

# WAGON2Africa

WATER energy fOOD Nexus 2 Africa

Cooperation between  
Italian and East African universities  
in the frame of the  
Water-Energy-Food nexus



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DI RIPRESA E RESILIENZA



Politecnico  
di Torino

WAGON2Africa – WAter enerGy fOod Nexus 2 Africa

Cooperation between Italian and East African universities  
in the frame of the Water-Energy-Food nexus

This booklet was produced within TNE23-00067 WAGON2Africa, an international cooperation project connecting Italian and East African universities around the Water-Energy-Food Nexus, with Kenya as the regional hub. The project promotes academic exchange, capacity building, and the sharing of best practices to support sustainable development and mutual understanding.

The initiative is funded by the European Union – Next Generation EU, through the program PNRR - Piano Nazionale di Ripresa e Resilienza - Mission 4 - Component 1 – CUP E17G24000420006.

Scientific coordination  
Prof. David Chiaramonti, Politecnico di Torino

Contents, editorial and graphic design  
Bianco Tangerine | biancotangerine.it  
(Lucia Terrone, Mattia Troncale, Veronica Ruberti, Erika Vicaretti)

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This booklet was produced for project dissemination and communication purposes. Its contents reflect the activities, objectives, and shared vision of the partners involved.

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# WAGON2Africa coordinating university, Politecnico di Torino

Founded as School for Engineers in 1859, Politecnico di Torino was the first Italian Engineering School founded in the wave of the technical and scientific innovation that gave rise to the most prestigious European polytechnic schools in the mid-19th century.

For over 160 years, engineers, architects, designers and urban planners have been trained at Politecnico di Torino with rigor, integrity and high-level standards.

This long evolving history has placed Politecnico among the top European technical universities for education and research. Today, around 1.300 professors and researchers conduct research and provide education to more than 38.200 students, including 8.500 international students from more than 120 countries.

Politecnico offers a wide catalogue of degree programs, including 26 Bachelor, 36 Master and 16 PhD programs, including 35 completely in English.

Politecnico qualifies as a research-intensive university, with 2.643 Publications in scientific journals in the last year and more than 1.700 research grants managed in the last 10 years.

In an evolving global context disrupted by the effects of globalization, climate change, aging population, and new and increasingly pervasive technologies, Universities are expected to progress in order to produce an impact on a rapidly changing society. Politecnico di Torino is therefore pursuing a transformation into a “platform” University, designed to be permeable, inclusive, and open to the labour market and industry, while playing a key role in innovation and lifelong learning. The goal is to become a driving force for societal sustainable development.

Politecnico di Torino coordinated the WAGON2Africa project, building the project proposal, liaising with the funding body, and coordinating and monitoring the partnership's scientific and administrative activities.



Preface by  
the Rector of Politecnico di Torino

*“By leading the WAGON2Africa project, Politecnico di Torino affirms its vision of a university as a driver of international cooperation and shared innovation. The initiative, coordinated by our institution together with a network of Italian and African universities, aims to strengthen academic collaboration through faculty and student exchanges and the development of advanced training programmes.*

*WAGON2Africa demonstrates how the sharing of knowledge and expertise can help build strong and forward-looking relations between Italy and Africa, addressing crucial challenges such as the sustainably managing water, energy and food systems. The project brings together diverse disciplines - engineering, agronomy, environmental sciences, chemistry, law, economics, architecture, urban sciences and policy - creating a truly multidisciplinary space.*

*For Politecnico di Torino, leading this initiative means laying the foundations for future joint degrees, long term partnerships and a new generation of professionals capable of shaping sustainable development and building enduring bridges between our continents.”*

Prof. Stefano Paolo Corgnati,  
Rector of Politecnico di Torino, Italy

# 1

# Introduction



## The WAGON2Africa project in a nutshell

WAGON2Africa is an international cooperation project between Italian and East African universities funded by the European Union – Next Generation EU, through the program PNRR - Piano Nazionale di Ripresa e Resilienza - Mission 4 - Component 1 – CUP E17G24000420006. Centred on the Water–Energy–Food (WEF) nexus, it brings together a network of **10 Italian** and **62 African universities** to share knowledge and best practices, teach innovative methods, and strengthen advanced skills for sustainable development.

The project's overarching objective is to develop a comprehensive, cross-cutting approach that considers the multiple dimensions and interdependencies related to the production and consumption of water, food, and energy.

Advancing cooperation and research on the WEF nexus is crucial for a sustainable energy transition, climate change adaptation and mitigation, socio-economic development and achieving the Sustainable Development Goals (SDGs).

The project is coordinated by Politecnico di Torino with Keny and AICAD - African Institute for Capacity Development acting as regional hub for the entire targeted geographical area in East Africa.

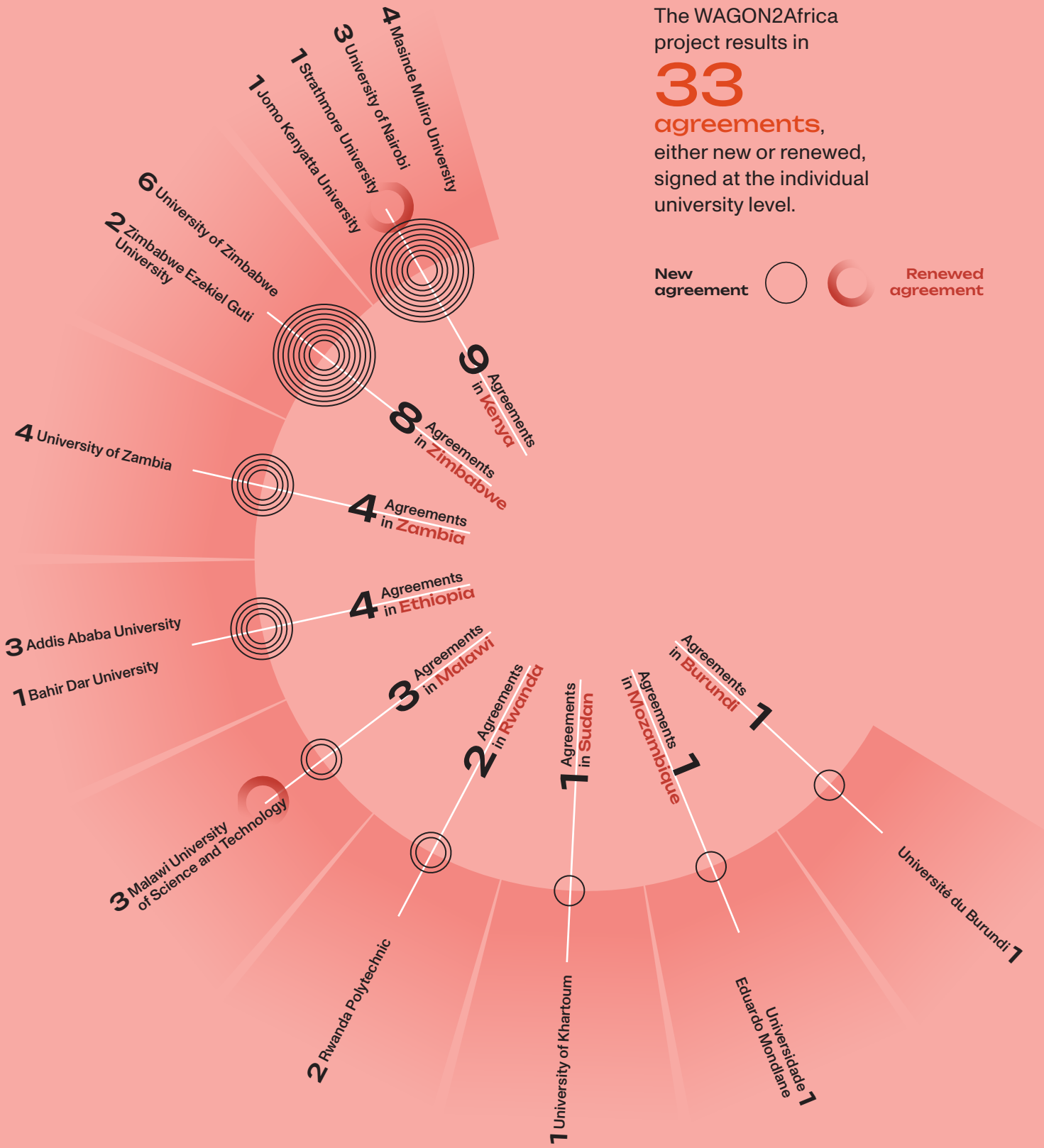
To this end, the project has implemented the following:

- student and teaching staff mobility;
- Advanced Skills Courses for capacity building;
- dissemination and institutional events.

This dissemination booklet presents the project's key results, together with participants' testimonies enriching the results and offering a multifaceted perspective on its impact.

