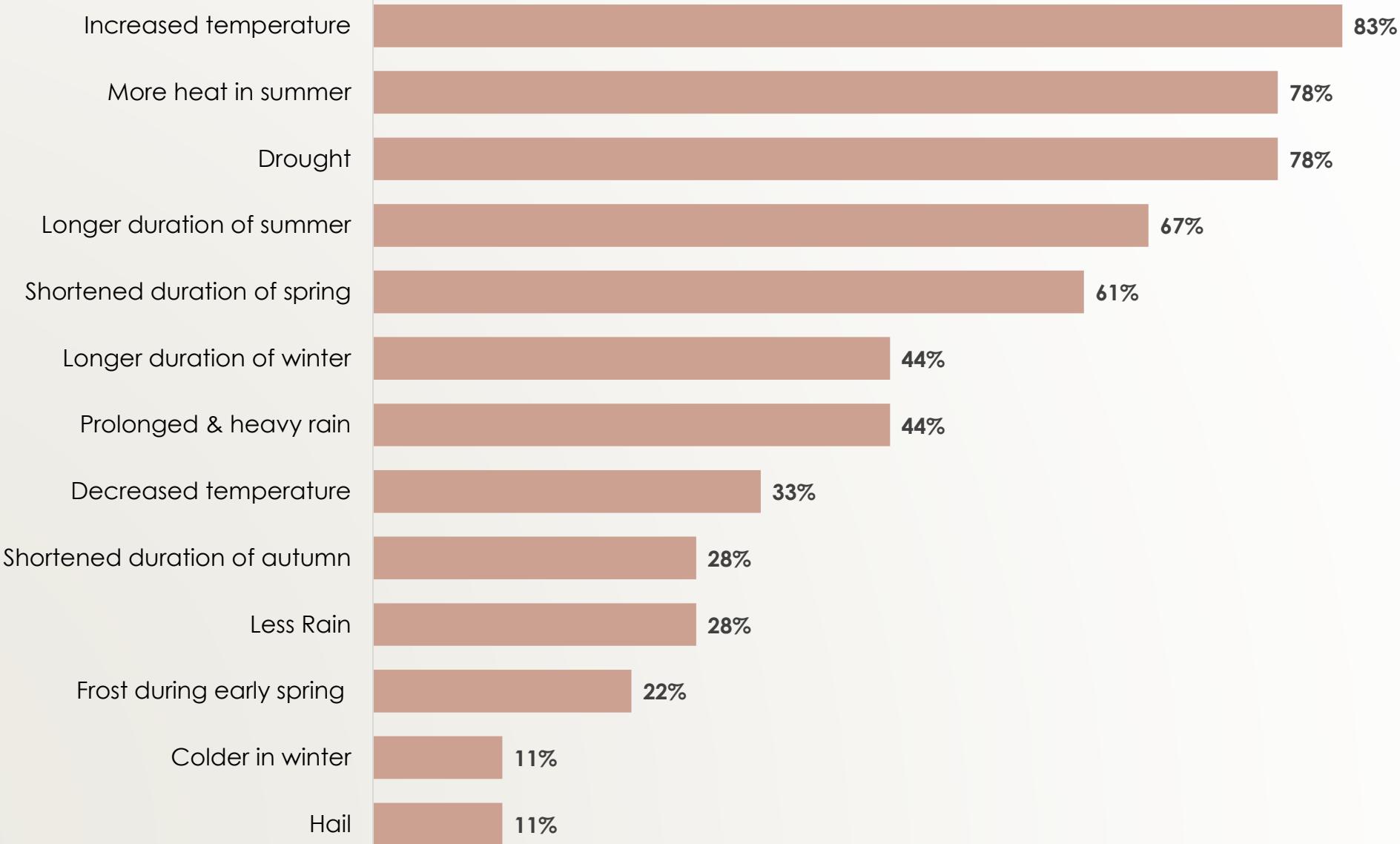
LIVESTOCK PRODUCERS AND BEEKEEPERS FOCUS GROUP SURVEY

