Behavioral drivers of adoption of improved production standards by dairy farmers and beekeepers in Georgia

Prepared by Behavior Insights, strategy and Communication Partners (BISC Partners) for the Georgian Farmers Association

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Study Summary

The study was carried out by the Behavior Insights, Strategy and Communication Partners (BISC Partners) under the project Capacitated Agricultural Practices and Consumer Awareness (CAPCA) funded under the fourth phase (ENPARD IV) of the European Neighborhood Program for Agriculture and Rural Development (ENPARD – Georgia) of the European Union. The project is implemented by a consortium, led by Georgian Farmers Association and including the Center for Strategic Research and Development of Georgia (CSRDG) and the Association of Farmers and Beekeepers of the Ambrolauri district of the mountainous regions of Georgia.
The content of the publication is the responsibility of the authors and may not reflect the point of view of the European Union, Georgian Farmers' Association and CSRDG. **The full study can be found in Georgian language.**

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Abbreviations and definitions

- **CSRDG** - Center for Strategic Research and Development of Georgia
- **BISC Partners** - Behavior Insights, Strategy and Communication Partners
- **Behavior Insights (BI)** - An inductive, multidisciplinary approach that incorporates elements from behavioral science, behavioral economics, anthropology, social psychology, and cognitive psychology. By combining these elements and empirically verifying the results, this approach determines how humans actually make decisions.
- **Behavior Science** - Studies of human behavior through systematic experiments and observations.
- **Behavior food policy** - application of behavioral insights to design policies that influence food choices and promote healthier eating habits.
- **Pains** - Difficulties or challenges that drive the desire for change.
- **Gains** - Perceived benefits of change
- **Comforts** - habits, existing routine
- **Anxieties** - Fears associated with change or new developments
- **Jobs-To-Be-Done** – goals and aspirations, values of the change
- **Behavior drivers** – behavioral factors influencing change

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Summary

The enhancement of honey and milk production practices is influenced by shifts in farmers' perceptions and attitudes, as well as direct changes in behavior. Behavior modification is intricate, and its encouragement might necessitate diverse approaches, tools, and engagement from various stakeholders. Nonetheless, to ensure that specific efforts genuinely lead to behavioral shifts, it's crucial to understand the foundation of current practices and identify potential catalysts for the desired behavior. This understanding forms the core of the study, " Behavioral drivers of adoption of improved production standards by dairy farmers and beekeepers in Georgia," conducted by the Behavior Insights, Strategy, and Communication Partners (BISC Partners).

This research seeks to uncover psychological, social or structural incentives and barriers that influence a) dairy farmers' decisions to incorporate Geogap[1] into their practices, while also evaluating the challenges and prospects tied to its execution, and b) factors driving beekeepers either towards or away from adopting European production standards.

The report synthesizes insights from indepth interviews with farmers and ethnographic[2] data. Information garnered from ethnographic observations corroborated the findings from the in-depth interviews.

Why Behavioral Science?

Behavioral science, a subset of social science, delves into the architecture of human judgment and decision-making. Specifically, it seeks to understand the social, structural, or cultural motivators and barriers that shape behaviors.

Today, numerous cities, regions, and governments globally employ Behavioral Insights (BI) methodology to reform food systems. Their findings suggest that by considering contextual dynamics and constraints, along with a scholarly grasp of human behavior and choices, one can craft strategies, policies, and actions more potent, fitting, relevant, and aligned with set objectives than those anchored in conventional models.

The research is deeply rooted in behavioral science principles and methodologies. A pivotal concept in behavioral findings and methodology is bridging the Intention-Action Gap. This gap emerges when, despite having awareness (e.g., the significance of adopting international standards), institutional frameworks, and a positive mindset (like the inclination to apply Geogap in farms or adhere to European standards for beekeeping), actions do not follow through. This discrepancy between intent and action manifests uniquely across various challenges. The latter can be explained by the paradygm, that human decision making often relies on irrational, rather than rational judgment.

[1] The GeoGAP - the local primary production standard. The standard aims to facilitate the introduction of food safety and quality standards for dairy production. The long-term goal is to ensure stable access to farmers' markets by improving local dairy farming practices.

[2] Ethnography is a qualitative method for collecting data used in the social and behavioral sciences. Data are collected through observations and interviews, which are then used to draw conclusions about how societies and individuals function.

Simple reasons, such as forgetfulness, procrastination, shifting priorities, frictions in process, ambiguity, irrational fears, and others, can influence this. Deeper causes might include social nonconformity, entrenched myths, or a void in social norms.

With tired to uncover the underlying factors of farmers' judgment and decision-making processes. We sought to determine the extent to which the irrational system influences their decision-making in planning and executing production. This knowledge equips relevant stakeholders to tailor strategies nudging individuals towards desired actions, thereby ensuring lasting transformation.