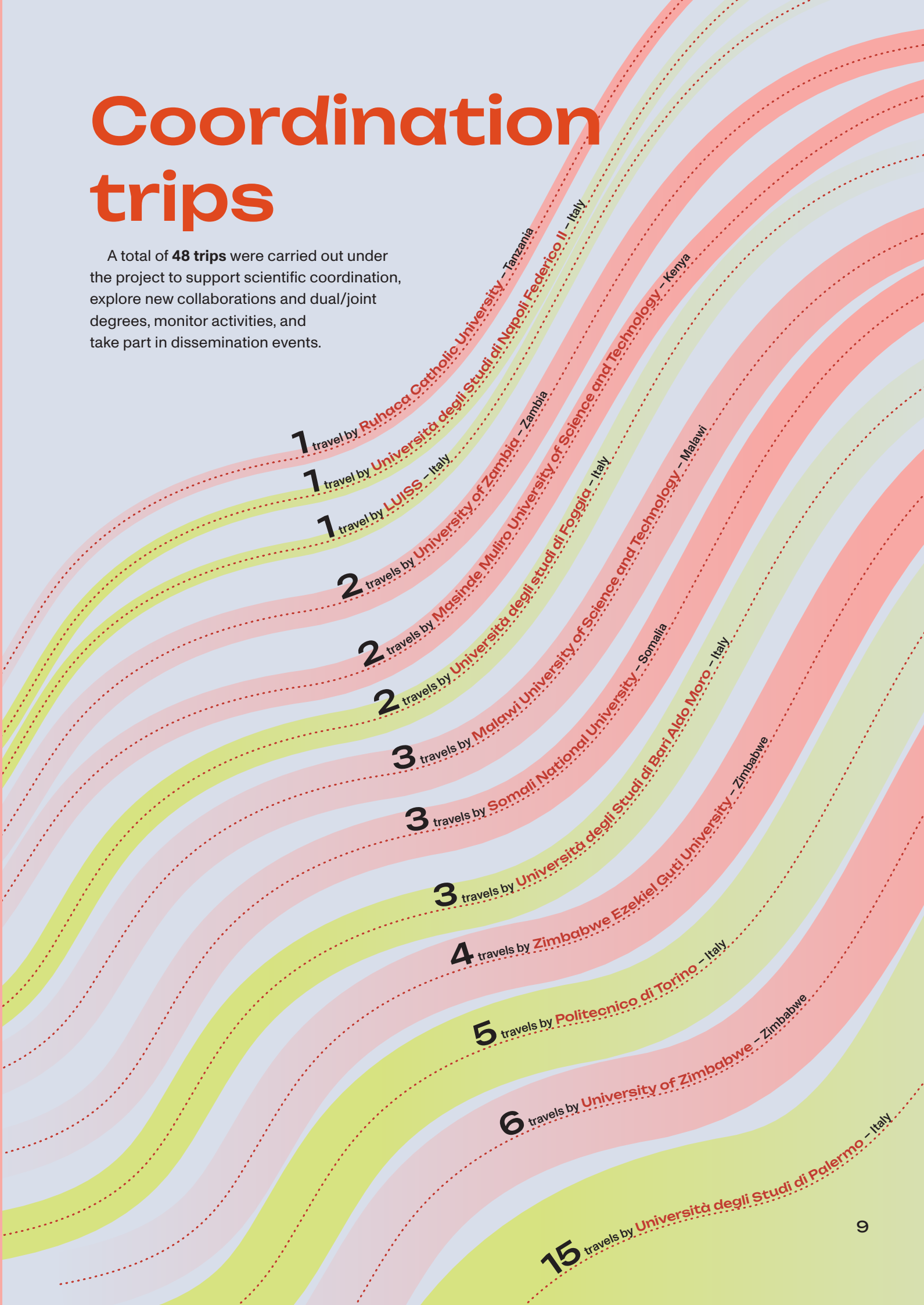
The first chapter introduces the network of universities involved in WAGON2Africa. It also provides an overview of the framework agreements signed by Italian and East African partners since the project's launch along with a summary of coordination visits and missions that underpinned planning, joint management, and continuous monitoring activities.

# Signed agreements



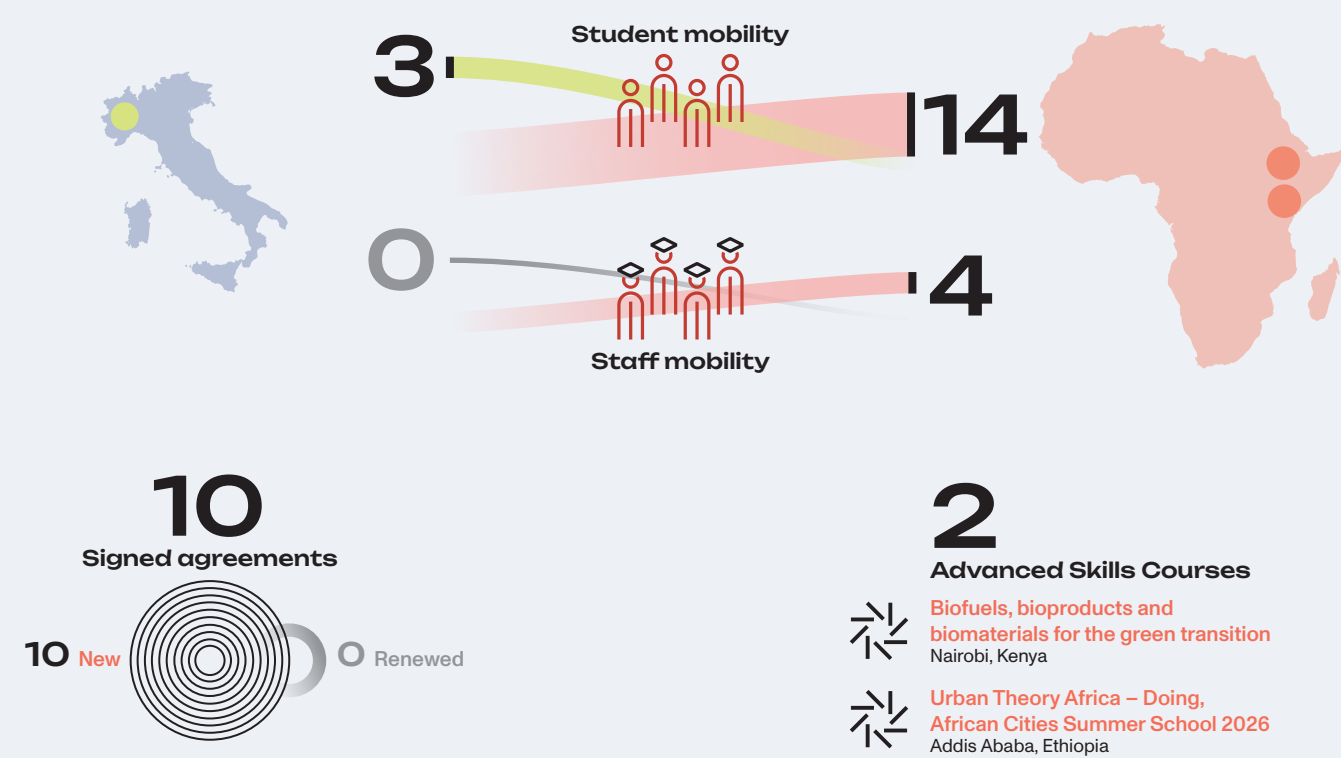
# Coordination trips

A total of **48 trips** were carried out under the project to support scientific coordination, explore new collaborations and dual/joint degrees, monitor activities, and take part in dissemination events.



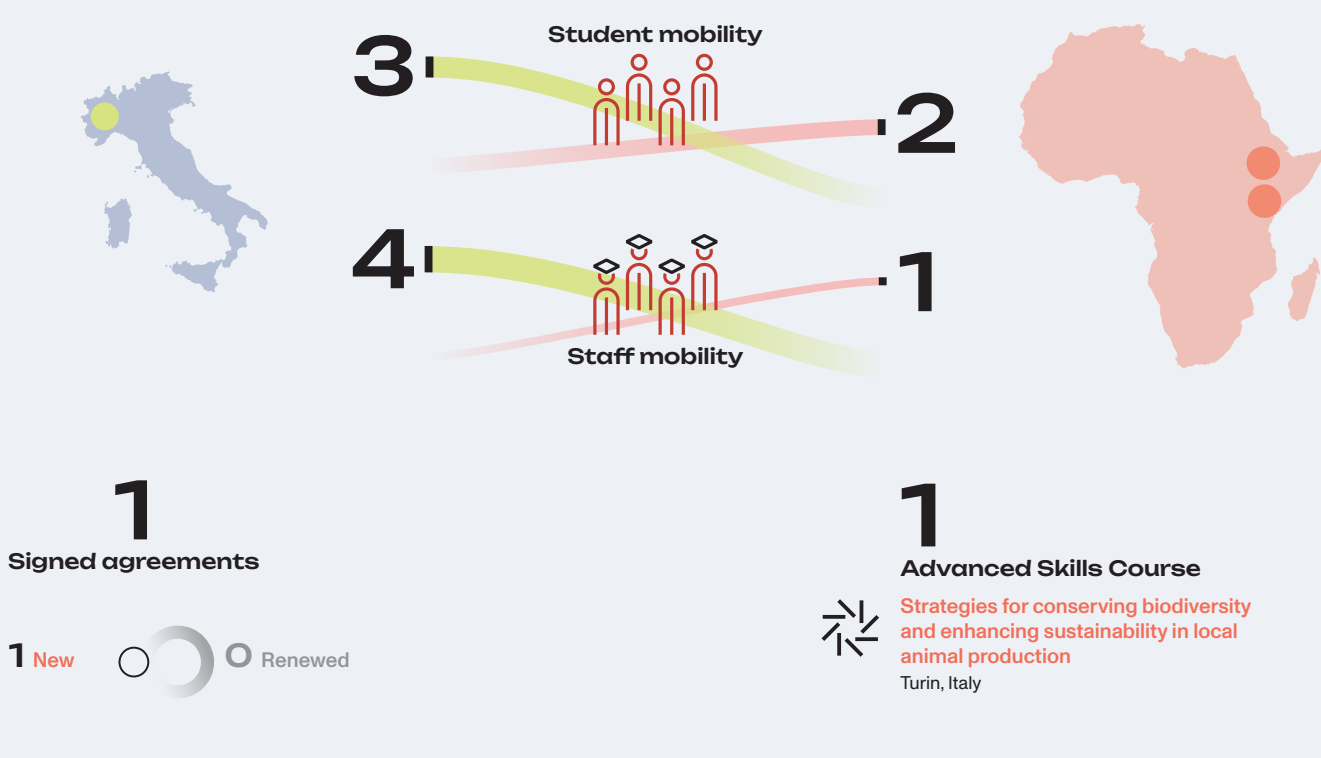
**Politecnico di Torino**  
Italy

**In collaboration with**  
**The Urban Centre** Ethiopia  
**African Institute for Capacity Development** Kenya  
**Jomo Kenyatta University of Agriculture and Technology** Kenya  
**Maseno University** Kenya  
**Masinde Muliro University of Science and Technology** Kenya  
**Technical University of Mombasa** Kenya  
**University of Nairobi** Kenya



**Università degli Studi di Torino**  
Italy

**In collaboration with**  
**Dilla University** Ethiopia  
**University of Nairobi** Kenya



“

By David Chiaramonti, scientific project coordinator and Full Professor at Department of Energy, Politecnico di Torino

“WAGON2Africa is a collaborative project joining 10 Italian academic institutions, led by Politecnico di Torino, and a large network of 62 East-African universities, co-lead by the Jomo Kenyatta University of Agriculture and Technology and the African Institute of Capacity Development. This research and training initiative addressed a fundamental element in sustainable development: the link existing between water, energy and food. The proper management of water and natural resources, soil, and land, is essential for food, feed and energy production, and key to establish long-term environmentally, socially and economically sustainable paths in industrialized Countries, developing

Countries, and emerging economies. WAGON2Africa focused on the investigation of the interlinkages among these three elements: it aimed at creating a platform of integrated educational activities, combining competences and skills from the participating universities into a multidisciplinary set of training materials. The scientific disciplines interested in this coordinated effort range from engineering to natural sciences, agronomy, chemistry, law, policy, and several others. Moreover, the exchange of staff and students supported the creation of a bridge among Italy and East Africa, improving mutual understanding, knowledge and friendship.”