NOVEMBER 2022

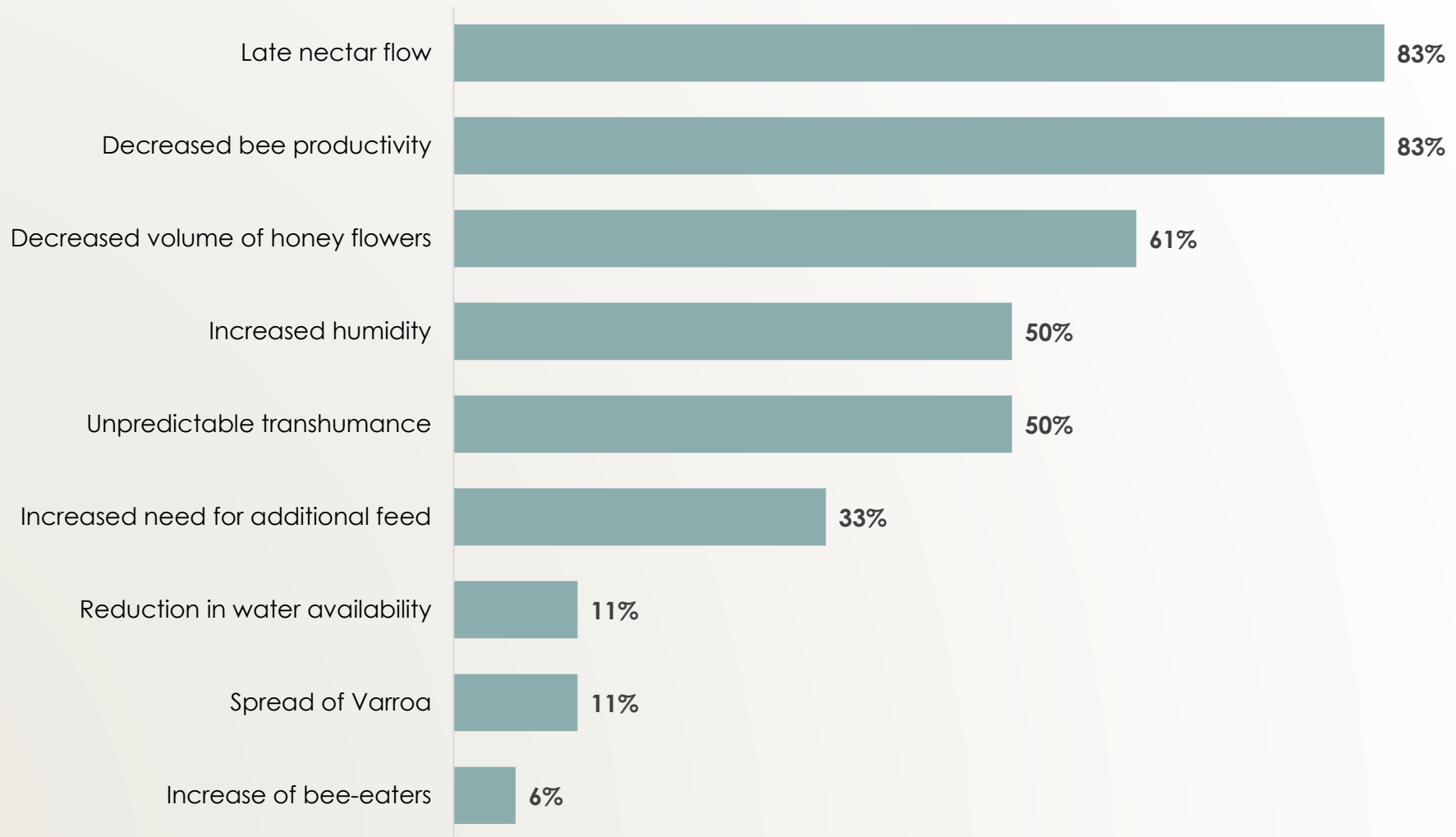


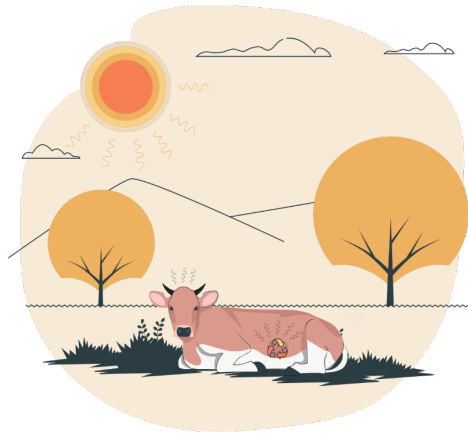
FOCUSED ON IDENTIFYING LIVESTOCK PRODUCERS AND BEEKEEPER PERCEPTIONS OF **CLIMATE CHANGE** AND THE IMPACTS THEY HAVE EXPERIENCED ON **THEIR PRODUCTION**

# MOST WIDELY OBSERVED CLIMATE CHANGE TRENDS AMONG BEEKEEPERS DURING THE LAST 10 YEARS

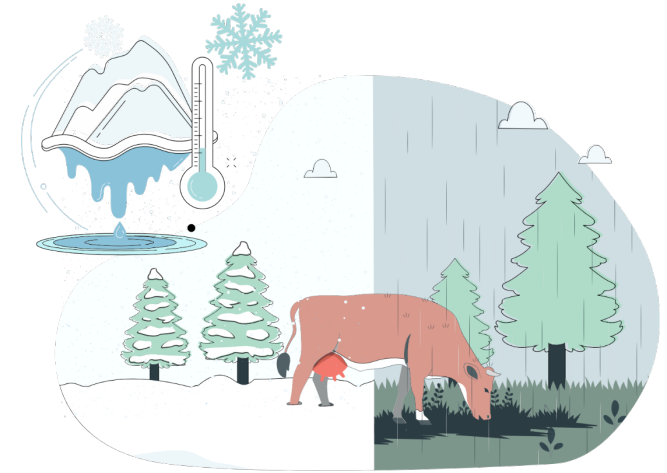


# HOW HAS **CLIMATE CHANGE** HAS **AFFECTED** BEEKEEPING?





# CLIMATE CHANGE EFFECT ON LIVESTOCK



## CLIMATE CHANGE & HEAT STRESS

CLIMATE CHANGE IS THE MOST SIGNIFICANT CHALLENGE OF MODERN TIMES, LEADING TO MORE PROLONGED AND EXTREME HEAT. IT HAS A SERIOUS IMPACT ON CATTLE, DECREASING MILK YIELD, MEAT PRODUCTION, HEALTH AND FERTILITY.



