

Serving the needs of agriculture and agricultural values

Annual Report

2021



INTERNATIONAL
CENTER FOR
AGRIBUSINESS
RESEARCH AND
EDUCATION

ANNUAL REPORT 2021



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CENTER FOR
AGRIBUSINESS
RESEARCH AND
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Educating the Future

ICARE

is an umbrella institution for the Agribusiness Teaching Center (ATC). ICARE provides agribusiness education to achieve sustainable entrepreneurial activities in the food and agriculture sector and trains agribusiness specialists at undergraduate and graduate levels with broad economic, marketing, and managerial skills, up-to-date communication abilities, and excellent knowledge of English. These skills make ICARE graduates competitive in the growing regional agribusiness sector.

Actors in agricultural transformation

The two-year Undergraduate Agribusiness Program (UAB) program focuses on student-centered instruction, instructional design, and delivery strategies. Through a combination of classroom instruction, internships, and field visits, students acquire knowledge in a multifaceted and rich learning environment. Graduates are prepared for leadership, education, communications, and consulting jobs in the broad fields of agribusiness, economics, marketing, finance, and management. ATC students develop their research skills in the UAB program. These skills significantly increase the competitiveness of our graduates in the job market,



as the new knowledge and wisdom gained through research ultimately lead to strengthening the extension activities in the agriculture sector.

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ICARE/ATC links to research and education closely together to offer topical, state-of-the-art, and distinct Master's programs. The Master of Agribusiness (MAB) is a professional degree program that provides internationally competitive business education in partnership with Texas A&M University and the Armenian National Agrarian University. The program is entirely taught in English and equips young professionals and leaders with strong quantitative, management, and decision-making skills in economics, finance, marketing, and entrepreneurship.

A competitive business-oriented curriculum with a flexible class schedule permitting students to simultaneously work full-time, outstanding faculty with industry experience, affordable tuition compared to other similar programs in Armenia, and other benefits of the Master of Agribusiness (MAB) program motivate students to continue their education at the Agribusiness Teaching Center.



The faculty at Agribusiness Teaching Center come from different industries, which is something indeed worth highlighting. In many educational institutions in Armenia the instructors still conduct the classes guided only by textbooks, the content of which is long outdated, but at Agribusiness Teaching Center the approach is completely different. ATC instructors are not just highly qualified educators with years of experience in teaching, but also successful practitioners at different stages of their career development, working in various reputable companies. Their teaching is based not only on theoretical knowledge but also on sharing their best practices, helping students to build a strong network that will enable them to find the best jobs in their professional field in the future.

Anna Martirosyan, a graduate of the UAB and MAB programs shared her impressions about the education at the Agribusiness Teaching Center



“At the Agribusiness Teaching Center, I found what I was looking for in an education system. ATC is distinguished by its Western-style teaching methods. I should highlight the fact that professors are successful specialists in their fields of work, who share their experience, and practical and up-to-date examples during the teaching sessions. The courses are highly effective here, as they are interactive and full of discussions, questions, and answers. Here students have the opportunity to develop team working skills. Students acquire knowledge and skills that make them competitive in the labor market and confident in the workplace.”

This whole process is carried out through students' capacity-building strategies. It improves the quality of education, which in turn attracts more students. Currently, ATC has over 1,000 graduates with 95% job placement. The employment rate of our graduates is remarkably high in the food and agriculture sector. Agriculture is one of the most important sectors of the Armenian economy. It is the mainstay of employment in Armenia, as approximately 30 percent of workforce are employed in the agriculture sector. That is why for Agribusiness Teaching Center it is a priority to provide students with quality education so that they can become highly qualified specialists in the food and agriculture industry. ATC focuses on preparing students for work at a national and international level. The success stories of our graduates are the vibrant proof for the high standard of the education we provide. Many of our graduates hold managerial positions with high remuneration at various renowned companies, and many others are entrepreneurs who are starting or already run their own businesses successfully.

As part of the hands-on education, every year Agribusiness Teaching Center organizes summer internship programs for its students. The objective of the eight-week Summer Internship Program is to provide students an opportunity to acquire practical experience in agribusiness. Students are placed with active agribusinesses around the country to obtain an integrated view of the business, as well as work and observe the operations at each department. Students use classroom theory in practical application during these eight weeks. They are required to submit intermediate and final internship reports that reflect the company operations, the student's role at the workplace, suggest future development, as well as make a presentation on the internship.

An industry internship is a specialized work experience, designed to provide students with a real-world application of their growing knowledge in the agribusiness sector. Students should use their internships to utilize the concepts or principles from the core courses taught at the ATC. The eight-week

program is a valuable portion of the students' education and effectively prepares them for professional careers.

At ATC, students also have an opportunity to participate in many field trips. We organize field trips to well-known factories, wineries, and greenhouses so that they can meet managerial and operations level staff, which serves as a great career orientation tool for the students.

Some of their field trips were to the Golden Grape Armas winery, where the students learn about the activities of the winery, and the process of winemaking, from choosing the type of grapes to bottling and labeling. Another trip was to the greenhouse of Venlo LLC to learn about the advanced methods and solutions for greenhouse crop cultivation in Armenia.

Graduates of ATC can work in a diverse range of industries and positions from accounting, insurance, and banking, to managing seed production, farm management, international marketing, or retail sales. They would be able to carry out professional activities in product development corporations, retail marketing firms, food processing companies, consultancy agencies, and public, governmental, or financial institutions.

ATC graduate Hrachya Hayrapetyan is an outstanding example as a professional, working at a well-known consultancy agency



The curriculum at ATC is completely in English, and it's a great advantage for the students since it gives an opportunity to read professional literature in English as it's more accessible.