“

By Alfredo Pauciullo, scientific project coordinator and Full Professor in the Department of Agricultural, Forestry and Food Sciences at the Università degli Studi di Torino

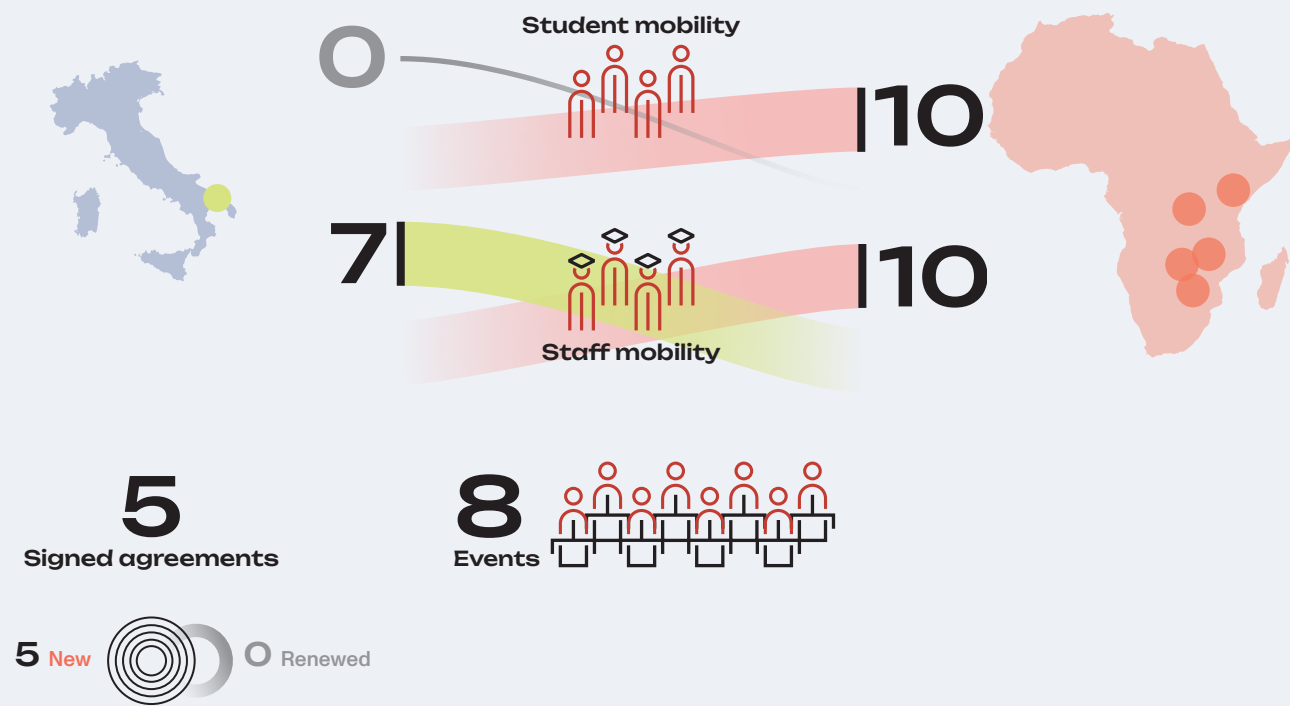
“Participating in WAGON2Africa has been an important opportunity to strengthen cooperation between the Università degli Studi di Torino and African partner institutions working in the field of sustainable agri-food and animal production systems. Through student and staff mobility, teaching activities, scientific seminars, and joint training initiatives, we created a dynamic environment for knowledge exchange and capacity building. In particular, the Advanced Skills Course organised brought together African and Italian students, researchers and professors to discuss biodiversity conservation, animal genetics, livestock sustainability and innovative approaches for African production

systems. The project also allowed us to establish new academic collaborations and reinforce existing partnerships with the University of Nairobi and Dilla University, laying the foundation for future joint research and educational activities.”

# Università degli Studi di Bari Aldo Moro

Italy

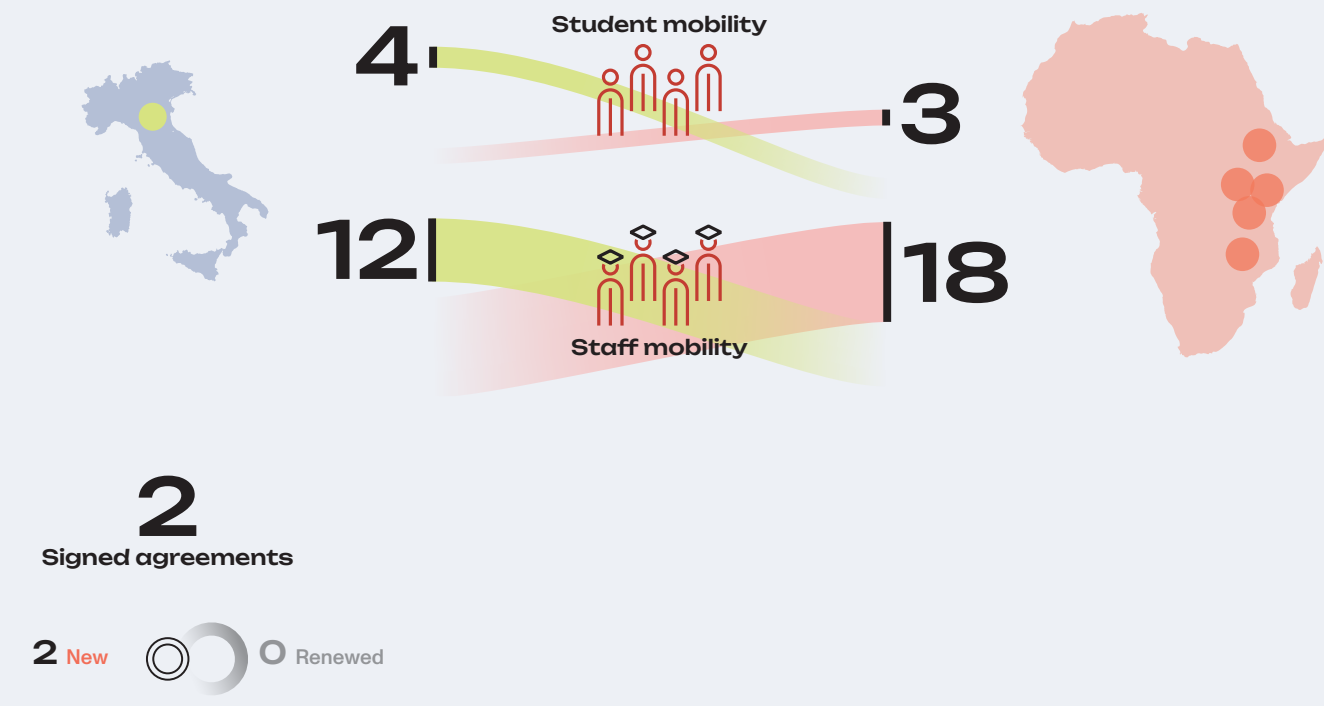
In collaboration with  
**Malawi University of Science and Technology** Malawi  
**Masinde Muliro University of Science and Technology** Kenya  
**Rwanda Polytechnic** Rwanda  
**University of Zambia** Zambia  
**University of Zimbabwe** Zimbabwe



# Alma Mater Studiorum Università di Bologna

Italy

In collaboration with  
**College of Agriculture and Natural Resources of the Salale University** Ethiopia  
**University of Addis Ababa** Ethiopia  
**University of Nairobi** Kenya  
**Jomo Kenyatta University of Agricultural and Technology** Kenya  
**Makerere University** Uganda



By Alessandro Rubino, scientific project coordinator and Vice Rector for International Affairs at Università degli Studi di Bari Aldo Moro

“At the Università degli Studi di Bari Aldo Moro, WAGON2Africa has been much more than an international project: it has been a genuine platform for building long-term academic and human connections between Europe and Africa. As Principal Investigator and Vice Rector for International Affairs, I have been particularly proud to see UniBA actively engaged in mobility programmes, scientific workshops, dissemination events, and institutional cooperation initiatives with partners from Kenya, Malawi, Zambia, Zimbabwe, and Rwanda. Through incoming and outgoing mobilities involving students, researchers, and academic staff, as well as events dedicated to sustainability, energy transition, climate resilience,