### WHAT IS HEAT STRESS?

WHEN THE TEMPERATURE IS ABOVE 26°C OR HUMIDITY SUDDENLY INCREASES, CATTLE LOSE THE ABILITY TO CONTROL THEIR BODY TEMPERATURE, LEADING TO HEAT STRESS.

### WHAT ARE THE SYMPTOMS OF HEAT STRESS?

- \* DIFFICULTY IN BREATH
- \* EXHAUSTION
- \* REDUCED APPETITE
- \* EXCESSIVE SALIVATION & SHORTNESS OF BREATH
- \* SEEKING SHADE
- \* GROUPING NEAR A WATER SOURCE
- \* INCREASED DEMAND FOR WATER



### WHAT IS THE IMPACT OF HEAT STRESS?

- REDUCED MILK YIELD
- REDUCED WEIGHT GAIN
- REDUCED FERTILITY
- INCREASED RISK OF DISEASES
- BACTERIOLOGICAL CONTAMINATION OF MILK

HEAT STRESS

Example

## CLIMATE CHANGE & COLD STRESS

CLIMATE CHANGE IS THE MOST SIGNIFICANT CHALLENGE OF MODERN TIMES, LEADING TO SUDDEN DROPS IN TEMPERATURE AND EXTREME COLD. IT HAS A SERIOUS IMPACT ON CATTLE, DECREASING MILK YIELD, MEAT PRODUCTION, HEALTH AND FERTILITY.