Students here get more practical knowledge, which is especially valuable when entering the labor market. Immediately after graduating from university, I was able to find a job at a business consulting firm in the agribusiness sector. The agricultural sector is considered quite profitable. Besides, there are so many novelties in the current agricultural innovation programs that it is hard to find another field that grows at that rate, especially in terms of its technology. There is also a great demand for specialists in this area, and that is why ATC's role here is enormous.”



By studying at the Undergraduate Agribusiness Program (UAB) and the Master of Agribusiness Program (MAB) at the Agribusiness Teaching Center, students become qualified as professionals with a set of skills needed to address tomorrow's issues today. We continue to grow the Agribusiness Teaching Center's impact in the agriculture and food sector, helping propagate the best practices and modern technology in the industry well beyond the institution, both across Armenia and the region.



Greenhouse Crop Production and Management

The greenhouse industry has been an important contributor to the agriculture sector in Armenia and currently, it is one of the most dynamically developing segments. The increasing demand for the country's greenhouse products, including berries, vegetables, and flowers, creates promising export opportunities for farmers. Even though agriculture is the main pillar of the country's economy, the sector still has a large gap in specialists. The greenhouses in Armenia still face many challenges and the lack of a highly qualified workforce is among the most pressing ones. A large number of the specialists involved in the industry have the interest and desire to get in-depth practical and theoretical knowledge to become agronomists. ICARE Foundation's role and contribution in filling this gap with qualified specialists and developing the sector are extraordinary thanks to its **Greenhouse Crop Production and Management Program**.

The goal of the Greenhouse Crop Production and Management program is to train agronomists that are proficient in plant cultivation modern techniques and well aware of marketing and management best practices. The program is designed to prepare future specialists with good knowledge in modern greenhouse structures, advanced technologies used in such greenhouses, resources and materials used in production, greenhouse microclimate control systems, plant physiology, and plant protection.

The program is implemented in an industry-driven effort to maintain profitable, environmentally sensitive, and sustainable agricultural production. Graduates of the program learn about pests and diseases common to Armenian greenhouses and will be able to identify if there is a problem with a plant and take preventive measures. The program is meant to provide guidance and the best practices that can be implemented in greenhouses. Upon completion of the pro-

gram, the graduates will be able to effectively manage borrowed funds and carry out all the activities needed for the successful implementation of greenhouse production and marketing. In addition to this, graduates will understand HR management and acquire the necessary leadership skills for the successful supervision of a greenhouse team.

The program participant Shahan Balulean shares his impressions of the program.

“My biggest achievement in this program is that I have made new connections and have met industry professionals who constantly share their experiences with us, which gives us lots of practical skills. The program is meant for better quality through adapting sustainable greenhouse production systems. The knowledge gained during this program allows me to be more confident in this field and to approach agriculture with innovative solutions and ideas. I am very thankful to the ICARE Foundation for creating new opportunities for young people like me.”

Considering the needs of participants from remote regions, the Greenhouse Crop Production and Management Program courses are now also offered online through the ZOOM platform. The current students have made a group visit to the Rock Berry Greenhouse, a tomato hydroponic greenhouse, and a gerbera hydroponic greenhouse, and now participate in various internships.





**EVN Wine
Academy:**
Spearheading
the Wine
Education

First of its kind in Armenia, the “Enology and Wine Business Program” of EVN Wine Academy equips students with an in-depth understanding of winemaking from scratch, from vine to wine. EVN Wine Academy is a leader in wine education, research, and management.

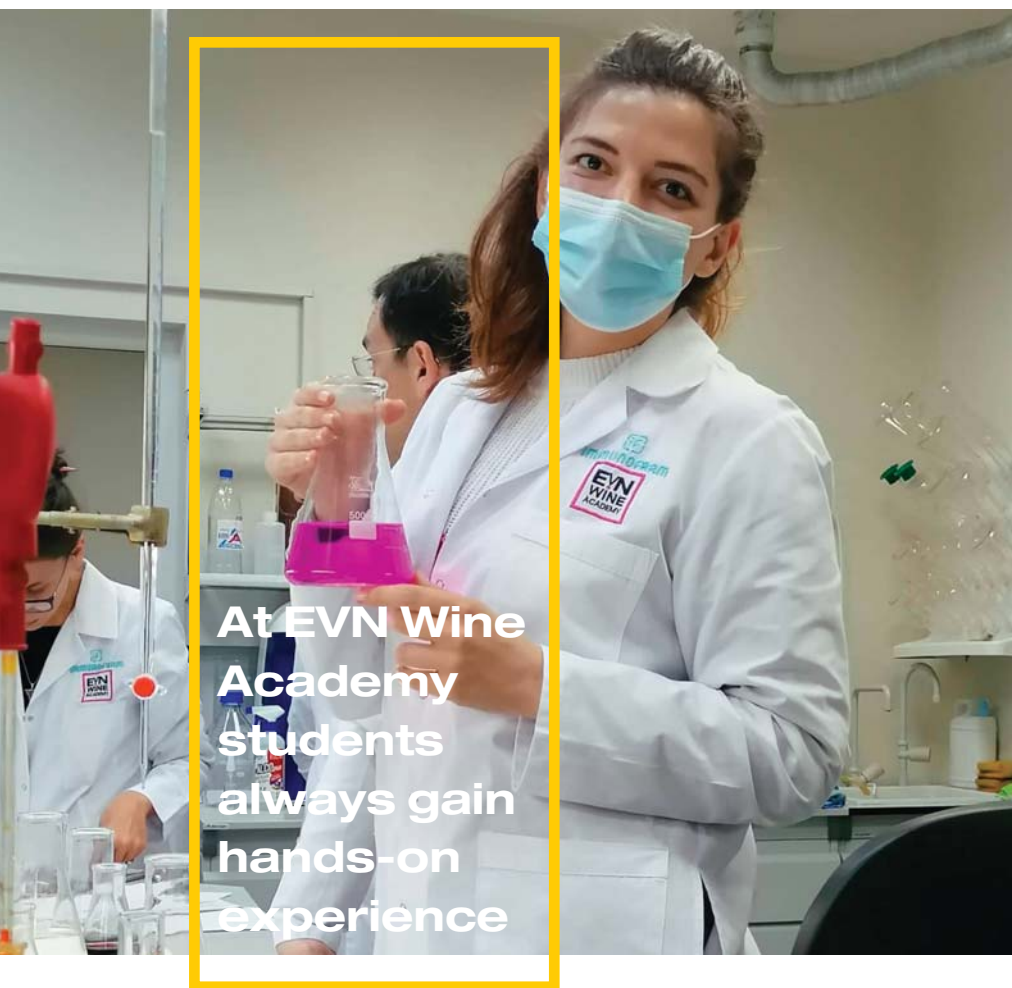
Pairing acclaimed faculty members with leading winery owners, vineyard managers, grape growers, and winemakers, EVN Wine Academy offers hands-on knowledge of growing grapes, making and analyzing wine, and much more. Classroom instruction, laboratory, and field applications of viticultural and enological principles and practices are included in the program of study. The program is intended both for newcomers and those already involved in the industry. It should also be noted that the number of people interested in this program has increased significantly in recent years. EVN Students gain firsthand experience in many areas of the wine industry while learning from some of the most innovative winemakers.