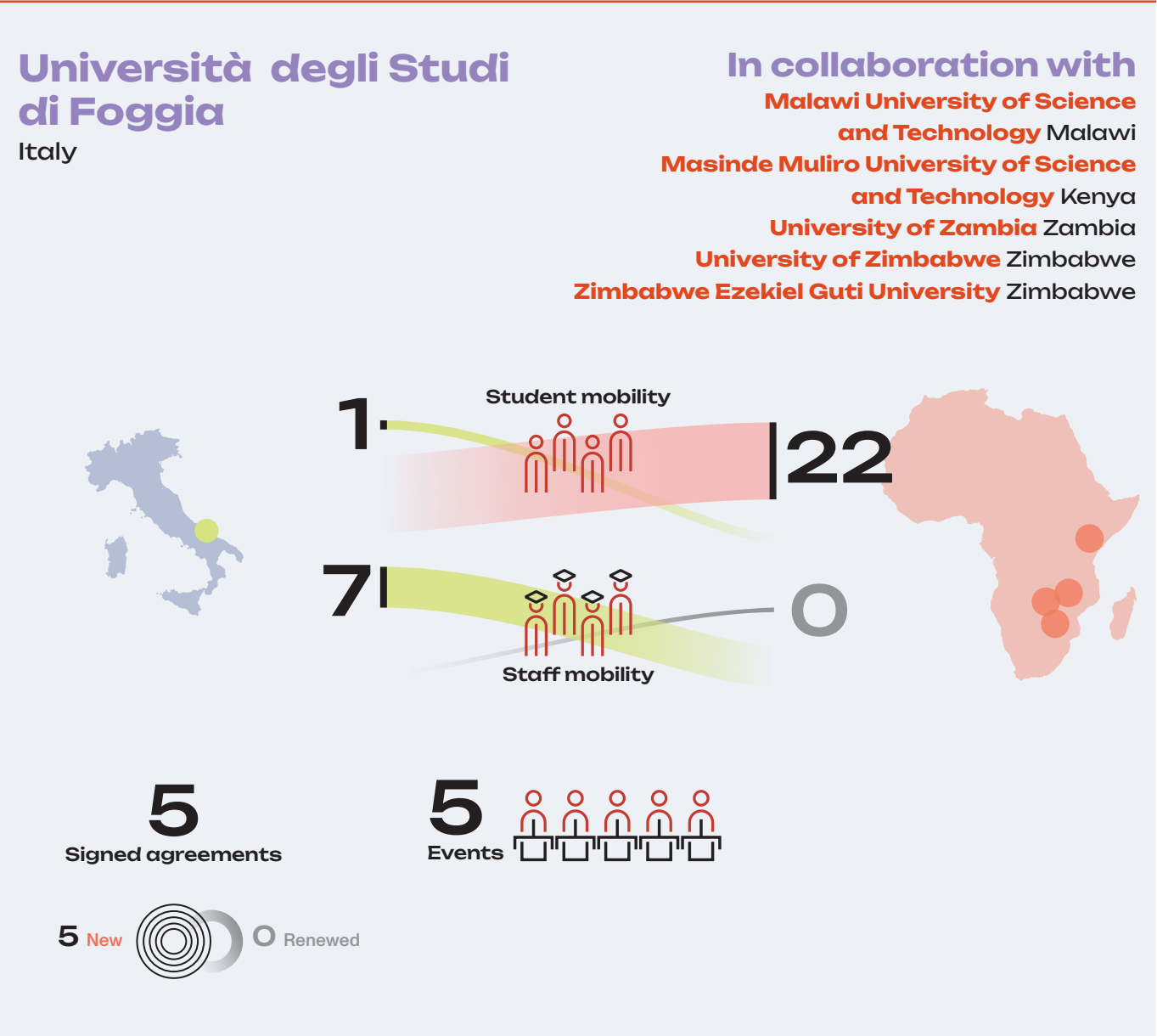
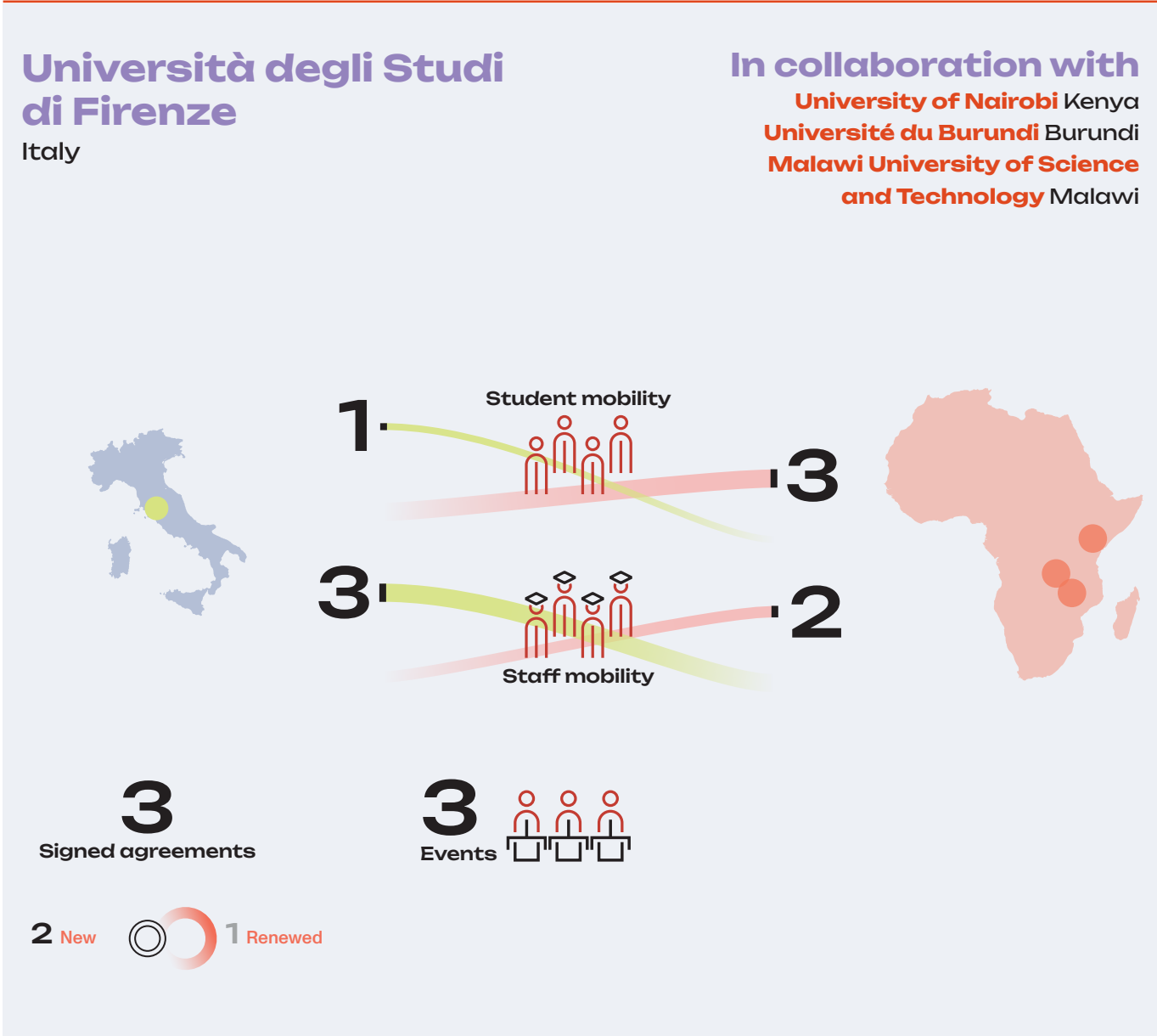
and the Water–Energy–Food Nexus, the project has strengthened UniBA's international role and created new opportunities for joint research and educational collaboration. One of the most meaningful achievements has been the consolidation of durable institutional partnerships, including the signature of new cooperation agreements and the development of a strong scientific network based on shared knowledge, inclusion, and mutual growth.”



By Karin Pallaver, scientific project coordinator and Rector's Delegate to Cooperation and Development at Alma Mater Studiorum – Università di Bologna

“Through the WAGON2Africa project, the Alma Mater Studiorum – Università di Bologna substantially strengthened its cooperation with African partner universities through an innovative interdisciplinary approach to the water–food–energy nexus. The project promoted outgoing and incoming mobility for students and teaching staff, fostering new opportunities for academic exchange, joint teaching, and collaborative research. These collaborations connected agriculture, engineering, veterinary sciences, humanities, and social sciences, integrating technical expertise with environmental and socio-economic perspectives on sustainability challenges. WAGON2Africa also

fostered vibrant exchanges among scholars and institutions, encouraging shared and interdisciplinary approaches to global issues. A major achievement was the establishment of two new framework agreements with Addis Ababa University and University of Nairobi, creating strong foundations for long-term cooperation. Overall, the project significantly reinforced the internationalization strategy of the Alma Mater Studiorum – Università di Bologna and opened new opportunities for future academic partnerships and mobility initiatives.”



By Simone Orlandini, scientific project coordinator and Full Professor in the Department of Agricultural, Food, Environmental and Forestry Sciences and Technologies at Università degli Studi di Firenze

“Thanks to the WAGON2Africa project, the Università degli Studi di Firenze had the opportunity to renew its agreement with the University of Nairobi and to create new agreements with the Université du Burundi and the Malawi University of Science and Technology. Despite the difficulties encountered at the beginning of the project (i.e. the first call for applications for students went unanswered), the University of Florence successfully completed a total of 4 mobilities for students and 6 mobilities for staff. Unfortunately, some students and teachers that were selected (both incoming and outgoing) could not participate in the mobility because of economic constraints and visa problems. The Università degli

Studi di Firenze also took part in the Advanced Skills Course on “Biofuels, Bioproducts and Biomaterials for the Green Transition” held in Nairobi from 16th to 20th February 2026, with a lecture on “Integrated agriculture and water management for food and energy production””



By Vito Amendolagine, scientific project coordinator and Professor at the Department of Economics at Università degli Studi di Foggia