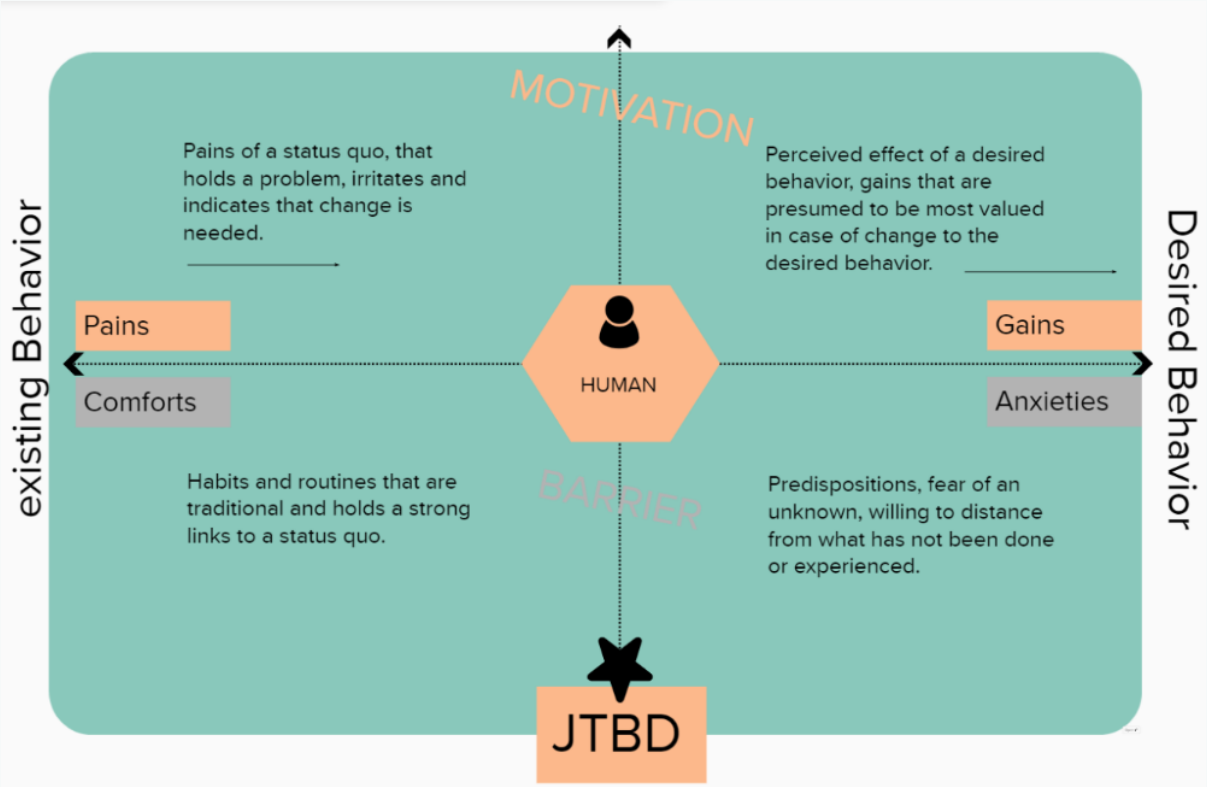
A Behavior Map was created to descibe behavior drivers and contextual analyses. We evaluated prevailing behaviors, for instance, dairy farmers' adoption of Geogap, and for beekeeping farmers, the motivators and obstacles in embracing European production standards. This Behavior Map offers a snapshot of prevailing social and physical contexts, laying a foundation for a theory of change.

Value goals – Jobs To Be Done

In order to understand the factors that facilitate or hinder the implementation of the desired behavior, it is necessary to understand the issues from the perspective of the farmer. We have to take their psychology/character, needs and desires as a starting point. In particular, what are they striving for, what is the most important and vital for them, what value does the implementation of Geogap (in the case of dairy farmers) or European standards (in the case of beekeepers) serve to satisfy. We call these factors value objectives (Jobs-To-Be-Done), reffered in the text as JTBD. These are the kind of umbrella motivators on which any type of intervention, policy or communication strategy should be based. Three types of JTBDs are identified in the research: functional, emotional and social.

Main findings

Using the behavioral framework, a map of the behavioral factors that drive the behavior of implementing improved farming standards was created. This framework is presented below.



The first group of behavioral factors are problems (PAINS) . Problems are all the frustrations and barriers caused by existing behavior that require change. Therefore, Pains represent a set of motivations.

The majority of farmers involved in the study highlighted several core challenges. Primarily, the **lack of adequate financial resources** emerges as a central concern, leading to multiple foundational issues in the farm's operation:

→ **Lack of Agricultural Equipment:** Many farmers identify equipment scarcity as a primary concern. This not only hampers their ability to cultivate land and produce cattle fodder, but also impedes the maintenance of infrastructure essential for producing high-quality milk.

→ **Human Resource Challenges:** While inadequate wages are a barrier, a more pervasive issue seems to be the general attitude towards farm work. In many instances, individuals show little interest in working on someone else's farm or assisting another beekeeper.

→ **Banking Relations:** High interest rates from banks further compound the financial challenges faced by farmers.

A significant portion of respondents in the study pointed out **insufficient communication** with various institutions, that creates bottlenecks.

→ **Banking Concerns**: Some respondents mentioned that they were denied loans due to a lack of information. A segment of dairy farmers indicated that during the loan evaluation process, banks often approached their cases with a lack of diligence and understanding. This absence of familiarity with the intricacies of farming hampers the loan approval process.

→ **Grant Application Issues**: It was highlighted that, in certain instances, grants were denied over simple technical errors. These errors, which could have been readily corrected, were not communicated in advance by the granting organization or institution.

→ **Lack of Feedback**: Some farmers also expressed frustration over the grant application process, citing that they weren't provided comprehensive feedback on discrepancies in their applications. This lack of clarity impedes their understanding and prevents further growth and development.