Within each course, visits are made to various wineries and vineyards to reinforce the theoretical knowledge acquired in the classroom. EVN Wine Academy's instructors attach great importance to practical work. Artak Gabrielyan, teaching the module of Viticulture at EVN Wine Academy, always makes the class interactive and effective from the learning perspective.

In March 2021 our junior students had their first workshop within the scope of the module in the ANAU Voskehat Educational and Research Center of Enology.

Field trips comprise a large share in the EVN Wine Academy's academic program, as we believe that visual representation of a subject enhances the knowledge gained in the classroom.

EVN Senior students had one of their field trips to Karas Wines to study the winery equipment. Students say that the practical information is extremely helpful, from the meetings with vineyard owners to the business and marketing sessions. There is a nice balance between field and classroom and as much tasting as one could ever wish for.



At EVN Wine Academy students always gain hands-on experience

As one may guess, EVN junior students take the class of Wine Chemistry, which is often thought to be challenging and complicated.

However, when the theories and formulas are practically applied in the wine lab, the learning becomes less strained and more fun.



We are thankful to Nick Kodoudakis from the Agricultural University of Athens, the instructor of the theoretic section of Wine Chemistry, and Mikayel Mikayelyan, the Head of EVN Wine Laboratory, for the great efforts they put into the teaching process.

After all, wine is all about chemistry, and mastering it will guarantee the fantastic taste of the wines we will drink tomorrow.



At EVN Wine Academy students take part in wine production

One of the most exciting news for the EVN Wine Academy was the launching of its own brand of wines.

Over the past years, EVN Wine Academy has built its reputation on being an educational institution where students learn winemaking and wine business from A to Z.

Now, in a new wave of this spirit, wines of the EVN Wine Academy made by professional winemakers and students, are already available and you can enjoy

and share them with your loved ones. They can be bought from InVino, Wine Net, "Yeritsyan and sons" supermarket, Andaco Spirits...

Three main types of wines are produced at the EVN Wine Academy.

EVN Wine Academy Areni Red Dry Reserve wine is made from the Armenian Areni grape. It is a balanced wine, with a pronounced cherry-stone fruit flavor, moderate sourness, and a long aftertaste. Soft but structured, this wine has sweet minerally tannins and fresh blackberry aroma.

EVN Wine Academy Voskehat White Dry Wine is made from the Voskehat grape, the queen of Armenian grapes. A fresh and elegant wine, it has an intensely aromatic bouquet of tropical fruits and spicy notes.



EVN Wine Academy Rosé Wine is made from indigenous Armenian Areni grapes. This elegant, rosé wine is beautifully balanced, has cherries and strawberries on the nose, plus a rich, round palate and lasting finish.

Exciting news to share is that the EVN Wine Academy Voskehat White Wine received a silver medal in the 25th edition of the Berliner Wine Trophy, which is Germany's most important international wine challenge under the patronage of the OIV and the UIOE. This is a proof of the knowledge, experience, and commitment that we invest in wine production.

We are thankful to the team behind this achievement and especially to Artak Gabrielyan, a highly qualified winemaker at EVN Wine Academy. Not only does he share his deep knowledge with our students, but also applies it to making quality products.

EVN Wines entered the Armenian Market this year and we are sure that we will continue attracting more consumers over time.

“Yerevan Wine Days” is an exceptional festival for wine producers and oenophiles, which takes place annually on Saryan Street, in the heart of Yerevan.

Every Year EVN Wine Academy takes part in the festival presenting its educational programs, the Enology and Wine Business Program in particular.

This year, however, we had more news for our visitors. EVN Wine Academy had its well-balanced wines to offer: Red, Rosé, and White.

The festival is an amazing platform to strengthen the link between the producers and consumers and attract thousands of visitors from around the world.

The knowledge received in the classroom will be definitely applied in the wineries or in the vineyards, maybe in an office space to write up the marketing strategy for a particular wine.





