# SUMMER SCHOOL 2026
# Final report



**3–9 September 2026**
**Samarkand, Uzbekistan**

SamISI

SILK ROAD International Research Institute

KarSU

Swedish Aral Sea Society

EUSUSTAIN

# AIM

to develop the participants' ability to link current local and regional Central Asian sustainable development problems to international experience and models of thinking, and thereby to support the sustainability transitions needed in Central Asia.

## Coordinators and lecturers

**Björn Frostell - SASS vice President and former Professor in Industrial Ecology, KTH Royal Institute of Technology Stockholm, SASS representative in Samarkand, student's team project coordinator and lecturer**

**Lars Rydén - Director of the Baltic University Programme; Professor Emeritus, Uppsala University**

**Ibragim Ganiyev, Olim Pardayev SamIES**

**Alan Atkisson - Senior Fellow, Uppsala University**

**Frans Lenglet - Chairperson, Global Action Plan International**

**Nasimov Adiz - lecture on the SamIES**

**Sh. Jurakulov - representative of the Samarkand local authorities**

**A. Abdurakhmanova A.Saydullayev Silk Road International Research Institute**

# PARTICIPANTS

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| 1. **Yusuf Xolboyev**<br>Jizzakh Polytechnic Institute | 8. **Rizqiddin Gafforov**<br>Samarkand Institute of Economics and Service |
| 2. **Shakhzodjon Abdukholikov**<br>Jizzakh Polytechnic Institute | 9. **Maftuna Abdullayeva**<br>Samarkand Institute of Economics and Service |
| 3. **Oygul Xalmuratova**<br>Karakalpak State University | 10. **Ravshanjon Abdunabiyev**<br>Samarkand Institute of Economics and Service |
| 4. **Dilafruz Kadamova**<br>Urgench State University | 11. **Mexriban Jumanazarova**<br>Karakalpak State University |
| 5. **Shakhnoza Khudayberganova**<br>Urgench State University Food technology | 12. **Atabek Primbetov**<br>Karakalpak State University Building materials technology |
| 6. **Dilsuz Abdikulova**<br>Samarkand Agroinnovations and Research University | 13. **Diyorbek Buronboyev**<br>Samarkand State Technical University |
| 7. **Sardor Usmonov**<br>Samarkand Agroinnovations and Research University | 14. **Mehrangiz Kurbanova**<br>Samarkand State Technical University |





# OVERVIEW

**The first Sustainable Development Summer School was held at the Samarkand Institute of Economics and Service (SamIES) on 3–9 September 2026. Fourteen Master's students from the spring 2026 distance course Sustainable Development and Sustainability Science (SDSS) took part.**

## Organisation and programme

### Organisers

The Summer School was a joint initiative of SamIES as host university, the other Uzbek universities in the SDSS course, including Karakalpak State University, the Swedish Aral Sea Society (SASS) and the "Silk Road" International Research Institute. SamIES had overall responsibility. An Executive Course Committee, chaired by the host university and made up of the Uzbek partner universities and SASS, planned and ran the course. Aqida Abdurakhmanova and Abbos Saydullayev of the "Silk Road" International Research Institute coordinated the Summer School.

### Link to the OSCE Water Hackathon

The Summer School was timed and planned together with the OSCE event "From Data and Technology to Action: Regional Water Hackathon on Water Resources Management" (Samarkand, 7–8 September 2026), in which all students took part. OSCE covered the students' participation in both events.

### Participants and language

Fourteen Master's students, nominated by the participating universities from among the SDSS course students, took part. The working language was English.

### What the programme included

- Three 90-minute Zoom lectures by Alan AtKisson, Frans Lenglet and Lars Rydén on global sustainability challenges and the European Union's work for sustainable development
- Three lectures on site at SamIES, by Ibragim Ganiyev and Olim Pardayev, by Nasimov Adiz and by Björn Frostell
- Presentation and discussion of 13 M.Sc. thesis projects
- A team project, "The Aral Sea Disaster — Past, Present and Future Scenarios", coordinated by Björn Frostell
- Two days at the OSCE Water Hackathon, 7–8 September
- Study visits to the historic centre of Samarkand, the Samarkand wastewater treatment plant, the Imam Al-Bukhariy Memorial Mosque and a cotton field
- Social activities and team-building

### Changes to the programme

At the students' request, an extra three-hour session on their M.Sc. theses was added on 9 September, and the team project was shortened accordingly.

THE STORY IN

# NUMBERS

SAMARKAND
SUMMER SCHOOL

**3-9** | September

**14** | 14 participants

**3** | international Zoom lectures

**3** | physical lectures

**13** | M.Sc. thesis presentations

**4** | study visits

**2-day** | water hackathon



# Day 1

**Thursday, 3 September**

### OPENING

The Summer School opened at SamIES with registration, practical information and the course plan. In the opening lecture, Ibragim Ganiyev and Olim Pardayev set out the greatest sustainable development challenges in Central Asia and the world. They showed why water availability and regional cooperation are central in the Aral Sea region: water is scarce compared with growing needs and is shared by several countries with different interests, such as energy production and irrigation.