Speaking about the existing challenges, another **important problem is the sale of the procuced products.**

→ Most of the farmers participating in the research report that **they try to find sales channels themselves and not have to deal with resellers or wholesalers** - which in turn lowers the price of the product - however, they also note that only a small number of farmers manage to do this. The failure of the scheme of sale of the produced product **is finally reflected in the fact that milk and milk products and honey are sold to resellers at a much lower price.**

→ In some cases, it was noted that due to the fact that milk production farms are less developed in a number of municipalities, the milk processing plant is not functioning, which makes the sale of the product even more difficult.

The opposite of the problems faced by farmers are **the benefits** (**GAINS**), **which** they expect as a result of making the desired change.

In general, the implementation of Geogap is associated with positive results. First of all, dairy farmers point out that if similar standards exist, they will be able to **sell their products at a higher price** and enter such sales facilities that they do not have the opportunity to do today (meaning large retailers/supermarkets). In the case of beekeepers, the awareness of the standards is much lower,

although some positive trends have been identified, **related to the need/difficulty of selling honey and the desire of most beekeepers to find a partner,** such as a cooperative, that will take over their honey realisation. Based on this reason/desire, a part of them feels that they have meet the conditions that this cooperative imposes.

Additionally, the majority of farmers emphasize that products produced in line with international standards are of **superior quality and offer greater assurance to consumers**, making them more **competitive**. As a result, these products are likely to be in **higher demand** in the market.

In addition, some of the farmers note that **the introduction of such standards is related to the feeling of security and assurance.** According to their perception, adopting Geogap means more help and attention when needed - in terms of receiving grants, involvement in various programs, etc.

In some cases, the farmers have also realized that by implementing such standards, not only the price of the product increases, **but better results are achieved by protecting the health of the cattle/bees and optimal use of resources, which reduces farm costs.**

The third group of behavioral factors includes habits and existing attitudes/perceptions, which on the one hand hinder the implementation of changes. We call **these** habits **COMFORTS** .

While this segment primarily focuses on behavioral factors that act as obstacles to implementing change, it's crucial to highlight the advantages derived from these activities. These benefits lay the foundation upon which future positive behaviors can potentially be cultivated.

→ First of all, the interviewed respondents note that **the relationship with animals and farming activities in general are pleasant and valuable** for them, and in addition, it is their personal interest to create and produce quality and natural products.

→ In most cases, it is the only, if not one of the main means of employment and support for them and their family members in the region.

"Family Business"

The majority of farmers participating in the research note that farming activities are related to family traditions and almost all of them continue these family activities.

In general, farming activity is perceived as a family business, family tradition and there is little room for outsiders (in most cases, employed persons are considered as a manual labor force). Indeed, employment at someone else's farm is perceived as derogatory, not a job, but serving as low skilled in someone's family with low salary. This attitude can be summed up in the phrase: *"If not a looser, they would have their own farm and not bother of working for someone's benefit."*

Finding finance and additional resources

→ Borrowing from the bank - the most widespread practice for finding the resources needed for the development and operation of the farm is cooperation with banks. Getting a loan

from a bank is the fastest and often the only way to get money. Nevertheless, in most cases, they note that it is the existing loan obligations that do not allow them to develop and grow, because the income is focused only on paying the interest rate.

→ Finding Grants - Another way to get resources for interviewed farmers **is to find different types of grants.** Farmers note that preparation of the necessary documents requires additional time, resources and different skills, which is often a reason of often fail to win a grant.

"Loyal laws"

The dairy farmers interviewed as part of the research note that the current standards and laws related to the production or sale of milk and dairy products is not strictly controlled by the state, which is "**favorable" for small and medium-sized entrepreneurs, because they do not have to implement and maintain standards that** they could not follow based on the available resources. Otherwise, they state, they would be forced to terminate darming activities.

The last group of factors Anxieties (**ANXIETIES**). These are the barriers and anticipated discomfort associated with the implementation of changes.

For many of the farmers interviewed, the **standards mandated by Geogap appear unrealistic and overly demanding** based on their current circumstances. A significant number express that, despite their willingness, they find it unfeasible to implement such standards on their farms using their existing resources.

Some of the farmers believe that **in case of legalization of such standards, they may stop their activities,** because they will not be able to fulfill the requirements.

The majority of interviewed farmers **consider several key issues in unrealistic standards,** including:

→ Due to their financial capabilities, it is impossible to maintain the infrastructure of the farm in accordance with the requirements;

→ Due to the scarcity of human resources, it seems almost impossible to fully document the operation of the farm, including the delegation of duties to employees.

→ Financial constraints also impact the ability to conduct regular laboratory tests on the quality of milk and honey, as well as the health of the cattle, in the absence of suitable laboratories for these purposes.

Grant application writing discomforts and related stereotypes

Farmers involved in the study highlight that securing resources for farm development and meeting necessary standards largely depends on grants. However, they **face challenges related to proposal-writing and paperwork**. They often find themselves juggling tasks beyond their expertise, which then acts as a hurdle in securing a grant.

Furthermore, small to medium-sized farmers emphasize that current programs and grants seem to cater mainly to those farmers who are already successfully operating and have achieved certain standards. These farmers view themselves as potential beneficiaries of such grants, **yet feel overlooked**.

Value Objectives: JTBD (Jobs to be done)

The research identified key JTBDs that are the basis for change as to why a farmer might consider or want to improve practices.