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EVN Wine Academy Voskehat White Dry Wine

Award	
Trophy:	Berlin -winter tasting- 2021
Medal:	Silver
General Information	
Vintage:	2019
Producer:	International Center for Agribusiness Research and Education (ICARE)/EVN Wine Academy
Origin	
Country of cultivation:	Armenia
Region of cultivation:	Armavir region
Description	
Category:	Still wine
Flavour:	dry
Vinification:	stainless steel tank
Wine type:	white
Grape type:	Voskehat
Properties	
Alcohol content (%):	13
Acidity (g/l):	5.1
Residual sugar (g/l):	3
Total sulfur (mg/l):	50.24
Bio:	False

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We are proud to have graduates like Mariam and Anna

Mariam says that she chose to study at the EVN Wine Academy because she learned that students get a lot of theoretical and practical knowledge about winemaking and the wine business. We learn viticulture, the structure of the grapevine, we do the harvesting, and we understand how to cultivate a vineyard to get a good harvest. We study chemistry, we taste the wine that we produce, and much more.

Mariam says that in addition to the knowledge and experience gained at the EVN Wine Academy, one of the benefits of studying here is the opportunity to communicate and get acquainted with people of different professions, inter-

ests, and even nationalities. Her sister Anna adds that studying at the EVN Wine Academy had a big impact on her life, as she changed her major of study and moved to a completely new field.

The wine sector in Armenia is developing day by day. New Armenian-made wines are regularly released to the market, some of which are exported, bringing Armenia a recognition as a wine-producing country. It should be noted that thanks to the EVN Wine Academy, more people are beginning to appreciate and recognize Armenian wines. Sisters say that EVN Wine Academy cannot be described in a few words because everything here is so interesting and diverse. Here students have the opportunity to think, create and try what they have created.

In October 2021 EVN Wine Academy students had an amazing opportunity of a field trip to Kakheti wine region in Georgia. This visit was for the first time this year, but it has already been included in our curriculum and will be a mandatory component of the annual program each year. During the tour we traveled more than 1200 km in three days through the wine regions of Georgia and visited 8 wineries. Our trip allowed for an immersive learning experience in wine regions such as Kakheti, Kvareli, and Signaghi. Our students had an opportunity to taste incredible wines, typical to the regions: they tasted at least 25 different Georgian wines made in qvevris (large earthenware vessels). The students of the Academy also made a field trip to qvevri pottery and saw how Georgians have been making their famous clay vessels.

We also met experts that shared educational insights that deepened their understanding of the region and its wines. One of the experts was David Chichua, Director at the Institute for Viticulture and Oenology, Agricultural University of Georgia. He welcomed us at the Giuaani Winery and organized a great study tour for our students. They saw and experienced things as students in ways that those who only study by textbooks do not. Our educational wine tours go beyond regular “tourist” wine tours and focus on hands-on educational experiences that provide our students with unparalleled access to information, winery/vineyard visits, and knowledge.

Exploring the wine industry in Kakheti wine region, Georgia



Our tours are carefully crafted to be educational at every step. During our field trips, we stayed in hotels located in the heart of the wine regions and enjoyed educational tastings at top wineries such as Giuaani Winery, Kindzmarauli Corporation's Winery at Kvareli, Gio's Marani wine cellar, etc. We visited the vineyards to gain an understanding of terroir, viticulture, and the natural factors that impact a wine's style, quality, and price. Of course, we also dined on some of the most delicious local cuisines in some of the most beautiful places. We also had a city tour in Tbilisi where we visited Khareba winery, Chateau Mukhrani, and other amazing places. And all of this happened in an educational, fun, and exciting atmosphere. Our educational tours are designed for passionate EVN Wine Academy students, whether they be professionals or enthusiasts.





Ruben Lokk

sharing his success
story as an alumnus of
the EVN Wine Academy

My name is Ruben Lokk, a wine lover, and producer who knows how to appreciate wine. I am not a hereditary winemaker and not the owner of inherited vineyards. Unfortunately, or maybe, fortunately.

I am a lawyer and criminologist by profession. I lived and worked in my specialty in Moscow. In 2012, I moved to Yerevan. I decided to collaborate my favorite hobby and skills in selling and promoting wine. I decided to enter EVN Wine Academy and produce my own wine.

EVN Wine Academy gave me the opportunity to go through the entire stage of wine production in practice, it also provided a large theoretical base in the field of wine marketing and promotion. And this is all under the guidance of winemakers and marketing specialists.

Now I am creating my story. From scratch. I have founded my own brand of wines called “Shoror” and I am extremely grateful and lucky to be an alumnus of the EVN Wine Academy as the knowledge gained here helps me a lot.

EVN Wine Academy offers a wide range of opportunities – to become not only a winemaker but also a producer. EVN is designed to provide a knowledge base for individuals who have an interest in pursuing a career that involves the wine industry. You can become a sommelier, wine critic, wine tour organizer, etc. It all depends on your view of the world of wine, what you like, and what you want. The main thing is to start.

Lobhana, EVN Wine Academy's international graduate from India, is sharing her success story, goals, and challenges while being in the wine industry in Armenia



completed my primary graduation in Engineering and that is what I never wanted to do. Then I got a job but I got tired of corporate life, and I wanted to take a break so I started looking for something more which I can just learn in 2 years and then I can do something of my

own. So, I started thinking about getting an education in winemaking and I stumbled upon Georgia and Armenia. In this region I think there are just 2 educational institutions for learning winemaking that offers the whole program in English, one is in Georgia and the other is here in Armenia at the EVN Wine Academy. I chose EVN Wine Academy and once I started studying, I really fell in love with it.