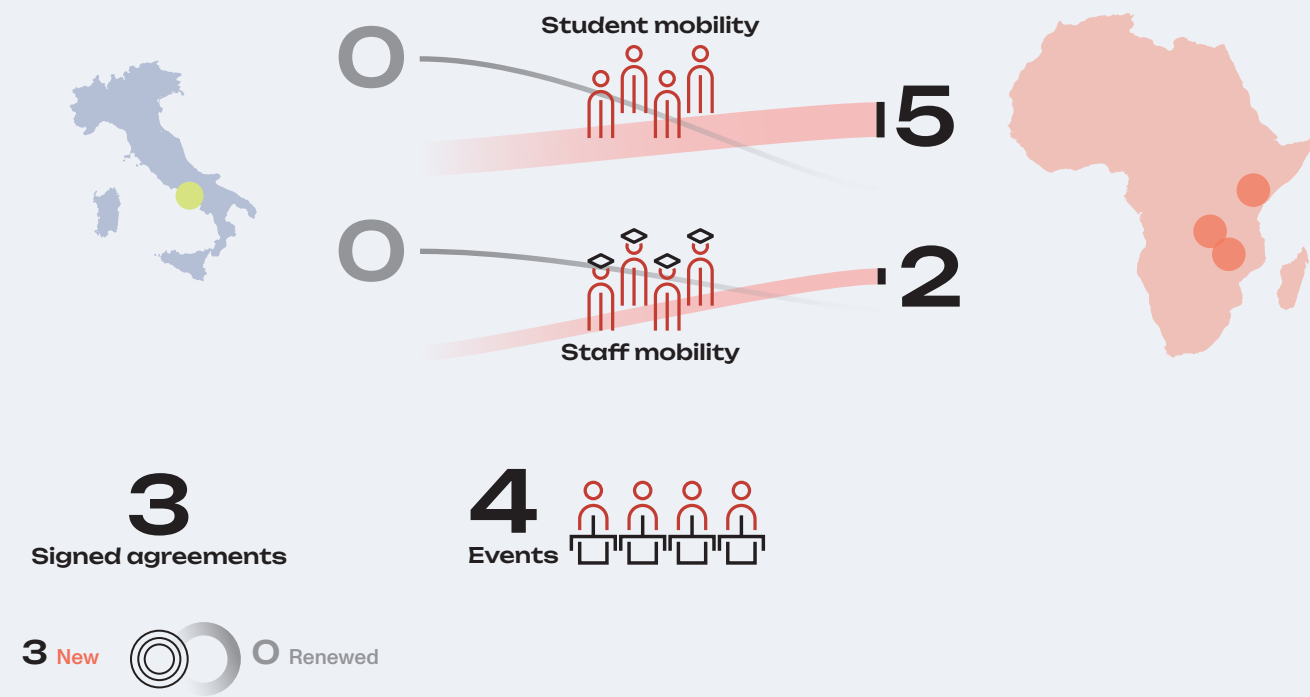
“The WAGON2Africa project has been an important opportunity for the Università degli Studi di Foggia to strengthen cooperation with African partner universities and to promote interdisciplinary dialogue on the Water–Energy–Food Nexus. Through incoming mobility, academic seminars, training activities, research discussions, and institutional meetings, the project created a meaningful space for knowledge exchange and collaborative learning.

At the Università degli Studi di Foggia, the project contributed to enhancing international academic cooperation, supporting capacity building, and developing new perspectives on sustainability, agri-food

systems, and energy governance in African contexts. The participation of students and academic representatives from African partner universities enriched our academic community and opened new possibilities for future collaboration. For our university, it has been a valuable step toward stronger, more inclusive, and more sustainable international partnerships.”

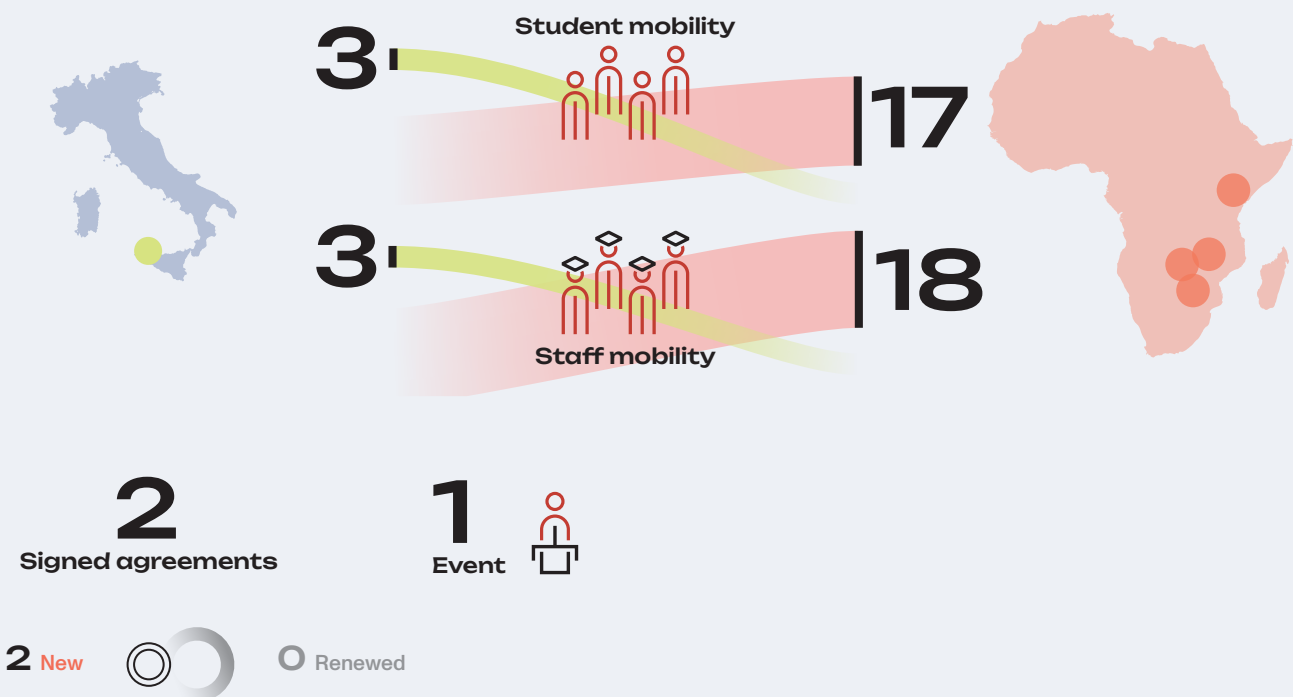
Università degli Studi  
di Napoli Federico II  
Italy

In collaboration with  
**University of Nairobi** Kenya  
**Université du Burundi** Burundi  
**Malawi University of Science  
and Technology** Malawi



Università degli Studi  
di Palermo  
Italy

In collaboration with  
**Malawi University of Science  
and Technology** Malawi  
**Masinde Muliro University of Science  
and Technology** Kenya  
**University of Zambia** Zambia  
**University of Zimbabwe** Zimbabwe  
**Zimbabwe Ezekiel Guti University** Zimbabwe



By Marco di Ludovico,  
scientific project coordinator  
and Associate Professor of  
Construction Technology at  
Università degli Studi di Napoli  
Federico II

““This program has been a remarkable journey of international academic cooperation, bringing together Italy, Sudan, and Ethiopia in a shared commitment to education and development. Through formal agreements with the University of Khartoum, Bahir Dar University, and Addis Ababa University, we established lasting institutional ties rooted in mutual respect and scientific exchange. Initially, 17 highly qualified students were selected from a competitive pool of 20 candidates across Sudan and Ethiopia; however, due to unforeseen visa complications, five students - three from Sudan and two from Ethiopia - ultimately arrived and pursued a master’s degree in Structural and Geotechnical Engineering at our university, gaining skills directly applicable to their countries’ development needs. Despite this

challenge, their dedication and academic performance were truly outstanding. A dedicated academic week in Naples brought together faculty from all partner institutions, fostering open dialogue on current projects and future cooperation. During laboratory visits, Sudanese participants engaged deeply with our ongoing research on the fire behaviour of structures, a topic of direct relevance to Sudan’s urgent reconstruction needs, including the rehabilitation of historic buildings and critical infrastructure damaged by conflict. This program has demonstrated that international academic partnerships, when built on genuine collaboration, can generate meaningful and lasting impact. We look forward to continuing and expanding this work in the years ahead.”

WAGON2Africa



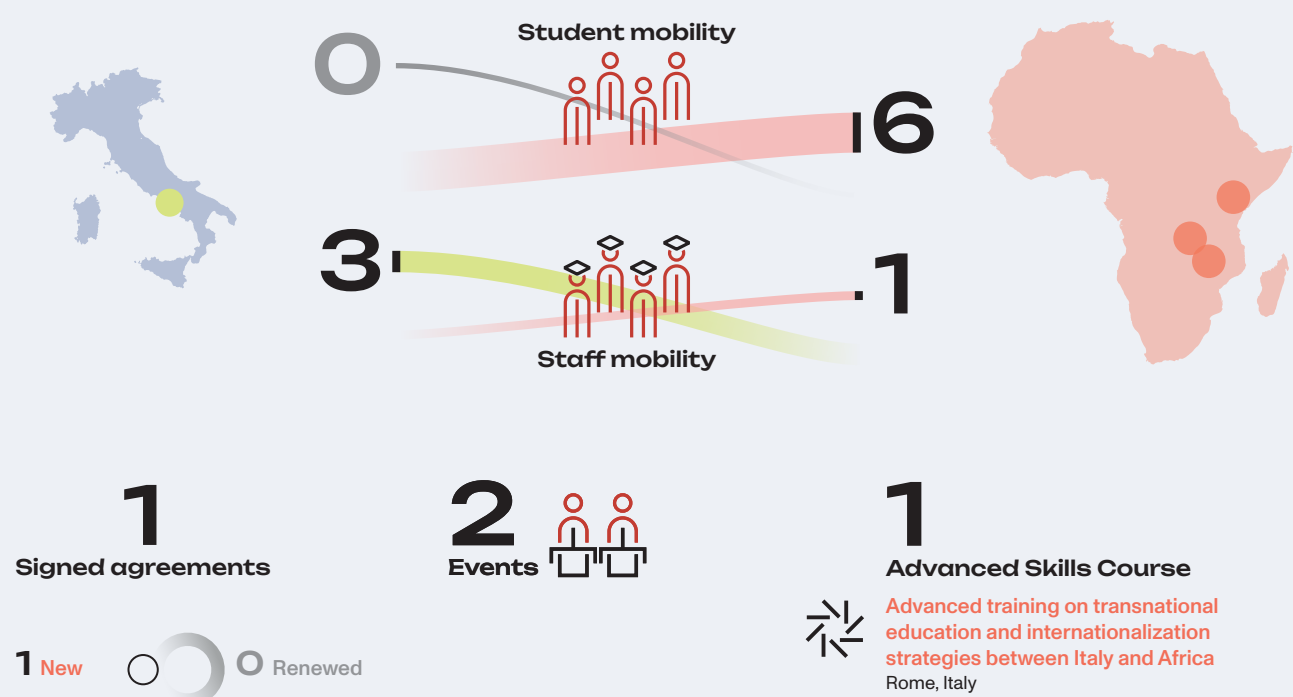
By Salvatore Mancuso,  
scientific project coordinator  
and Rector’s Delegate for  
Sub-Saharan Africa at  
Università degli Studi di  
Palermo