### MASTER'S THESES

Each student then presented their M.Sc. thesis project for discussion in class. We saw clear progress since the spring 2026 course, both in the slides and in the students' spoken English.

### CITY TOUR

In the late afternoon the group walked from SamIES to the Amir Temur statue, heard about the 14th-century ruler and his empire, visited Gur-e-Amir with the tombs of Amir Temur and his relatives, and saw local artisan shops.



*Opening session at SamIES, 3 September*



*Björn Frostell (SASS) speaking to the participants*

**The Summer School connected global sustainability thinking with Central Asian realities, local knowledge and student-led action.**

# Day 2

## Friday, 4 September

### THE SASS PERSPECTIVE

Björn Frostell opened the day with a lecture on how SASS sees the Aral Sea disaster and its link to sustainable development in the region. He concentrated on water management and on closer cooperation between organisations in Central Asia and SASS, and in effect set out the mission of SASS in the region.

### TEAM PROJECT LAUNCHED

The students were introduced to the team project on the Aral Sea disaster and to AI-supported report writing with ChatGPT, Grok and Google AI. They organised the work themselves in six groups and shared out the responsibilities.

### WASTEWATER TREATMENT PLANT

The plant in Pastargom District treats all of Samarkand's wastewater, close to 1.5 m³ per second, with screens, sedimentation and activated sludge. The treated water goes to nearby agriculture. The plant's laboratory checks 31 parameters every day, 19 of them required by national regulation.

**Samarkand treats close to 1.5 m³ of wastewater every second and sends the treated water to nearby farms.**

ZOOM LECTURE 1 · 14:00–15:30

### The Past, Present, and Future of Sustainable Development

Alan AtKisson
Senior Fellow, Uppsala University




*At the Samarkand wastewater treatment plant, 4 September*

# Day 3

## Saturday, 5 September

### THE SAMIES PERSPECTIVE

Nasimov Adiz (SamIES) gave the SamIES view of the Aral Sea disaster and of sustainable development in the region. He outlined three scenarios for the region in 2050 and concluded that water management and the response to the Aral Sea crisis must be stepped up to secure sustainable development.

### PROJECT WORK

The groups worked on the project with real commitment and collected a large amount of information within a short time. They began with prompts prepared by the course leaders and then dug deeper with prompts of their own.

Two groups covered the past (1500–1960) and the present (1960 to today), three explored future scenarios (business as usual, partial recovery and full restoration), and a sixth group coordinated the report.

### SUSTAINABILITY IN DAILY LIFE

In the afternoon Zoom lecture, Frans Lenglet spoke about getting closer to sustainability in daily life and practice, including what individuals can do to support sustainable development.

**ZOOM LECTURE 2 · 14:00–15:30**

**Getting Closer to Sustainability in Daily Life and Practice**

Frans Lenglet
Global Action Plan International



*Students at work at SamIES*

**Three scenarios for the Aral Sea region in 2050: current efforts in water management must be strengthened.**

# Day 4

## Sunday, 6 September

### INTERIM REPORTING

Mid-way through the project, the groups reported on their progress. The session showed that the three scenario groups had drifted from the brief: they had collected solutions to the crisis rather than possible actions and their ecological, economic and social effects. Long discussions followed on how to bring the work back on track.

### EUROPEAN EXPERIENCE

In the third Zoom lecture, “How the European Union implements Sustainable Development”, Lars Rydén (Baltic University Programme, Uppsala University) gave a broad picture of the EU’s environmental work.

### IMAM AL-BUKHARIY MEMORIAL

The group visited the Imam Al-Bukhariy Memorial Mosque, about 30 km north of Samarkand, and toured its museum with an English-speaking guide. Born in Bukhara, Al-Bukhariy spent decades travelling to the great centres of Islamic learning and became one of the foremost collectors of the Prophet’s traditions. His work still shapes how Muslims understand the Prophet Muhammad’s way of life.



*At the Imam Al-Bukhariy Memorial Mosque, 6 September*



*Group work on the team project, 6 September*

**The interim session was a checkpoint for keeping the scenarios focused on actions and their consequences.**

# Hackathon

## Monday–Tuesday, 7–8 September

### PANEL ON WATER TECHNOLOGY

Björn Frostell and Aqida Abdurakhmanova moderated Panel 1, “What technologies do we need to address water challenges in Central Asia”. Umid Sayfudinov (A Master Fruit LLC) presented a solar-powered pilot farm near Tashkent that aims to be very energy- and water-efficient. Asked whether his industry could halve water demand in the foreseeable future, Oybek Burkhanov (CNH) answered yes.

### STUDENT CONTRIBUTIONS

Several students had prepared contributions. Ravshanjon Abdunabiyev and Maftuna Abdullayeva were on the programme of Panel 2, on the role of youth and women in water cooperation.

### COTTON FIELD VISIT

In the afternoon the participants visited a cotton field outside Samarkand and learned that hand-picked cotton is of higher quality than machine-harvested cotton.

### YOUTH WATER HACKATHON

On 8 September the students joined the hackathon itself. They worked in teams on real challenges, such as water quality and good water governance, and pitched their solutions to a panel.