As a beginner, I didn't know anything about wine and even what grapes are used or anything else. Some of the subjects that we had, like viticulture, microbiology, etc. were intense and enough to give you in-depth knowledge and foundation to learn further. So, my experience in terms of learning at EVN was great. I think the exposure to the Armenian wine industry that we get, for example visiting vineyards, and wineries, and doing internships, gives a fair outlook of where the Armenian wine industry is going. That exposure was great. There were times when instructors, as well as students, spoke in Armenian but it did not hinder my progress. If I had a question they cooperated or every time we visited a local winery, I always had my classmates and instructors translate things for me. So, they were absolutely supportive and language barriers were not challenging at all.

By learning the foundations of viticulture, winemaking, and the wine business at the EVN Wine Academy you gain a personalized understanding of winemaking from vine to glass.

The enology and Wine Business Program of EVN Wine Academy offers a unique, comprehensive, and interdisciplinary approach to wine studies providing learners a foundation to launch or advance their careers.

AGRI CAMP Program

Innovative Agriculture Training and Learning Camp (AGRI CAMP) Program was launched in May 2020. This 3-year program is aimed to promote the development of innovative agriculture in Armenia by fostering a triangular partnership between the industry sector, students, young professionals, and agripreneurs through hands-on and innovative agricultural trainings and skills building.

In February of 2021, ICARE renewed the contract with the U.S. Agency for International Development (USAID) in terms of AGRI CAMP and the program grew in scope. The list of beneficiaries expanded from the Armenian National Agrarian University (ANAU) and youth interested in agriculture to the entire agricultural sector, from startups to successful agri-enterprises.

In 2021, we finished the renovation activities of the Zartonk Resort (Aghavnadzor, Kotayk region) and established the AgriCamp practical learning center. The opening ceremony of this center took place in October 2021.





Based primarily on these studies, we designed targeted training modules. These included but were not limited to food science and food safety, greenhouse construction and management, innovative agriculture, horticulture and intensive orchards, animal husbandry, women agripreneurship, communication, and leadership. Thanks to these efforts, we were able to organize over 30 trainings and engage more than 700 participants including women agripreneurs, farmers, SMEs, ANAU students, and staff from all marzes of Armenia and the capital city.

Throughout 2021, we conducted several studies. One of these studies was aimed at finding new and innovative solutions for productivity increase, and assessing the knowledge and skills gaps among agricultural cooperatives, SMEs, and farmers. Also, we implemented an assessment among ANAU students to understand their needs and preferences.



This year we successfully started working with more than 40 startups and hope that their ideas will be transformed into viable businesses. Also, we started the process of technical assistance to agribusinesses to upgrade and improve their businesses.

With great expectations, we started the research grants process for ANAU students, and by the end of the year 2021, already eight students were implementing their research projects.

AGRI CAMP continues to evolve. Our next goal is to establish a much-needed AgriHUB platform.





GuideMaster Project

The project's goal is to provide intensive in-class and practical training to (wine) tour guides and train them to successfully conduct wine tours, as well as improve their knowledge on Armenian wine tourism offerings, thus contributing to the improvement of Armenia's image as a wine-producing country, and wine tourism destination.

The first round of the GuideMASTER program has been implemented by the ICARE foundation/EVN Wine Academy from December 2020 to November 2021. The one-year training program was funded by the PSD TVET South Caucasus program, implemented by GIZ. The GuideMASTER project has been designed to improve Armenia's image as an attractive wine-producing country and wine tourism (enotourism) destination by strengthening the knowledge and practices of local wine tour guides, as well as enhancing their professionalism in the wine industry. The project has been implemented in close cooperation with the Vine and Wine Foundation of Armenia (VWFA) and the Tourism Committee

of the Ministry of Economy of Armenia. The GuideMASTER program involved 20 practicing tour guides who were selected on a competitive basis.

The training program combined theoretical in-class sessions and practical field trips to wineries, vineyards, gastro yards, and historical/cultural sites.

The GuideMASTER program included regular field trips to the wine regions of Armenia with guided tours to wineries, the Areni-1 Cave, the Ginishik Canyon (Ginishikadzor) archeological complex, Noravank Monastery, Agarak, Aghdzk, the Aruch Cathedral, etc.

Guest lectures on "Food and Wine Pairing," as well as wine tasting sessions were offered during the project.

As the wine tourism sector is reviving in Armenia after the COVID pandemic shock, the project GuideMASTER came as a very relevant initiative to train local tour





guides in wine tourism in order to draw more attention from tourists to Armenia and provide them with consistent and relevant information. The videoconferencing equipment kindly provided by GIZ to ICARE was very timely, as ICARE has been adjusting to a hybrid education model in the past-pandemic period.

The GuideMASTER project has a direct impact on the development of the tourism sector. A more educated approach to wine tourism allows the program graduates (i.e., tour guides) to draw attention and bring to Armenia more travelers, especially those who are interested in in-depth wine tourism.

The project will offer intensive in-class and practical training to the target group on the history of Armenian wine, Armenian cultural heritage, viticulture and enology, terroir, as well as in such topics as presentation and communication skills.



The Sea of Wine Project Reveals the Black Sea wine route

2021

was an action-packed year of exciting events and experiences for the Sea of Wine project where ICARE is the lead partner.

Officially launched in July 2021, the Sea of Wine project focuses on the common cultural heritage of viticulture, winemaking, and unique wine production practices of the Black Sea region and the growing touristic interest in the Historic World of Wine.

In 2021, the project partners developed country-level wine routes that now constitute the Black Sea Wine Route. The route includes a total of 33 country-level thematic wine routes connecting 156 wineries and hundreds of restaurants, bars, art centers, SMEs, attractions, etc. Bringing together Armenia, Georgia, Greece, and Ukraine, we want travelers to discover these countries through a sip of wine and enjoy the culture, customs, traditions, and gastronomy of this old and new world.