Jobs To Be Done		
Functional	**emotional**	**social**
I want more income	I want to feel assured by safely introducing standards, knowing that I am protected and insured	I want to safeguard and uphold our family traditions, as they represent a form of social capital
I want to save money and optimize my operations	I want to take care of the animals, cherishing the bond I have with them. Implementing these standards will undoubtedly benefit their health as well	I want the well-being of my family and the smooth operation of the farm directly contributes to our prosperity.
I want my farming activity to be stable and less dependent on external factors		

The purpose and objectives of the research

The purpose of the present study is to determine the main motivators and barriers to the introduction of the local standard of primary production - Geogap in milk production farms , and the European standards of production in beekeepers .

The objectives of the research are to determine:

- the main challenges and difficulties that farmers face today and require changes;
- the perceived potential benefits of introducing a local standard of primary production;
- current practice and experience in production;
- Expected inconveniences and fears related to the implementation of Geogap and European standards (improved manufacturing practices), which hinder the implementation process.

Research methodology

1. Initial stage

At the initial stage of the research, the team developed a detailed design outlining the research methodology: respondent recruitment strategy, data collection tools, and procedures, as well as the strategy for analysis.

The BISC Methodology was employed to determine the motivators and barriers faced by farmers in improving their farming practices. The BISC Methodology integrates several renowned behavior change models, including b=mat, COM-B, and BASIC. Typically, the BISC methodology encompasses four stages: a) Behavior Analysis; b) Intervention Design; c) Solutions Testing and d) Development of a change strategy to expand the intervention to a broader audience. This research was conducted in alignment with the first stage of the BISC methodology, focusing on behavior analysis.

The objective of behavior analysis is to pinpoint one or more actions or behaviors, the root causes of which can have a significant, large-scale impact. These are referred to as Key Behaviors. The analysis of behavior is contextualized around these key actions and revolves around identifying the drivers of desired or achievable behaviors. Through behavior analysis, the research offers predictors of action, laying the foundation for the theory of change.

2. Field work stage

To meet the objectives, the research team employed a qualitative research approach. Specifically, they conducted in-depth interviews with small, medium, and large farmers across various regions of Georgia. The primary focus of these interviews was to study the motivators and barriers faced by farmers when adopting improved production practices. For beekeepers, the goal was understanding the challenges and motivations behind adopting European standards, while for honey producers, the focus was on the implementation of Geogap. These interviews delved into both current and past experiences of the participants.

As previously emphasized, simply expressing attitudes or desires doesn't necessarily lead to tangible actions or outcomes. Predicting future behaviors is more accurate when we uncover underlying subconscious barriers or when emotional and psychological factors are taken into account. Based on these, the "behavior map" is later constructed, focusing on: a) cognitive priorities, b) preconceptions, c) mental models, and d) decision-making complexities.

The research incorporated an ethnographic element, observing farmers in their natural settings. This involved monitoring the entire process of milk and honey production, from the distribution of roles and responsibilities to adhering to essential hygiene standards and compliance with both Geogap and state regulations. In total, four ethnographic observations were carried out with dairy farmers in Oni (Racha) and Tkibuli (Imereti) and two with beekeepers in Oni and Ambrolauri (specifically in the village of Chrebalo)."

3. A research tool

To facilitate the in-depth interviews, the research team prepared a semi-structured interview guide. Tailored to the study's objectives, this guide comprised questions focusing on the practices of dairy and honey farmers, their prevailing challenges, and the incentives and obstacles they face in adopting Geogap/European standards (beekeepers).

For the ethnographic observations, a comprehensive list was formulated that aligned with the stipulations set forth by Geogap and the "State Reglament for Honey".

4. Segmentation and target group

The research team employed purposive sampling to choose the study participants. This method, commonly used in qualitative research, entails selecting participants based on particular characteristics pertinent to the research objectives.

The target group for this study consists of dairy and honey production farms located in various regions of Georgia.

method	**Qualitative research**	
Technic	**In-depth interview**	**Ethnographic observation**
Target group	Small, medium and large farmers	Small, medium and large farmers
sample size	21	4
Selection method	targeted	targeted
Research area	Georgia	Racha, Imereti
Length of interview	avg. 40 min.	4 days
Timing of field work	May - June, 2023	May - June, 2023

5. Data collection

In-depth interviews were facilitated through the online platform, Zoom. Interview times were scheduled in advance based on the preferences of the respondents, who were then provided with a meeting link. The fieldwork was conducted between May and June 2023.

For ethnographic data, on-site collection was employed. The research team conducted visits on May 19-20, dedicating two days for ethnographic studies in both segments: honey and milk production

6. Data analysis

Data from the research was analyzed using thematic analysis. Each analytical unit was categorized based on variable classification.

A Behavior Map was subsequently developed, serving as a comprehensive document outlining behavior drivers and contextual analysis. Utilizing this methodology, we identified patterns from observations and surveys. This allowed us to pinpoint factors that either promote the desired behavior (motivators) or act as obstacles (barriers).

Data collection ethical issues

Prior to the study, selected respondents were contacted via telephone. During the call, they were informed about:

- The goals and objectives of the research;
- The rationale behind their selection and the significance of their participation;
- Anticipated interview duration and the method (online);
- Details about recording, including storage and usage policies;
- Assurances regarding confidentiality and anonymity.

7. Limitations of the study

Most study participants were from small and medium-sized farms. Their feedback primarily reflected the challenges and needs specific to these types of farms, which could vary when considering larger farms.

Additionally, among the participants, only one large dairy farmer had adopted the Geogap standard. This limited the breadth of our discussion on its implementation during the interview.