“WAGON2Africa encouraged the exchange of knowledge, skills, and teaching methodologies thanks to a wide range of academic mobility activities. Not only students, but also PhD candidates and university staff took part in the mobilities coming from different fields. For instance: Migration, Rights and Integration, Economics, Territorial Planning, Cooperation and Development, Engineering, and other interdisciplinary areas. These exchanges contributed to strengthening institutional cooperation between the Università degli Studi di Palermo and its partner institutions, while fostering new opportunities for collaboration in the fields of law, political science, agricultural sciences, economics,

social sciences, and environmental sustainability. Meetings, workshops, and seminars also encouraged the development of joint initiatives in teaching, research, and student exchange. The final event, hosted at the Università degli Studi di Palermo, was the result of a complex process of coordination and collaboration among the project partners, and represented an important opportunity for international cooperation and academic dialogue. The initiative developed through the sharing of teaching methodologies and best practices, fostering mutual learning and contributing to the promotion of innovation, interdisciplinary exchange, and shared growth.”

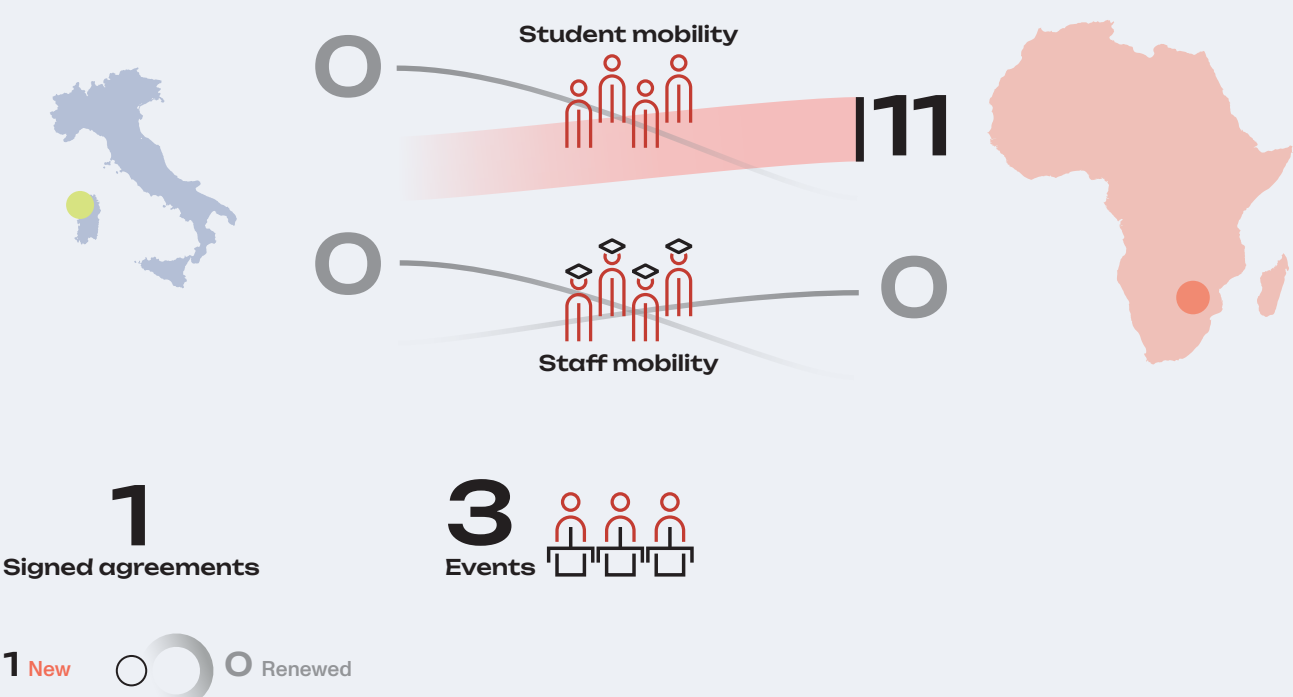
**Libera Università  
Internazionale  
degli Studi Sociali  
Guido Carli**  
Italy

**In collaboration with**  
**Jomo Kenyatta University of Agriculture  
and Technology** Kenya  
**Universidade Eduardo Mondlane** Mozambique  
**University of Zimbabwe** Zimbabwe



**Università degli Studi  
di Sassari**  
Italy

**In collaboration with**  
**University of Zimbabwe** Zimbabwe



By Raffaele Marchetti, scientific project coordinator and Professor of International Relations at Libera Università Internazionale degli Studi Sociali Guido Carli (LUISS)

“I consider this initiative a highly valuable opportunity to strengthen cooperation between LUISS and its African partner institutions. The mobility activities and the advanced course on Transnational Education and Internationalization Strategies between Italy and Africa fostered meaningful knowledge exchange and contributed to building sustainable academic cooperation.

The active engagement of students and faculty members, particularly from the University of Zimbabwe Business School, significantly enriched our academic environment and opened new opportunities for collaboration.

Overall, I consider this project an important step toward more inclusive and impactful international partnerships in Sub-Saharan Africa.”



By Marcello Cecchetti, scientific project coordinator and Full Professor Department of Law at Università degli Studi di Sassari

“Within the framework of the project, 11 incoming mobility placements were carried out for master’s students from the University of Zimbabwe. These mobility periods, each lasting three months, took place between November 2025 and January 2026 and enabled the students to explore topics related to the Water-Food-Energy Nexus as part of the broader process of preparing and writing their final thesis. Eight students were assigned to faculty members of the Department of Law, while three students were assigned to the Department of Economic and Business Sciences (DISEA). As reported to us, all students completed their thesis writing process

and submitted their dissertations within the deadlines set by the University of Zimbabwe. The mobility periods represented a key milestone of cooperation between the Università di Sassari and the University of Zimbabwe, fostering the exchange of knowledge and laying the foundations for further future collaborations.”

# 2

## Mobility



“During my mobility I refined my research design and conducted qualitative fieldwork, including in-depth interviews and data collection in Okiro, Karungu, Lamu Island, and Nairobi. This work led to original qualitative data that forms the empirical foundation of my Master’s thesis.”

*Antonella Ceo, Alma Mater Studiorum – Università di Bologna, visiting student at University of Nairobi*

As part of the project, **108** bilateral student mobilities were implemented, involving Bachelor’s, Master’s, and PhD students who were given the opportunity to study abroad.

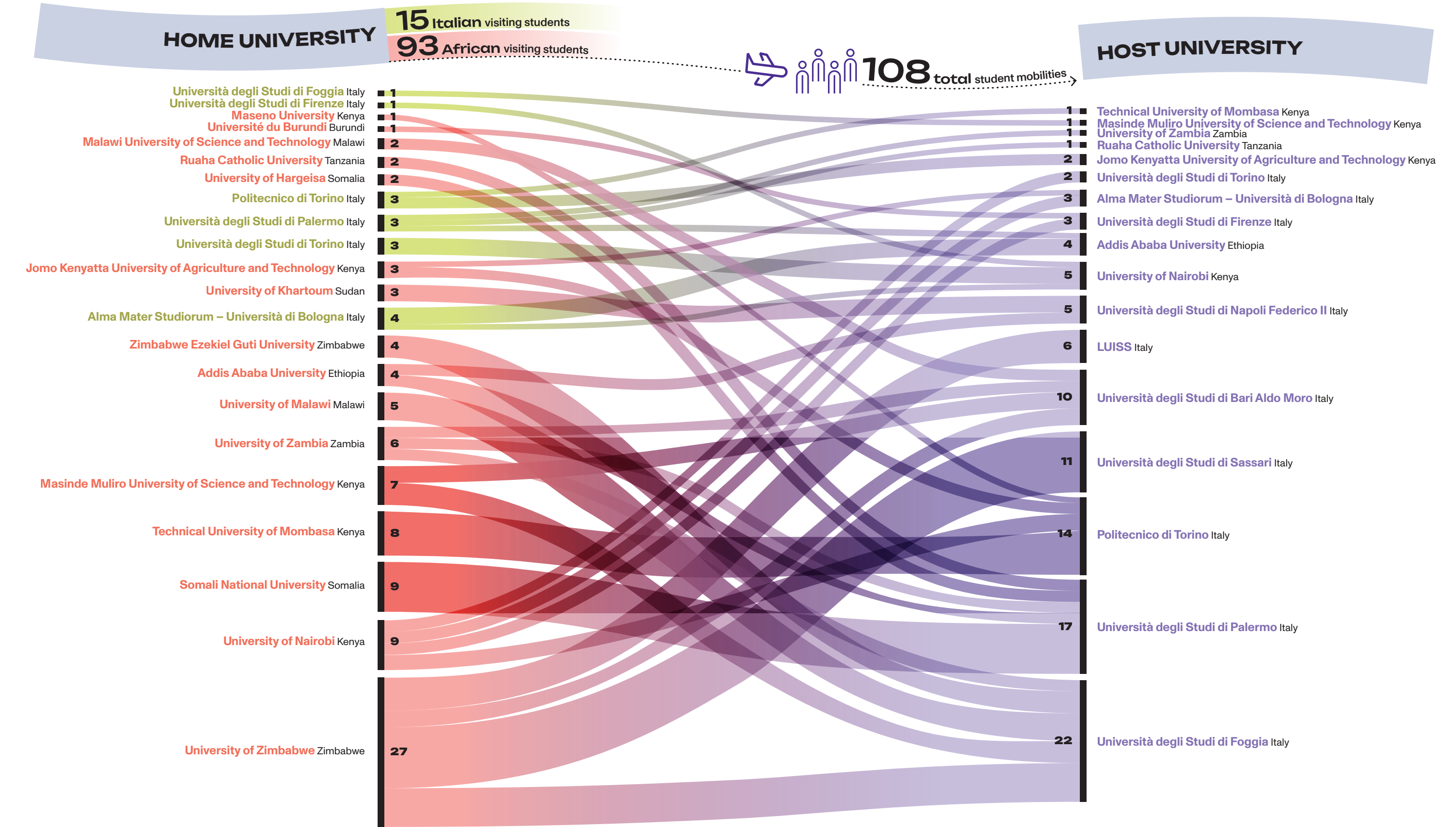
At the same time, **95** bilateral staff teaching mobilities were organised to enrich Italian universities with courses delivered by African lecturers, and vice versa.