### WHAT IS COLD STRESS?

WHEN THE TEMPERATURE IS BELOW +5°C OR HUMIDITY SUDDENLY INCREASES, CATTLE LOSE THE ABILITY TO CONTROL THEIR BODY TEMPERATURE, LEADING TO COLD STRESS. IT MAY ALSO OCCUR AT +15°C, IF THEIR COATS ARE WET, MAKING IT HARDER FOR THEM TO STAY WARM.

### WHAT ARE THE SYMPTOMS OF COLD STRESS?

- \* SHIVERING
- \* INCREASED HEART RATE
- \* REDUCED GRAZING
- \* DECREASED DEMAND FOR WATER
- \* COARSENESED OF THE COAT
- \* SEEKING SHELTER



### WHAT IS THE IMPACT OF COLD STRESS?

- SLOWED DIGESTION
- REDUCED MILK YIELD
- INCREASED RISK OF FREEZING IN CALVES
- INCREASED RATE OF DISEASES
- UNDERDEVELOPMENT OF THE FETUS

COLD STRESS

Example

## CLIMATE CHANGE & PRODUCTIVITY

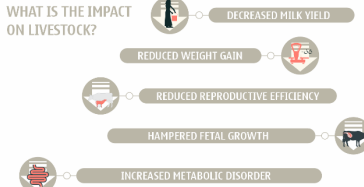
CLIMATE CHANGE IS THE MOST SIGNIFICANT CHALLENGE OF MODERN TIMES LEADING TO EXTREME AND UNPREDICTABLE WEATHER, IMPACTING GRAZING AND FEEDING AND INCREASING DISEASES AND REDUCING IMMUNITY. IT HAS A SERIOUS IMPACT ON LIVESTOCK PRODUCTION, DECREASING MILK YIELD, MEAT PRODUCTION AND FERTILITY.



### WHAT ARE THE RISKS?

ADVERSE CLIMATE CHANGE INCLUDING TEMPERATURE FLUCTUATIONS DURING THE YEAR NEGATIVELY AFFECT METABOLISM, FEED PROCESSING AND DIGESTION, RESULTING IN A DECLINE IN OVERALL LIVESTOCK HEALTH AND INCREASING THE RISK OF INFECTIONS AND PARASITES IN LIVESTOCK.

### WHAT IS THE IMPACT ON LIVESTOCK?



PRODUCTIVITY

Example

## CLIMATE CHANGE & MASTITIS

CLIMATE CHANGE IS THE MOST SIGNIFICANT CHALLENGE OF MODERN TIMES LEADING TO EXTREME AND UNPREDICTABLE WEATHER, DECREASING APPETITE, INTAKE, DIGESTIVE EFFICIENCY AND WEAKENED IMMUNE SYSTEMS LEAD TO MORE MASTITIS INFECTION.



### WHAT IS MASTITIS?

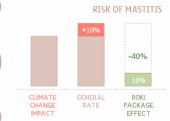
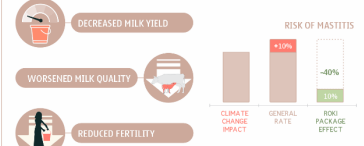
MAMMARY GLAND INFLAMMATION IN CATTLE, RESULTING FROM PATHOGENIC BACTERIA OR MECHANICAL IRRITANTS, SUCH AS, IMPROPER MILKING, INCORRECT USAGE OF MILKING MACHINES, TEAT DAMAGE AND UNSANITARY CONDITIONS.

### WHAT ARE THE SYMPTOMS OF MASTITIS?

- \* SWELLING OF UDDER
- \* PAIN AND REDNESS
- \* CHANGE IN CONSISTENCY OF MILK
- \* UNUSUAL DISCHARGE FROM TEATS



### WHAT IS THE IMPACT OF MASTITIS?



MASTITIS

Example

## CLIMATE CHANGE & ANTIBIOTICS OVERUSE



CLIMATE CHANGE IS THE MOST SIGNIFICANT CHALLENGE OF MODERN TIMES LEADING TO EXTREME AND UNPREDICTABLE WEATHER, DECREASING APPETITE, INTAKE, DIGESTIVE EFFICIENCY AND WEAKENING IMMUNE SYSTEMS.

DISEASES ALSO FLOURISH, ANTIBIOTICS ARE OFTEN USED TO TREAT THEM, LEADING TO OVERUSE AND MISUSE.