Armenia

The Sacred Land of Wine
More than 6 millennia-old traditions

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The Black Sea Wine Route will be available on the web platform at www.seaofwine.travel which is currently being developed. This will allow better online exposure for local wineries, wine bars, and cafes, while tourists will have access to a comprehensive database and an opportunity to plan their trips online.



Armenia's Wine Routes

When developing the routes and platform, we had another opportunity to meet local wine-makers, tour guides, and HoReCa representatives and discuss the challenges we all face. This helped us to better design the training sessions to be held in 2022 and make sure that the digital platform enables small businesses to showcase their offerings.

Our work during 2021 became even more memorable when Lara Sánchez and Diego Herrera from Interreg Volunteer Youth joined us in Armenia. Together with our team, they participated in wine festivals and visits to wineries and attractions.

The project is co-implemented by the ICARE Foundation, Aristotle University of Thessaloniki, and Georgian Center for Agribusiness Development, and Odesa National Academy of Food Technologies through the Joint Operational Programme Black Sea Basin 2014-2020 funded by the European Neighbourhood Instrument in close collaboration with the Joint Technical Secretariat.

FRUITENIA Project

The FRUITENIA project aims at increasing the competitiveness of the fruit production sector in Armenia. The project is currently developing the capacity of the Armenian National Agrarian University (ANAU).

FRUITENIA facilitates the following cross-cutting activities: *increase the overall competitiveness of the fruit production sector, promote social inclusion and gender balance in the fruit production sector, and promote environmentally friendly, sustainable, and climate-smart modern fruit production approaches*. The project is designed to modernize the agronomy curricula, by introducing new courses and modernizing the contents of the existing ones at ANAU. Thus, ANAU will have the capacity to offer fruit production-related academic courses, based on modern curricula, up-to-date infrastructure, and well-trained instructors. The FRUITENIA project also increases the capacity of the agricultural TVETs in teaching up-to-date fruit production. The project will conduct Training of Trainers (ToT) for ANAU and TVET's instructors to develop the capacity of the teaching staff. A short-term professional certificate program in fruit production will be established at ANAU for the fruit-producing farmers, instructors, and students. The project has launched and is developing a fruit production-related e-learning open-access platform in the

Armenian language that will be accessible to all fruit production stakeholders including farmers, students, ANAU and TVET faculty, experts, etc. The modern fruit production methods and techniques are communicated with project beneficiaries through videos in the Armenian language via an online e-learning platform www.aygi.am.

The following activities were carried out in 2021 within the framework of the Agro-technical component of the FRUTENIA project: preparatory works for the establishment of an intensive orchard, import/customs clearance of certified seedlings (Italy), establishment of an intensive orchard, installation of drip irrigation system, construction of a catchment area, installation of the anti-hail net, acquisition of agricultural machinery, renovation of a small field warehouse, installation of lighting and video surveillance system, organization of visits of ANAU students, supplementing the content of Aygi.am website with new materials, shooting new videos.



Progress of AgriTech in the intensive orchards in Armenia

Within the framework of the FRUTENIA project, the main activities for establishment of a 1.5-hectare demonstration-intensive orchard at the ANAU Voskehat Educational and Research Center of Enology started in February 2021. Orchard area measurements and design were performed, pits for planting the seedlings, and improved soil mixture were

prepared. At the same time, the irrigation system pipelines, the pumping station, and the catchment area were constructed.

In March, the seedlings ordered from Battistini's nursery in Italy were transported to Armenia and stored in a refrigerator at room temperature. Apricot seedlings of "Yerjan" variety were purchased from a local nursery.

After planting the trees, the drip irrigation system of the orchard was put into operation, which has a remote control capability, allowing the user to choose an automatic irrigation schedule and perform fertilization in conjunction with irrigation. Months later, the anti-hail system was commissioned by the contractor. A tractor and other agricultural equipment were procured as part of the project to make the intensive orchard cultivation work more efficient.

The agricultural equipment acquired on the basis of the "Agreement on the Free Use of Agricultural Machinery" signed between the ANAU WIPO Fund was handed over to the Voskehat Educational and Research Center of Enology of the ANAU.





Nerses Kostanyan, a fruit-growing expert on the FRUTENIA project, was entrusted with the coordination of the intensive orchard cultivation and care activities. During this period, distant discussions were held with the international project expert Davide Neri, who consulted on the selection of varieties, and the establishment and cultivation of the orchard.

The construction/repair of the support infrastructure has started as well. In particular, the area has been connected to the power grid and internet, field storage has been repaired, and lighting fixtures have been installed which enables security monitoring of the area 24 hours a day.

During different periods of establishment and cultivation of the intensive orchard, visits of ANAU students to the Voskehat Center were organized. The project coordinators introduced the students to the goals of the FRUTENIA project Agrotechnical and Educational Components, and the work accomplished. Guided by a fruit growing expert, the students toured the orchard, participated in tree planting, learned about the advantages of the drip irrigation system, particularities of orchard cultivation, etc. The students and instructors will visit the intensive orchard regularly. In the coming agricultural year, visits will be organized for all those who are involved or interested in fruit growing.

The website www.aygi.am created within the framework of the FRUTENIA project provides an opportunity to the beneficiaries involved in fruit growing activities, particularly farmers and students, to acquire knowledge related to the field through videos made within the framework of the FRUTENIA project and information materials from different sources. Currently, new materials and videos made during the project are being added both to the website and the FRUTENIA-ICARE Facebook page. A number of events are planned to increase the visibility of the website, including the creation of a separate page on the ANAU website about the FRUTENIA project, which will be available soon.

Implementing effective education

Within the framework of the FRUTENIA project educational component, the planned manuals have been developed and updated, including Fruit Tree Entomofauna, Fruit Tree Diseases and Treatment, Nursery Establishment and Management, Establishment and Management of Nut Orchards, Intensive Fruit Farming, and more.