Of the beekeeping participants in the study, only two had implemented the European standard. One had 300 hives and was interviewed over the phone, while the other had 150 hives and was part of the ethnographic observation. This again restricted the depth of our conversation regarding the implementation procedures in the interviews

Assessment of current situation in relation to Geogap requirements in case of dairy farmers.

Below is an overview of the current situation based on the primary sections of Geogap's requirements. *Data are based on both in-depth interviews and ethnographic data analysis.*

Farming	he efficiency is least in medium and small farms primarily because there's limited record-keeping and formal documentation. This task is perceived as the most time-consuming.
Identification and traceability of cattle	Fully available.
Cattle feeding and watering	They mainly produce food themselves, cultivate the land, and in the case of purchasing the food, do not consider it their responsibility to find out the composition.
Cattle stand	In many cases, the space does not provide an opportunity to perfectly comply with the standards, and that is why they think of constructin a new building.
Health of cattle	Almost everyone consults with a veterinarian to periodically monitor the health of the cattle. However, milk quality verification is limited due to the absence of laboratories.
Milking equipment and machinery	Almost all respondents indicated that they have a milking machine that they clean after each use. The milking process and instructions are not documented.
Hygiene	Farmers assert that their farms maintain hygiene. However, they acknowledge that while it meets farm-specific cleanliness standards, it might not align with external required standards.
Washing and disinfection	Farmers emphasize that they make every effort to maintain farm cleanliness, primarily for their own benefit

Evaluation of existing practices against the standards in the case of beekeepers.

Beekeepers currently adhere to various practices outlined by the standards, as revealed through both in-depth interviews and analysis of ethnographic data.

#	factor	existing practices
1	**Hygiene - environmental conditions**	Most of the farms belonging to the interviewees are situated in populated areas. Consequently, they struggle to control the presence of potential hygienic threats such as toilets, sheds, or other structures nearby. Many don't see this as an issue, emphasizing instead the importance of maintaining their hives in an "ecologically clean environment," which they equate to the regions where they themselves operate
2	**The process of extracting and squeezing**	• Except for two farmers, none use gloves *("they are not aggressive and therefore it is not needed"*) • Frequently, they either do not wear special attire or it's not adequately cleaned. • Tools used in the process are simply rinsed with water. • While this point wasn't emphasized during the interviews, during one ethnographic observation, after pouring honey into the jar, the farmer

		jokingly licked his fingers, commenting, "That's how a real beekeeper does it”.
3	**Honey storage and thawing**	● Most farmers have a dedicated honey storage area, none of them have any temperature control installed, although most claim to be either naturally cool, windowless, or have blackout curtains. ● Most of them store honey in blue or a stainless steel reservoir, one of them has come up with his own method of coating with a candle and then transferring the honey. ● Some beekeepers assert they don't need to thaw the honey, while others mention thawing it at temperatures between 38-42 degrees. In certain instances, they stated they simply place it in the sun to thaw.
4	**Diseases**	● Many beekeepers believe they can gauge the risk of disease by observing the behavior of the bees, thus determining if intervention or assistance is needed. ● Typically, the majority of hives are inspected in the spring. This is when beekeepers first open the hives after winter dormancy to assess any presence of disease. ● Most beekeepers do not conduct regular hive inspections, such as on a monthly basis. ● Only a few beekeepers engage in preventative measures against "poisoning." ● When mites are detected, most beekeepers reported using mite treatment strips and continue the treatment until the mite infestation is eradicated. ● Some beekeepers mentioned that they refrain from using antibiotics, holding the belief that it can adversely affect honey quality.

Recommendations for interested parties

Behavioral interventions

The research reveals that farmers encounter numerous challenges when attempting to enhance their practices. Inadequate resources and/or flawed procedures/policies (physical context) coincide with ingrained perceptions and biases (social context) that impede progress. While there's evident eagerness to acquire fresh knowledge (lack of information is frequently cited as a barrier), there also exists a notable resistance and even skepticism towards novelty. Simultaneously, there's an unequivocal desire for expansion or enhancement, yet the hindrance in this journey stems from a limited grasp of potential opportunities and the lack of critical assessment of these opportunities. Although support systems (governmental and non-governmental) for farmer education and skill enhancement are present to varying degrees, it's apparent that, at a perceptual level, farmers search for solutions elsewhere and often encounter setbacks.

Listed below are the main psychological and mental barriers (biases) identified by the study that play a crucial role for actors focused on farmer support in policy formulation and implementation:

Loss aversion: People tend to react more strongly to losses than to gains, experiencing greater pleasure from profits. Consequently, they tend to take fewer risks (such as trying something new) in order to avoid losses. For instance, when farmers seek grants, many are inclined to anticipate a negative outcome, assuming that "the grant will go to those who are already advanced and experienced, not to me." This mindset deters them from even participating in the competition. This fear of outperforming peers stands as a significant deterrent in various scenarios. A similar phenomenon emerges when it involves learning or adopting new technology/methods - novelty inherently carries uncertainty and risk. In order to avert potential losses, individuals often choose to stick with "traditional and historical" practices (see Comforts and Anxieties).

Overconfidence : Over-optimism is rooted in the aforementioned "loss aversion," whereby overconfidence serves as a way to rationalize ignoring potential risks. Biases in people are often tied to positive expectations, leading to the disregard of evident risks, particularly if those risks aren't immediate but instead carry long-term, hidden effects. The sentiment of "We inherit this from our ancestors, who else may teach me something new" or "Why bother checking it, I already know it's natural" (IDI-H-4, 50 years old, Shvitori village) is an outlook that obstructs farmers from actively seeking and testing approaches to enhance production practices.