### WHY IS ANTIBIOTIC OVERDOSE BAD?

- SUPPRESSED BENEFICIAL MICROFLORA
- MICROFLORA IN THE BODY IS IMPORTANT FOR THE DIGESTION AND PROCESSING OF FOOD DIRECTLY AFFECTING THE ANIMAL'S OVERALL HEALTH, MILK YIELD AND PRODUCTIVITY.
- CONTAMINATED MEAT AND DAIRY PRODUCTS
- ANTIBIOTICS TRANSFER INTO MEAT, MILK, AND DAIRY PRODUCTS, EVENTUALLY MAKING ITS WAY INTO THE HUMAN BODY. LEGAL RESTRICTIONS PREVENT THE SALE OF MILK PRODUCTS WITH ANTIBIOTIC RESIDUES.
- INCREASED BACTERIA RESISTANCE
- LEADS TO THE FORMATION OF ANTIBIOTIC-RESISTANT BACTERIA, REDUCING THE EFFECTIVENESS OF TREATING INFECTIONS OR DISEASES.

### WHAT ARE THE ALTERNATIVES?

- BALANCED DIET
- BETTER HYGIENE
- TIMELY VACCINATION
- USE OF ALTERNATIVES TO ANTIBIOTICS

IMMUNITY BOOST

Example

## CLIMATE CHANGE & HEAT STRESS

CLIMATE CHANGE IS THE MOST SIGNIFICANT CHALLENGE OF MODERN TIMES, LEADING TO MORE PROLONGED AND EXTREME HEAT. IT HAS A SERIOUS IMPACT ON CATTLE, DECREASING MILK YIELD, MEAT PRODUCTION, HEALTH AND FERTILITY.



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## WHAT IS THE IMPACT OF HEAT STRESS?



- REDUCED MILK YIELD
- REDUCED WEIGHT GAIN
- REDUCED FERTILITY
- INCREASED RISK OF DISEASES
- BACTERIOLOGICAL CONTAMINATION OF MILK



# HEAT STRESS



## BE A STEP AHEAD

PROTECT YOUR CATTLE IN ANY WEATHER!

### WITH ROKI'S HEAT STRESS PACKAGE



RUMIFOS

AN INNOVATIVE AND TESTED PRODUCT BY ROKI, WHICH IMPROVES RESILIENCE AGAINST HEAT STRESS, INCREASES LIVE DAILY WEIGHT GAIN AND PRODUCTIVITY.



CHEMI PAKIZO

BALANCED FEED-ADDITIVE, WHICH IMPROVES APPETITE AND ENSURE PROPER FUNCTIONING OF RUMEN.



GANASUPERVIT

ITS MICROELEMENTS BALANCE THE DEHYDRATION AND INCREASES RESILIENCE AGAINST HEAT STRESS.

**-37%**  
REDUCED RATE  
OF DISEASES

**+15%**  
INCREASED  
MILK YIELD

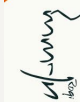


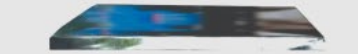
FOR PRODUCT PURCHASES OR ADDITIONAL INFORMATION, PLEASE VISIT OUR PARTNER VETERINARY PHARMACIES OR ONLINE PLATFORM

HOTLINE: 597 70 45 88



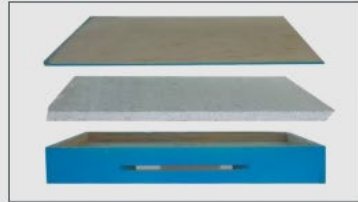
# HEAT STRESS





• **TOP COVER**

it is constructed with ventilated foam plastic and double plywood, offering excellent thermal insulation. It is lightweight and convenient for transportation.



• **TRANSHUMANCE MESH**

allows for ventilation while taking hives for transhumance.