These **international exchanges** fostered the circulation of knowledge and professional practices across different academic, cultural, and geographical contexts, enriching the scientific debate on the Water-Food-Energy nexus.

The second chapter includes maps of the countries involved, along with the flows of student and teaching staff exchanges.

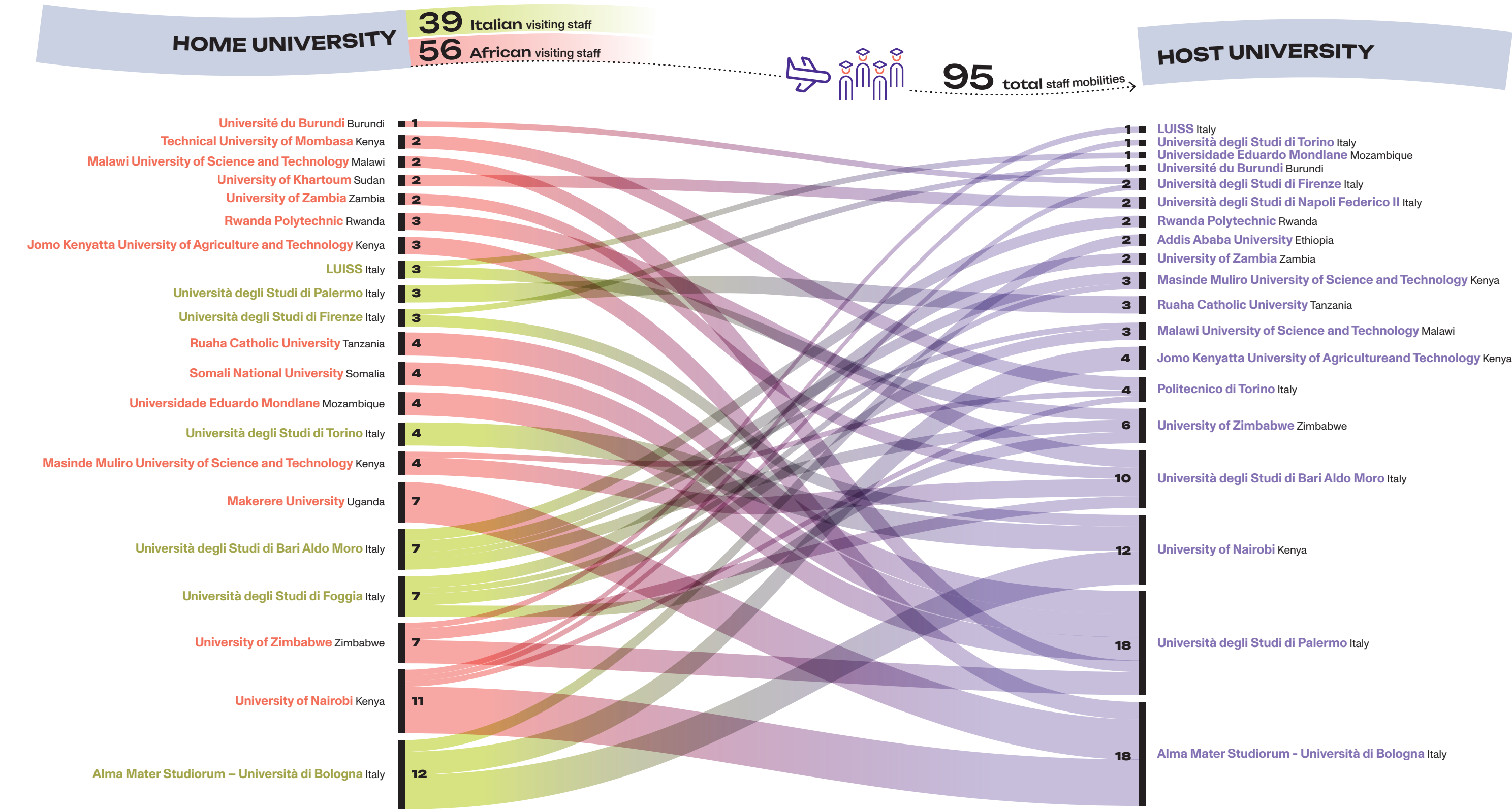
# Students mobility

The map illustrates student exchanges abroad.  
A total of **108 students** (on the left, in green: those from Italian universities; in red: those from African universities) left their home institutions to study abroad and formed a single, cohesive community of students (shown in purple on the right).



# Staff mobility

The map illustrates teaching exchanges abroad.  
A total of **95 lecturers** (on the left, in green: those from Italian universities; in red: those from African universities) left their home institutions to teach abroad, forming a single, cohesive network of scientific experts (shown in purple on the right).



# Mobility testimonials

“The experience improved my analytical and scientific skills, deepening my knowledge in plant genetics and climate adaptation studies. It also allowed me to establish important international scientific connections and gain exposure to advanced research methodologies that will strongly support my doctoral research on legumes in Burundi and my overall academic future.”

*Arnaud Cubahiro, Université du Burundi,  
visiting PhD student at Università degli Studi di Firenze*



“The experience was a first-hand look into Italian, or more specifically, Torinese, hospitality. It not only stemmed from the top management, but all the members of staff and students. Moreover, it was intriguing to witness the specialisation of the rich academic staff, and the synergy with which they worked as a team. PoliTO has a rich heritage, including some architectural masterpieces, such as the Castello del Valentino. There is a lot of cultural pride, and openness to newer cultures. This is embodied by the diversity and high number of international students. Through the TNE WAGON2Africa project programme, I was able to leave a bit of Kenyan charm to this amazing amalgamation of culture and education.”

*Prof. Alex Sydney Maninga, Technical University of  
Mombasa, visiting teacher at Politecnico di Torino*



“Lectures, access to libraries and learning materials, hands-on activities and constant supervisors’ guidance were crucial in strengthening our learning experience and in shaping our final research on climate issues. This work was highly appreciated, and we were invited to contribute to the book project “Reclaiming Earth, Reclaiming Power: Dialogues on Women, Children, and Nature’s Rights in Environmental Governance” by the University of Zimbabwe Centre for Women’s Law.”

*Chinga Govhati, University of Zimbabwe,  
visiting student at Università degli Studi di Sassari*

“My teaching mobility represented a valuable experience for my academic development. Indeed, I contributed to the training of Master’s and PhD students on the application of innovative tools for grasslands and pasture management under climate change, through seminars and field activities. At the same time, it enriched my understanding of dryland rangeland systems, providing new perspectives for my teaching and research activities.”

*Prof. Camilla Dibari, Università degli Studi di Firenze,  
visiting teacher at University of Nairobi*



“My two-month experience at the University of Nairobi was transformative. I engaged in a wide range of laboratory activities — from proximate and Van Soest analysis to in vitro digestibility and vitamin determinations — gaining hands-on skills rarely available at home. Attending an international scientific conference further enriched my perspective on animal science research. I am deeply grateful to all the staff at the University of Nairobi for their mentorship”

*Andrea Bonelli, Università degli Studi di Torino,  
visiting student at University of Nairobi*



“The experience was truly inspiring. We had the chance to visit many university fields and local cooperatives that provide the region with organic food. While discussing strategic topics - ecophysiological aspects of tree crops, biodiversity, agroecological and agroforestry strategies and systems -, we laid the foundations for future collaboration related to food production in drought-affected areas.”

*Prof. Gerald Juma Angengo and Prof Evans Nyaega Nyaboga, University  
of Nairobi, visiting teachers at Alma Mater Studiorum – Università di Bologna*

# 3

## Advanced Skills Courses

“It exposed me to rigorous academic content, significantly enhancing my understanding of complex analytical frameworks and my ability to interpret empirical data within an international academic context”

Wandile Wilfred Tshuma, University of Zimbabwe, visiting student at Luiss Libera Università Internazionale degli Studi Sociali Guido Carli

As part of the project, four Advanced Skills Courses were implemented to strengthen the academic capacity of the WAGON2Africa's network. These intensive, short training courses focused on highly specialised topics, including sustainable biofuel and biomaterials production, local animal production, interdisciplinary approaches to African urban research and transnational education. Delivered over periods ranging from five days to two weeks in Italy and African countries, the courses provided professional development opportunities for graduate students, university staff, professionals and policymakers. The four courses' organisation was led by Politecnico di Torino, Università degli Studi di Torino and LUISS Libera Università Internazionale degli Studi Sociali Guido Carli in collaboration with other partner institutions. The following table provides an overview of the training sessions, described in more detail in subsequent sections.