Status Quo Bias: People consistently gravitate towards the familiar "tried and true" route, whether it's their own established methods or someone else's techniques. Venturing away from this familiar path, disrupting the established routine, always triggers discomfort due to the mental exertion and exploration of cause-and-effect relationships that it demands, which is inherently challenging. Similarly, farmers predominantly lean towards adopting practices and methods from those they know, even if newer and improved alternatives are available. This inclination is often rooted in apprehensions surrounding change and the desire to adhere to social norms (as elaborated below).

Endowment effect : People consistently attach greater value to what they possess, extending not only to relationships with loved ones but also to their possessions, belongings, and objects. This

emotional connection often leads to decisions that might not be rational. For instance, when selling a property, individuals might demand a significantly higher price than the market value. In the context of farmers, this tendency is particularly pronounced due to the strong emotional bond they have with the animals they nurture and the significance of family traditions. This becomes a significant obstacle to establishing cooperatives, as sharing resources is a fundamental requirement for cooperative functioning. It's challenging to share what is exclusively "yours" and relinquishing it might feel like giving something away, risking its value (even symbolically).

Availability heuristics: Assessment of a matter often hinges on what event is vividly remembered or imprinted in the mind, shaped by what left a strong impact. For instance, due to media coverage or local practices, a "trend" might emerge, leading to the cultivation of a particular crop or the creation of a product. With only a superficial analysis or sometimes without a complete understanding, a farmer decides to dedicate a portion of their land to this crop or invest in machinery to produce the "trendy" item. However, the reality might be that the market is oversaturated, demand doesn't match the anticipated volume, sales channels are underdeveloped, and consequently, the initiative fails.

Bandwagon effect: Also known as the herd mentality or groupthink, this phenomenon pertains to individuals adopting specific beliefs or behaviors merely due to the prevalence of others adhering to them; when many do the same, people tend to follow suit. This effectively makes individuals "align" within the existing social milieu. This aspect also shapes the social context, which is a pivotal influencer. For instance, forming cooperatives and engaging in resource sharing isn't embraced socially, as the term "shared" carries negative connotations and isn't associated with success (due to soviet past and widespread corruption then). Because "shared" suggests added complexities and imparts a sense of instability and insecurity.

The following recommendations center around aligning the physical and social context with the prevailing mental and psychological factors. This involves establishing a nurturing environment for farmers that enhances the prospects of gentle, unforced changes. As such, the recommendations encompass a behavioral shift-oriented communication campaign, alongside practical, procedural, and policy-related facets tailored for both dairy farmers and beekeepers.

When developing interventions, we rely on the **EAST framework** [3], which allows us to tailor solutions to identified barriers (comfort, fears) and motivators (JTBDs, Gains and Pains).

With the mentioned approach, in order to achieve the desired behavior, it is necessary that it’s implementation be simple (Easy), attractive and stimulating (Attractive), socially acceptable (Social), and the reminder of the implementation should be made in moments with high potential (Timely).

[3]The Behavioral Insights Team. (2014, April 11). East: Four simple ways to apply behavioral insights. Retrieved April 07, 2021, from https://www.bi.team/publications/east-four-simple-ways-to-apply-behavioural-insights/

In order to overcome the psychological and structural barriers identified in the research and described above, Reduction of friction [4]points is one of the main goals for achieving change . The more effort this or that action requires, the higher motivation is needed to perform. And motivation is variable and depends on a number of factors - such as social acceptability, intensity of risk perception, irresistible fear or craving, etc. Therefore, the best solution is to make the desired behavior as simple and, if possible, automatic (default settings).

Restrictions to ability:

- **Time** - If we are in a hurry or busy with other things, we are less likely to pay attention to the desired behavior
- **Money** - lack of financial resources is one of the most important barriers and I am less likely to allocate money to something that I do not consider vital at the time
- **Physical Effort / Ability** - The more physical effort I have to make (like walking several kilometers to buy a product), the more I wonder if it's worth going shopping at all.
- **Cognitive effort** - psychological effort, the perceived difficulty of performing an action or making a change; How realistic is the implementation and what preconceptions or beliefs are associated with it?
- **Social acceptability** - if this or that behavior is not socially acceptable and is perceived as "against the flow", most people refrain from doing it
- **Habit/Routine** - Any deviation from the beaten path means I have to go through a difficult path of decision-making and judgment, and this is always uncomfortable.

Drawing from the above, we have analyzed the customer journey, which represents the path of change. Along this path, we've identified various points of difficulty or obstacles that need to be overcome or eliminated. These steps are crucial for achieving the desired behavior, specifically:

Key challenge #1

Lack of time: Farmers, especially those not reliant on seasonal work, dedicate the majority of their time to farming. Due to limited workforce availability and uneven task distribution, they find themselves engaged in intricate responsibilities, with the bulk of their time consumed by daily routine. Any disruption to this routine proves to be a significant challenge. Consequently, despite their intentions, carving out time for skill improvement or acquiring knowledge poses a genuine difficulty for them.

Behavioral Interventions Recommendation #1:

- Scheduling training sessions during the non-busy season.
- Arranging transportation for attending training.
- Introducing alternative teaching methods such as distance learning: using SMS, online platforms (as mentioned below), or delivering printed materials via mail.
- Conducting farm visits to provide crucial information.