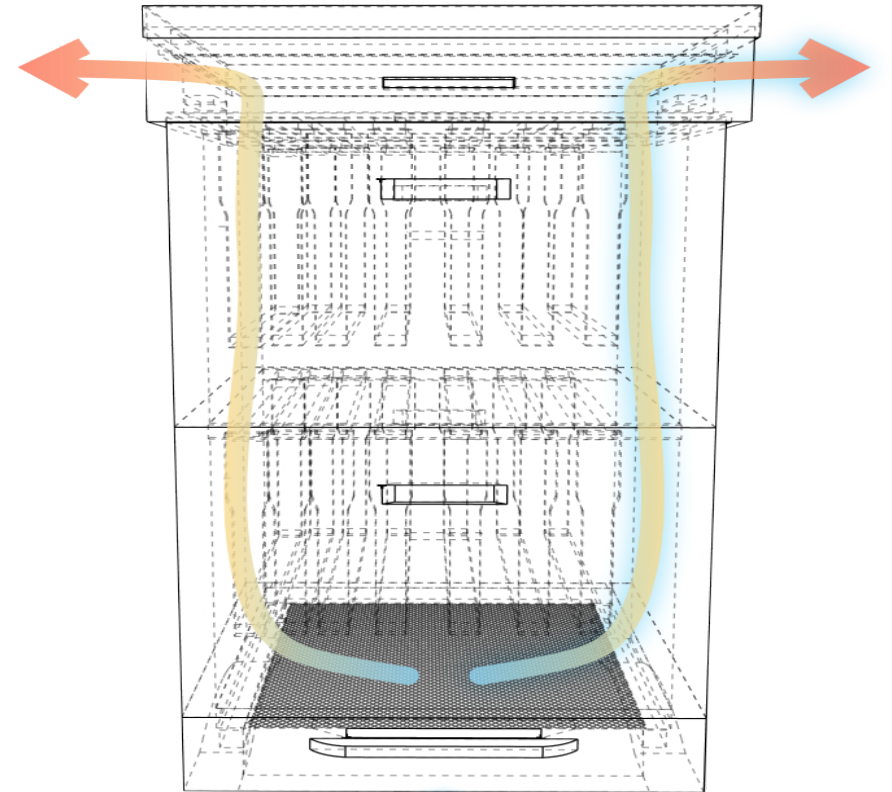
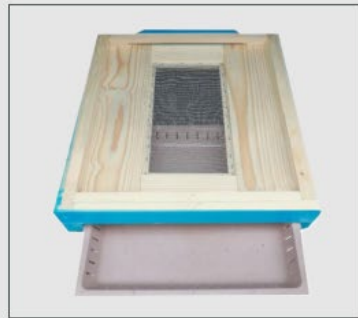
• **HIVE BODY**

is built to standard dimensions for perfectly fitting frames.



• **UNIVERSAL BOTTOM BOARD**

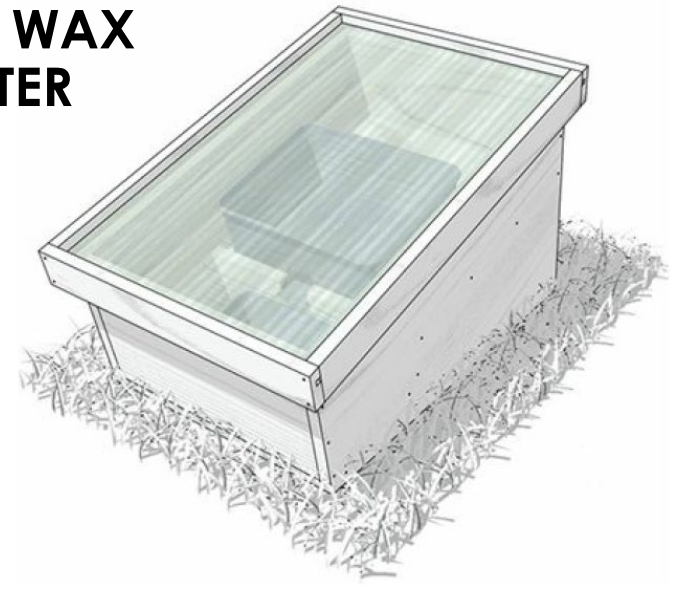
Skalona's universal bottom board ensures optimal airflow within the hive, reducing humidity and regulating temperature. It also features an integrated pollen collector.