*Panel session at the Water Hackathon*



*Hackathon day, 8 September*

**Cotton land in Uzbekistan: about 1.4 million ha in 2000 and 0.875 million ha in 2025, with production near 3.9 million tons.**

# Day 5

## Wednesday, 9 September

### FINAL PRESENTATIONS

The groups presented their results. The scenario parts still needed work, so it was agreed that the student coordination group will complete the report in the intended structure and send a draft to all participants for comments and suggestions.

### EXTRA THESIS SESSION

At the students' request, we added a three-hour session on their M.Sc. theses and shortened the team project somewhat. Each student highlighted a few key points of the thesis for discussion and comments in class.

### CLOSING AND FAREWELL

The day ended with an oral and written evaluation of the course and a closing ceremony with the Rector of SamIES, M. Po'latov, where the participants received their certificates.
A farewell dinner at the "Eko Zarafshon" restaurant closed the Summer School. Throughout the week, study visits and shared meals in local restaurants created a friendly atmosphere and plenty of room for discussion.

**WRITTEN COURSE EVALUATION**

**5 / 5**

Overall rating of the Summer School given by the participants




*Closing ceremony at SamIES, 9 September*

**The Sustainable Development Summer School will become an annual event.**

# PHOTOS

**Moments from the city tour, the study visits, the OSCE Water Hackathon and the closing day.**



*At the Amir Temur statue, 3 September*



*Study visit to the Imam Al-Bukhariy Memorial Mosque, 6 September*



*OSCE Water Hackathon, 7–8 September*




*Participants with their certificates, 9 September*




*Presentation at the hackathon*

# RESULTS

**Looking back at the first Summer School, we see four main results. The participants' own view is summarised from the written course evaluation.**

## Key results and feedback

### International cooperation

Students from six Uzbek universities worked with lecturers from SamIES, SASS, Uppsala University and Global Action Plan International. The hackathon added experts and young professionals from across Central Asia.

### Support for Master's theses

Thirteen thesis projects were presented and discussed, and at the students' request an extra three-hour session on 9 September went deeper into each thesis. Slides and presentation skills in English had improved clearly since the spring course.

### AI-supported team project

Six groups used ChatGPT, Grok and Google AI to research the past, present and possible futures of the Aral Sea. The students organised the work themselves and gathered a large body of material within days. The student coordination group will complete the draft report and share it with all participants.

### Hands-on hackathon experience

At the OSCE Water Hackathon on 7–8 September, the students worked in teams on real water-management problems and pitched their solutions. Aqida Abdurakhmanova and Björn Frostell moderated the panel on water technologies.

### Participants' feedback

In the written course evaluation, the participants gave the Summer School as a whole the top score of 5 out of 5. The team project, the hackathon, the field visits, the contact with students and teachers and the overall organisation were rated just as highly, and the thematic lectures nearly so. The Zoom lectures and the balance between lectures, project work, visits and social activities scored somewhat lower but still high. Most participants saw the language barrier as a minor problem.

Many found the whole programme inspiring. The team project on the Aral Sea, the hackathon, the lectures and the visit to the wastewater treatment plant were singled out as most useful. Participants said they had improved their teamwork and English; some also learned to analyse a complex environmental problem from historical, economic, social and ecological angles. The hardest part was collecting data on the current state of the Aral Sea and finding realistic solutions. Participants would recommend the Summer School to other students.

# LESSONS

**The first Summer School showed that the format works, and it will now be held every year. These are the conclusions we take into the next editions.**

## For future summer schools

### Group size

A class of about 15 students works well: it is small enough for students and teachers to get to know each other personally. This year's group of 14 was close to that.

### Preparations

The practical arrangements, prepared jointly by SamIES and the "Silk Road" International Research Institute, worked well throughout the week. A few minor technical problems delayed some sessions but were solved quickly. Sharing presentation materials in advance, as participants suggested, would help further.

### Students and language

The participants were a motivated group and rewarding to teach. In lively discussions they often switched to Uzbek, which made it easier to express complex ideas. We value the exchange of ideas above the choice of language and expect English to come more easily with practice.


### Acknowledgements

We thank OSCE for funding the participation of all students, the Swedish Aral Sea Society and the international lecturers, our partner universities, and the students for their commitment.


### Balance of lectures

The Zoom lectures opened a window to international experience, and the lectures on site kept the focus on regional challenges. Both worked well together; in future we want to involve more local lecturers.

### Team project

The project did not reach its full aim: the task was too big for the time available, the planning can be improved, and the students also wanted more feedback on their theses. Still, it taught them to organise a large joint task and to gather information quickly with AI. A smaller task with more time for group work would help next time.

### Next editions

Future editions should balance the students' immediate need for help with theses and careers against the long-term aim of broadening their knowledge and systems thinking. Participants also asked for more practical workshops and discussion time, more chances to present to experts, a student exchange programme and an Aral Sea school in Karakalpakstan.

# Sustainable Development Summer School 2026

## Learning Together for a Sustainable Future

**Samarkand, Uzbekistan / 3-9 September 2026**