[4]Fogg, Brian J. "A behavior model for persuasive design, 2009.

- Diversifying training formats to boost engagement, for instance: setting up demonstration farms, involving influential figures in the process to enhance motivation for participation.

Key challenge #2

Access to finance: The study highlighted that farmers employ two methods to secure financial resources: borrowing from banks and/or acquiring grants. However, both of these avenues present certain challenges, whether they pertain to bureaucracy, procedures, or psychological barriers.

Behavioral Intervention Recommendation #2:

Streamlining the process of obtaining a bank loan (customer journey): The study underscored that issues encountered during loan applications frequently stem from flawed bureaucracy or straightforward procedural lapses (e.g., unregistered land[5]). This underscores the potential for collaborative efforts with banks and process enhancement through learning and improvement. Such cooperation could yield mutual benefits: enhancing risk assessment and bolstering bank income while simultaneously generating increased resources for farmers.

Behavioral Intervention Recommendation #3:

Feedback for Development: Farmers express that they lack feedback regarding loan denials. Timely and precise feedback can serve as a vital factor in enhancing farming methods. The decision to reject or approve a loan marks a high-potential moment for change, and it should be capitalized on. Feedback should be administered following the principles of behavioral science to avert resistance or estrangement (backfire). Involving local or non-governmental entities to jointly establish goals (goal setting) and reflection at this moment can serve as a foundation for future loan approval (reward).

Behavioral Intervention Recommendation #4:

Elimination of Psychological Barrier Regarding Grants: Within the farmers' perception, grants are reserved for accomplished farmers who have previously secured multiple grants, leaving them feeling excluded from this "privileged circle". Fear of failure discourages their participation in competitions, further exacerbated by a lack of understanding in completing grant applications and navigating document procedures. To achieve the objective, the process must be streamlined, and efforts to enhance inclusivity in perception should be undertaken:

- "Many grants" - motivation to receive a grant is much greater if many small grants are awarded instead of a few large grants
- "Many grants to new farmers" - it is possible to announce a grant program only to those farmers who have not received a grant before (or to highlight in some other way those farmers whom we want to encourage)
- Grants Front Desk - an initiative that, like banks, will help the farmer a) fill out the application; b) in risk analysis and c) in project writing. The front desk also provides "improvement oriented feedback" in case of failure (intermediate and final)
- Communication of social proof of receiving the grant (see below - communication campaign) – "4 out of 5 farmers in your district have received a grant."... "

[5] One of the farmers mentioned that they would have easily register the land in his inheritance if they had given him timely feedback.

Key challenge #3

Farming as a business: The research revealed that farming activity is perceived as a family activity, a domestic affair and it is not associated with business activity.

- **The term "farmer"** itself refers to farms where the owner has a large land (own or purchased), a building, an enterprise or something similar, etc. Owners of small land or if they have a few livestock, rarely refer to themselves as farmers.
- That's why locals **are embarrassed** to work on someone else's farm, that is, in a family - because they consider it as "servant" or "maid" work, and not "real work" [6].
- Since this is a traditional activity for most farmers, it is **not related to choosing a profession** and following the appropriate carrier path - rather, it is a natural situation that does not seem to require additional education or qualification, because "we have always known how to take care of the land or own cattle".
- **less motivation** on the part of farmers to register farming as a business and produce **certified** products.
- A non-certified (no-name) product is perceived more "naturall" [7]and **there is no pressure from consumers.**
- Added to this are **emotional attachments** (family traditions, love for animals), which prevents the farmer from distancing himself and making rational business decisions. This attitude is related to the level of identity of a farmer, land care and housework, not a businessman or an entrepreneur.

Behavioral Intervention Demonstration Recommendation #5:

Reframing - from housework to business activity: In order to achieve a psychological shift, it is necessary to "reframe" family farming from housework to business activity in the minds of the people involved in this activity:

- Farmer's identity (prestige, patriotism): a communication campaign built on the identity of farm owners of any size as farmers, and therefore, entrepreneurs. A campaign built around the principles of behavior change must be tailored to the local context to elicit a greater emotional response. In addition, the presence of business attributes as an integral part of entrepreneurship should be emphasized (as it is in other areas), for example:
    - Business registration
    - Certification
    - Upgrading production/farming standards[8]
    - Branding (brand, website, social network, etc.)

[6] This phenomenon also appears in other situations in Georgia, for example, in unemployment surveys taxi drivers, when asked if they are employed, answer that they are not, because they consider themselves unemployed.

[7] In 2023, within the framework of the same program, the study of "driving factors of consumer food safety behavior" conducted by "Bisk Partners" also determined that in the perception of consumers, the products produced in the village are "natural" and do not need to be checked. https://www.momxmarebeli.ge/articles/all/6812

[8] see Below: Incentives to introduce standards

- Unbranded business[9]
- Brand attributes:
  - signs[10]
  - forms[11]

Key challenge #4

Implementation of standards (Geogap in milk production or European standards in honey production)

As the research revealed, there are two main challenges related to the implementation of standards: a) there is a desire and motivation, although its implementation is related to investment and the lack of financial resources is cited as the reason, and b) due to excessive optimism, they do not think at all that there is a need to introduce or improve the standard in any way. Therefore, it is much more effective to work with farmers who already have the motivation to improve their practices and the awareness that this is necessary to expand their activities. The spread of the social norm will affect others later on.