**COLD AIR**



**SOLAR WAX  
MELTER**



<p><b>COMPANY &amp; PRODUCT DESCRIPTION</b></p> <p><i>Company and climate smart product description</i></p>	<p><b>DESIGN, MANUFACTURE AND PROCESS</b></p> <p><i>How sustainable is the product in terms of its purpose, materials used, impact on nature, waste reduction, employee well-being, and wider community impact?</i></p>	<p><b>CLIMATE CHANGE ADAPTATION</b></p> <p><i>How does this product help rural producers cope?</i></p>	<p><b>INNOVATION</b></p> <p><i>What is the climate-smart innovation of the product?</i></p>
<div data-bbox="275 378 445 485" data-label="Image"> </div> <p><b>Individual Entrepreneur Tamaz Ghlonti: 100% Beeswax and Bio Beeswax Foundation</b></p> <p>The ALCP2 facilitated a beeswax foundation producer to produce higher quality beeswax, minimizing contamination risks, and pioneer bio beeswax foundation production and printing services for bio beekeepers in Georgia.</p>	<p><b>Purity of the Product Materials:</b> Producers locally and globally commonly mix beeswax with alternate substances, such as stearin or paraffin, to produce cheaper but not environmentally friendly or effective foundation. The quality and authenticity of imported beeswax foundation is often not verified at the border, because it is an input, and not subject to inspection. Beekeepers looking for cheaper options may therefore inadvertently harm their colonies. Technology is used to check the level of paraffin content in the beeswax and then remove contaminants from the beeswax. This ensures better quality and an extended lifespan for the use of the product.</p> <p><b>Quality Make:</b> The beeswax foundation creates a strong structure for the honeycomb, ensuring it can withstand extraction without breaking. The facility prints foundations with proper weight and width, which are crucial in preventing breakage, damage or loss of honey during extraction while minimizing waste of honeycomb.</p> <p><b>Local Production:</b> Beekeepers supplying beeswax will receive ready foundation in return for their beeswax.</p>	<p><b>Better Performance:</b> Temperature fluctuation is one of the main constraints caused by climate change. Poor quality foundation is vulnerable to temperature changes and its structure can be easily damaged. Damaged beeswax foundation is difficult to install in a frame and can become useless. Pure, quality beeswax can adapt to changes in temperature, humidity, and light.</p> <p><b>Better Use:</b> Beeswax, with a higher melting point (62-65°C) compared to paraffin (47°C), is more resilient in hotter climates and during hive transportation in the transhumance process. Adulteration with up to 50% paraffin compromises honeycomb strength, impacting its ability to bear the weight of honey.</p> <p><b>Bio-honey production:</b> Bio-beeswax foundation is essential for bio-honey certification which will enable beekeepers once certified to derive benefits from better market access and value-added sales using sustainable production techniques.</p>	<p><b>Solar Purification:</b> The company uses simple climate smart technology to purify the beeswax before processing. Solar melters use ultraviolet (UV), which has a higher sterilization effect compared to heating. It removes impurities such as debris, propolis, and remnants of old comb. UV helps eliminate disease spores and pathogens that may be present in the beeswax. It removes antibiotic residues, particularly those that may not be easily eliminated through traditional heating methods.</p> <p><b>Free Energy:</b> It is a science-based and energy-efficient method without the need for additional heat sources making the process eco-friendly.</p> <p><b>Easy Technical Transfer:</b> a glass case in a wooden frame, the melter is extremely easy to manufacture and is simple, practical technology <u>relevant to other beeswax foundation makers</u> who combine beeswax from multiple farmers to decontaminate their foundation.</p>



## SOME CONSIDERATIONS IN GREENING MSD

- I. Consider the **balance** of scale and sustainability where income is based on increased productivity and consumption
- II. Consider **alternative valuations** of impact, including environmental and social as well as financial sustainability
- III. Consider **RM implications**; what to measure and how to measure, generate indicators **appropriate to context**
- IV. Factor in the **augmented behaviour change** component to adoption
- V. Remember **inclusivity** and women's economic empowerment are inherent to **social sustainability**



**THANK YOU FOR LISTENING**