Within the framework of the project, a series of workshops were held to present the developed manuals to the faculty, graduate and postgraduate students, as well as to introduce teaching methods of the relevant subjects to the ANAU Agronomy Department. The manuals were presented by local specialists, and international professional consultants, who contributed to the development of the manuals with their professional experience and skills. They also presented their experience of teaching the relevant subjects in foreign universities and had productive discussions with experts and instructors. A training course on modern teaching methods was organized for ANAU lecturers.

Memorandums of cooperation were signed within the framework of the project with the following 8 agricultural colleges: A. Kochinyan Agricultural College, Armavir Regional State College, Masis State Agricultural College, Academician Aghajanyan Nor Geghi State Agricultural College, Spitak State College, Academician Mikhail Tumanyan State Agricultural College of Shirak, Professor A. Kalantar State Agricultural College of Stepanavan, Vanadzor State Agricultural College. Within the framework of the memoranda, it is planned to organize field trips for college students, lecturers, and specialists to the intensive orchard of ANAU, provide colleges with a manual on horticulture and conduct training of trainers for college instructors. During the reporting period, 147 students and instructors of the above-mentioned agricultural colleges visited the Voskehat Orchard.

A three-month Intensive Orchard Planting and Management course is currently developed within the framework of the project. The training course is planned to start in February 2022. The aim of the course is to train and develop the professional qualification of the participants, provide knowledge in line with modern requirements and practical skills.



CARMAC II Project

Agriculture in Armenia has been and still is one of the most important sectors for rural employment and contribution to the country's GDP. Nevertheless, Armenian agriculture suffers from low productivity, dominance of subsistence farming, lack of knowledge on sustainable, environmentally friendly, and climate-smart agriculture practices. In the context of global food insecurity and climate-related challenges, the improvement of animal husbandry and pasture management in Armenia plays a crucial role. Sometimes the pasture users, farmers engaged in animal husbandry and cattle breeding, do not have modern knowledge and skills in managing their farms effectively, which keeps the country far from the desired level of sophistication.

Since Armenia has good preconditions for the development of agriculture due to its unique geographic and natural conditions, the Government of Armenia (GoA) has prioritized its promotion through the enactment of appropriate governmental policies and regulatory legislative framework.

From these perspectives, the GoA has initiated a much-demanded project - **The Second Community Agricultural Resource Management and Competitiveness Project (CARMAC II)**, financed by the World Bank Group and implemented by the Ministry of Economy of Armenia. The project aims at further improvement of productivity and sustainability of pasture and livestock systems in 8 marzes of Armenia, with overall 109 communities engaged; and increasing the marketed production of selected livestock and high-value agrifood value chains.

As a hub for the development of agricultural players, ICARE Foundation joined the capacity-building component of CARMAC II project and during the 8-month period successfully implemented capacity-building training sessions in the selected marzes.



The capacity-building project component aims to increase the capacity of Pasture Users Union cooperative members from the selected highland communities where livestock is the main means of livelihood, which are interested in improving the productivity of their pastures. Overall, two-layer training packages

were delivered: the first package for decision-makers and administrative staff, and the second for the cooperative members.

Project Manager: Davit Iskandaryan, PMP®, PhD



Cross-Border Alliance for Climate-Smart and Green Agriculture in the Black Sea Basin

AGREEN Project

Natural fodder areas, such as pastures and grasslands constitute 39% of the total territory of Armenia and 57% of the agricultural lands, representing a vital resource for livestock farming and an important value for biodiversity and ecosystem services. These areas are at risk of escalating soil erosion and degradation caused by over-grazing. In addition, Armenia lacks holistic approaches to the sustainable and biodiversity-friendly use of natural resources. Hence, establishing an integrated management approach for decision-making processes is crucial, which highlights the need for robust spatial data.

The feasibility study implemented by GIZ indicated a lack of technical and financial capabilities, thematic and scientific expertise, as well as a lack of data availability, quality, and exchange practices within the institutions in the public sector related to data management and

analysis. The main recommendation of the feasibility study was to create, as an initial phase, a basic, data-centric information system, which would form the backbone of the future system to include transactional and analytical functionality in support of the management functions of the key stakeholders.

In this context, the “Mapping of Grassland Extent, Condition, and Biomass in Armenia” project is implemented by ICARE, with GIZ local subsidy financing.

The objectives of the Mapping of Grassland Extent, Condition, and Biomass in Armenia project include a contribution to the mapping of non-grassland and grassland areas for 2020 in Armenia and assessment of the potential to differentiate pastures and hay meadows, contribution to the mapping of grassland



conditions, contribution to the estimation of grassland biomass, contribution to the estimation of grassland carrying capacities, capacity building of public sector institutions through on-the-job training.

The project has 3 main work packages (WP) to achieve the project goals. These are in-situ data collection, contribution to capacity building for ICARE special-

ists, and technical and human capacity building in the public sector.

It is worth mentioning that by contributing to the development of a data-driven integrated management system in Armenia, **ICARE** aims to become a think-tank for enhancing the data-centric information system within the country.



The Wine Map of Armenia and Artsakh – a new edition



fter last year's success, the EVN Wine Academy team decided to update the map and make it more appealing for the reader.

The Wine Map of Armenia and Artsakh 2022 can be found in wineries, wine bars, travel agencies, and tourist kiosks in the country. Additionally, wine guides are directly handing the maps to their guests.

The idea behind the map.