Behavioral Intervention Demonstration Recommendation #6:

Communication campaign focused on behavior change :

- Means of comparison: means of comparison with farmers who have implemented the standards at one level or another and have obtained the Geogap. This can be general information (data about their area or neighborhood). This will increase the desire to compete and also represent social proof (helps to cultivate a social norm);
- Delivering the benefits of improving standards in clear and simple language (via social media, mass media, face-to-face meetings)
- Formulating the message about loss (loss aversion): showing what they will "lose" by not bringing standards
- Using thought leaders and sharing success stories in different formats and forms
- Dissemination of social proof: information that many farmers are implementing the standards and receiving concrete benefits

[9] See below - Scaling Intervention.

[10] The appearance of signs is a public recognition of the fact that there is an activity in the form of an enterprise, and it psychologically arranges both the employer (farmer) and the employed workforce.

[11] Work uniforms are a demonstration that there is a standard in the enterprise, and it creates a feeling in the employee that this is not a housework, but a function bearer. Branded form also enhances the sense of belonging.

- Demonstrating consumer demand for food safety
- Posting of actions (detection of violations) of the Food Safety Agency
- Promotion: offer branding, showcase
- Demonstration corners in crowded places: the benefits and tools of standard protection in the market or agricultural store, in municipalities, etc.

Behavioral Intervention Demonstration Recommendation #7:

Effective Implementation of Standards Using Behavioral Insights:

Introduction of Different Levels of Standards: Implement a tiered approach to standards (such as Geogap and honey production regulations) with varying levels of complexity and requirements (e.g., basic, intermediate, advanced). This approach offers farmers a sense of progression, aiding in overcoming barriers and fostering optimism. These levels can serve as a roadmap for farmers' journey toward improved practices.

- Baseline Level: Prioritize simple, low-cost actions that yield quick wins and require minimal investment. These actions can lead to immediate positive results.
- Intermediate Level: Focus on actions that require minimal costs but offer significant environmental improvements, such as redefining roles and enhancing documentation.
- Complete Level: Emphasize full implementation of the chosen standard, marking the achievement of comprehensive compliance.

Breakdown and Checklists:

- Develop step-by-step checklists for each action related to standard implementation. Use simple language and visually appealing formats, such as posters or stickers, and place them in relevant work areas (e.g., honey storage area).
- Communicate segmented tasks or steps at appropriate times, such as sending SMS reminders for morning tasks or seasonal activities.

Real-Time Feedback:

- Provide farmers with tools or resources for real-time feedback. This can include testing or inspection facilities to promptly identify diseases or production flaws.
- By tailoring the implementation process to human behavior and addressing psychological barriers, these strategies can enhance the adoption of standards and promote positive changes in farming practices.

Key challenge # 5

Distrust of Cooperatives[12]**:** Negative sentiments toward cooperatives have been observed not only in this study but also in numerous other research endeavors. The ongoing dynamics underscore the considerable impact of mistrust on individuals' hesitance to become part of cooperatives. Behavioral science offers multiple strategies to foster active involvement in cooperative ventures.

Behavioral Intervention Demonstration Recommendation #7:

Encouraging participation in cooperatives

Social norm:

According to the existing social norms, all farmers try to independently find ways of sale, as well as equipment and machinery for production. There is distrust towards any kind of "shared" property, the basis of which is the Soviet past - collective farms and non-racialism of private property, corruption and dishonest attitude towards state property. Cultivation of a new social norm is necessary so that the motivation and tradition of sharing emerges among farmers.

BISC Partners , the study of the existing social norm is a separate research subject and needs to be deepened. Emphasis should be placed on raising farmers' awareness of how scaling effects can be achieved with shared resources that will benefit everyone.

Simplifying the creation or incorporation process: One way could be to simplify and optimize the creation process of cooperatives.

Communication incentive campaign: A communication campaign that builds on behavioral drivers and is aimed at encouraging several key actions.

Discounts or other offers for members of cooperatives: the psychological factor of "loss aversion" described above forces a person not to be left out of this or that benefit. Therefore, a rationally designed system may prove to be an incentive for farmers.

Default: automatic inclusion in the cooperative during business registration, with opt-out . A similar approach has shown positive results in many other scenarios.

Changing Social Norms and Encouraging Cooperative Engagement:

Existing social norms encourage individualistic approaches among farmers, leading them to independently seek sales channels, equipment, and production machinery. Distrust of shared property, rooted in the history of collective farms and corruption, has further perpetuated this mindset. Shifting these norms is crucial to foster a culture of sharing and cooperation among farmers. A comprehensive exploration of existing social norms and their impact is necessary, with an emphasis on promoting the benefits of shared resources for collective growth.

Simplified Cooperative Creation and Communication:

[12] This issue is beyond the scope of the project, however, the findings of the study allow us to make a demonstration recommendation to stakeholders within this framework as well.

Streamlining the cooperative formation process can facilitate its establishment. Launching a targeted communication campaign driven by behavioral triggers can motivate farmers to take key actions.

Incentives for Cooperative Membership:
Offering discounts or exclusive benefits to cooperative members leverages the psychological principle of "loss aversion." By providing a rational incentive system, farmers can be encouraged to join cooperatives.

Opt-Out Default Mechanism:
Implementing an opt-out default system during business registration automatically enrolls farmers in cooperatives, unless they actively choose to opt out. This approach has demonstrated success in various contexts and could be applied here as well.