This map is the first of its kind in Armenia, with a concept to familiarize local and international guests with the wines and wine regions of Armenia and Artsakh. The discovery of the Areni-1 Cave was undoubtedly a major boost in attracting wine tourists to Armenia. Numerous small and medium-scale wineries have opened ever since, and the existing wineries have considerably improved the quality of their wines. Currently, 24 wineries in Armenia and Artsakh are represented on the map. All the wineries are either already open to the public or are due to open this year.

From lookers to bookers.

The location of the wineries on the map along with a brief and vivid description of the wineries aims to make the reader visit these wineries. Also, the wineries are identified as small, medium, or large scale, so that the visitors know what to expect. The major wine festivals in the country, some well-known and some lesser-known facts about wine are equally important sections of the Wine Map.

Two languages, thousands of readers.

The Wine Map is available in English and Russian to reach a wider audience.



JOHN P. NICHOLS

Professor Emeritus, Texas A&M University
Chairman, ICARE Board of Directors

As global conditions change rapidly our ability to serve the needs of agriculture and agricultural value chains is challenged on a continuing basis. ICARE is a dynamically developing institution that embraces cooperation, partnership and transparency. We focus on long term economic, social, and environmental sustainability but recognize and manage the effects of short term disruption of input and commodity supply chains. All organizations on a global scale are adjusting budgets and investment plans in the face of changing risk assessments. Our graduates are ready to manage in a rapidly changing agribusiness environment. We educate a workforce that makes the Armenian economy more resilient, more diverse, more productive, and more technology-driven.

Our new campus in Proshyan community will open up numerous new opportunities to provide education to a broader audience and support

agribusiness startup companies. This new learning center contributes to the realization of our vision of developing a sustainable knowledge capacity for the food and agriculture sector of the Armenian economy. Now more than ever, Armenia needs to expand its productivity, protect its resources and serve the food needs of its people while supplying value added products to its trading partners across the globe.

ICARE has a strong project management team which allows us to implement major local and regional projects in many sectors of agriculture and education. As you review this annual report you will see many of the different educational and project outcomes and their impact on the people of Armenia and the region. And, you will see the many funding partners who have extended their program reach through the established ICARE network thus achieving their goals as well.

ICARE also benefits from many in the donor community. Through student sponsorships they provide the opportunity to expand the experiential nature of ICARE educational programs with our Armenian National Agrarian University partner and others as well. The growth and development of our new campus in the Proshyan community is driven in a major way by unique and valued donations. The educational, experiential and aesthetic environment they are helping to bring to fruition will be a model and stimulus for many future outreach educational initiatives. I thank our many donors for their support and dedication and invite you to join us in sustaining our mission and in this great new endeavor.



ARTHUR GRIGORIAN

Director
ICARE Foundation

ICARE is a home for enthusiasts and professionals who are passionate about agribusiness. Our faculty are keen to pass on their knowledge and experience to new generations. Our project managers are willing to undertake even the most complex projects and initiatives. Our students have the thirst for new knowledge, skills, and experiences. And our practitioners join ICARE to enhance their professional aptitudes.

Since 2005 ICARE has been home for state-of-the-art education, cutting-edge research, and in recent years also a variety of development projects, ranging from construction of agribusiness facilities to trainings of farmers and technical assistance. The Zabel Yesayan Agribusiness Campus (ZYAC) in Proshyan community is the pinnacle of our efforts over the past years in bringing students, newly established agribusinesses, and innovative ideas together in a modern facility. Today, Armenia needs talents who are dedicated to development and

carry the spirit of excellence in their everyday dealings. We need export-oriented companies in winemaking, fruit-growing and other sectors of agriculture that will popularize Armenian products globally. ZYAC is a center which will nurture such mindsets and companies, a vibrant environment to uncover creative talent and embrace agribusiness technologies.

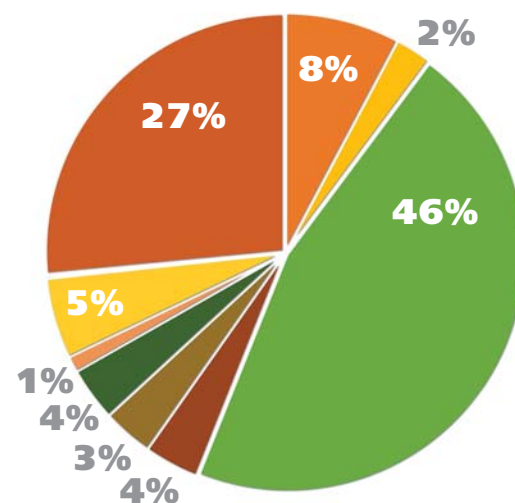
Over the years ICARE has grown from baby steps in agribusiness education to a mature, reliable partner for businesses and government, and a change-maker for Armenia. In this growth we strengthened our commitment to the high quality of academic and development services we offer. We also expanded our active network of international partners. Joining ICARE as a staff member, faculty, student, donor, beneficiary farmer, or a volunteer will help us, as a team, make very tangible changes in Armenia swiftly and sustainably. Join our team of innovators, visionaries, and development-oriented professionals.

Financial highlights

Sources of income in 2021

USD

■ Austrian Development Cooperation (ADC)	\$ 168,732
■ Armenian National Agrarian University (ANAU), cost-share for project AGRI CAMP	\$ 53,079
■ Donations from Individuals and Organizations	\$ 1,000,587
■ Fee-based Services	\$ 80,448
■ Food and Agriculture Organization of the United Nations (FAO UN)	\$ 74,056
■ German Agency for International Cooperation (GIZ)	\$ 79,129
■ Ministry of Economy of the Republic of Armenia	\$ 23,565
■ The World Bank	\$ 118,994
■ United Nations World Food Program (UN WFP)	\$ 4,165
■ United States Agency for International Development (USAID)	\$ 578,056
Total	\$ 2,180,811



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