### Overview of the WAGON2Africa's Advanced Skills Courses

|   |  Advanced Skills Course |  Place and date |  Organising institutions                                                                                                                                                                                                    |
|---|------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Strategies for conserving biodiversity and enhancing sustainability in local animal production             | Turin, Italy<br>06/10/2025 – 17/10/2026                                                            | Università degli Studi di Torino                                                                                                                                                                                                                                                                               |
| 2 | Advanced training on transnational education and internationalization strategies between Italy and Africa  | Rome, Italy<br>12/01/2026 – 24/01/2026                                                             | Luiss Libera Università Internazionale degli Studi Sociali Guido Carli LUISS                                                                                                                                                                                                                                   |
| 3 | Urban Theory Africa – Doing, African Cities Summer School 2026                                             | Addis Ababa, Ethiopia<br>09/02/2026 – 13/02/2026                                                   | Politecnico di Torino, The Urban Centre (Ethiopia)                                                                                                                                                                                                                                                             |
| 4 | Biofuels, bioproducts and biomaterials for the green transition                                            | Nairobi, Kenya<br>16/02/2026 – 20/02/2026                                                          | Politecnico di Torino, AICAD - African Institute for Capacity Development (Kenya), Jomo Kenyatta University of Agriculture and Technology (Kenya), Università LUISS, Università di Bologna, Università di Firenze, Università di Sassari, RE-CORD – Renewable Energy Consortium for Research and Demonstration |

A total of **17 trips** were carried out in support of the organisation and delivery of the courses. The following table summarises these trips.

### Summary of the trips in support of the Advanced Skills Courses

|                                   |    |
|-----------------------------------|----|
| Politecnico di Torino             | 12 |
| Università degli Studi di Firenze | 2  |
| Università di Sassari             | 1  |
| LUISS                             | 1  |
| Università di Bologna             | 1  |
| Total number of trips             | 17 |

course 1

# Strategies for conserving biodiversity and enhancing sustainability in local animal production

06/10/2025 – 17/10/2026

The Advanced Skills Course focused on agricultural sciences, with a specific emphasis on production systems. Its main learning objective was to explore strategies for conserving biodiversity and enhancing sustainability in local animal production.

This course addressed a broad range of thematic areas, including animal husbandry, genetics, health, and welfare. By bringing together academic staff from the Università degli Studi di Torino, the Università degli Studi di Sassari, and Politecnico di Torino, and by welcoming six faculty members and two doctoral researchers from the University of Nairobi, the course fostered an international exchange of expertise and perspectives within the discipline.

**02**  
**WEEKS TO**  
enhance sustainable  
and local animal production.



**Organized by**  
Università degli Studi di Torino

**In** Turin, Italy

**Lead Professor**  
Prof. Alfredo Pauciullo,  
Università degli Studi di Torino

**8**  
**Participants** from Kenya



**02**  
**WEEKS TO**  
support sustainable academic collaboration  
between Italy and Africa.



**Organized by**  
LUISS Libera Università Internazionale  
degli Studi Sociali Guido Carli

**In** Rome, Italy

**Lead Professor**  
Prof. Raffaele Marchetti, LUISS Libera  
Università degli Studi Sociali Guido Carli

**3**  
**Participants** from Zimbabwe



course 2

# Advanced training on transnational education and internationalization strategies between Italy and Africa

12/01/2026 – 24/01/2026

The Advanced Skills Course provided advanced training for academic and administrative staff to strengthen cooperation between Italy and Africa. Its main learning objective is to support transnational education by enabling internationalisation strategies.

This course included introductory sessions on education systems and innovative teaching methods, followed by two modules on academic diplomacy and operational internationalisation. Participants explored key challenges with a focus on the Water-Food-Energy nexus, complemented by practical scenario-building activities. Participants also learnt about admissions, course management, and administrative processes. The programme combined theoretical and interactive approaches to foster knowledge exchange and support sustainable academic collaboration.



course 3

# Urban Theory Africa – Doing, African Cities Summer School 2026

09/02/2026 – 13/02/2026

The Advanced Skills Course explored the water-energy-food nexus across various dimensions, including urban economy, urban planning in the Global South, water and food policies, energy transitions, and urban research methods. Its main learning objective was to promote an interdisciplinary approach in global urban research, while amplifying African perspectives.

Combining lectures and skills-building sessions, the course broadened the academic dialogue on global urban research and strengthened participants' skills in academic writing, publishing, research methods and industry-academia collaboration. A field visit to large-scale projects in Addis Ababa, alongside evening cultural activities and mentoring sessions, enriched the collaboration and professional development of 23 young talents and professionals from 10 countries.



05

**DAYS TO**  
amplify African perspectives within the  
global urban discourse.



**Organized by**  
Politecnico di Torino,  
The Urban Centre (Ethiopia)

**In** Addis Ababa, Ethiopia

**Lead Professors**  
Andrea Pollio, Francesca De Filippi,  
Politecnico di Torino

23

**Participants**



- 7 from Ethiopia
- 4 from Kenya
- 3 from Uganda
- 2 from Germany
- 2 from Zimbabwe
- 1 from Malawi
- 1 from Mauritius
- 1 from Pakistan
- 1 from South Africa
- 1 from USA



course 4

# Biofuels, bioproducts and biomaterials for the green transition

16/02/2026 – 20/02/2026

The Advanced Skills Course focused on the energy dimension of the water–energy–food nexus. Its main learning objectives were to promote sustainable biofuel production and climate-resilient agriculture and energy systems in Africa, while supporting soil restoration and the production of carbon-neutral or carbon-negative biofuels, through the use of marginal and degraded lands. A central component of this approach is the valorisation of urban waste, primarily through anaerobic digestion, which enhances resource recovery, closes nutrient cycles, and creates additional economic value through co-products.

The course programme addressed a broad range of thematic areas, including: biomass production in the agricultural and forestry sectors; biomass conversion technologies; biofuels and bio-based products; sustainability and carbon accounting; end-use applications, such as combined heat and power (CHP), road transport, maritime transport, and aviation; as well as socio-economic dimensions, policy development, and regulatory frameworks.

The course strengthened the skills of 65 young academic talents and professionals from the private sector, public institutions, and international organisations. By bringing together participants from 10 countries and diverse backgrounds, the course fostered an active community working at the intersection of energy, agriculture, and environmental sustainability.



05  
DAYS TO  
foster sustainable biofuel production,  
climate-resilient agriculture and energy  
system in Africa

Organized by  
Politecnico di Torino, AICAD - African  
Institute for Capacity Development (Kenya),  
Jomo Kenyatta University of Agriculture  
and Technology (Kenya), Università LUISS,  
Università di Bologna, Università di Firenze,  
the Università di Sassari, RE-CORD –  
Renewable Energy Consortium for  
Research and Demonstration

In Nairobi, Kenya

Lead Professors  
David Chiaramonti, Michel Noussan,  
Politecnico di Torino

65  
Participants

19 from Kenya  
12 from Ethiopia  
7 from Uganda  
5 from Burundi  
5 from Rwanda  
5 from Tanzania  
4 from Malawi  
4 from Somalia  
3 from Zimbabwe  
1 from Sudan



# 4 Events

26  
Events total



As part of the WAGON2Africa project, the partner institutions organised **26 events**. These initiatives served as platforms for academic exchange, scientific dialogue, institutional cooperation, dissemination activities, diplomatic engagement, project launches, and site and laboratory visits focused on technical learning and infrastructure discovery.

The fourth chapter outlines all the events organised by the WAGON2Africa network, highlighting how they have contributed to promoting international cooperation between partner universities and creating a positive impact within their local communities.

# 5

## Final conclusions

WAGON2Africa has strengthened cooperation within a network of universities from Italy and East African countries, forging lasting connections around the shared goal of promoting sustainability through the Water-Energy-Food Nexus. By bringing together institutions, academics, students, professionals, and stakeholders, the project fostered an environment in which knowledge, expertise, and innovative approaches could be exchanged and developed.

This cooperation extended well beyond academic knowledge. By sharing field practices, teaching methods, curricula, learning pathways, cultural perspectives and student experiences, participants have contributed to a richer, more inclusive understanding of the challenges of sustainability. This exchange was facilitated by **33** signed agreements, **48** coordination missions, **108** student and **95** staff mobilities, **99** participants in the Advanced Skills Courses and **26** dissemination and networking events. These activities helped build a vibrant and interconnected community.

The relationships, capacities and opportunities created through the project represent a strong foundation for future collaboration. As the network grows, the partnerships established through the WAGON2Africa project will support new ideas, joint activities and shared solutions, ensuring that the participating institutions continue to generate an impact long after the life of the project.



“Through writing seminars, econometrics sessions, and systematic review mentorship, the exchange experience enhanced our research capacity and opened pathways for joint publications, co-supervision, and long-term partnerships. Access to advanced research infrastructure, including reliable internet and academic databases such as Scopus and Web of Science, further supported our academic productivity.”

*Aswell Kachidowo, Malawi University of Science and Technology, visiting student at Università degli Studi di Foggia*

“We are grateful for the highly impactful discussions on structural assessment while visiting the fire facility. The whole exchange has strengthened our commitment to advancing research and practice in structural engineering. We warmly welcome future collaboration and visits to Khartoum, where colleagues can engage with real case studies of damaged buildings.”

*Prof. Amged Osman Abdelati, University of Khartoum, visiting teacher at Università degli Studi di Napoli Federico II*



# Partner universities

## Burundi

Université du Burundi

## Ethiopia

Addis Ababa University  
Bahir Dar University  
Debre Markos University  
Dilla University  
Harambee University  
Mekelle University  
University of Wollo  
Wollega University

## Italy

Politecnico di Torino  
Alma Mater Studiorum - Università di Bologna  
Università degli Studi di Bari Aldo Moro  
Università degli Studi di Palermo  
Luiss Libera Università Internazionale degli Studi Sociali Guido Carli LUISS  
Università degli Studi di Foggia  
Università degli Studi di Firenze  
Università degli Studi di Napoli Federico II  
Università degli Studi di Sassari  
Università degli Studi di Torino

## Kenya

Jomo Kenyatta University of Agriculture and Technology  
Strathmore University  
University of Nairobi  
Technical University of Mombasa  
Masinde Muliro University of Science and Technology  
Dedan Kimathi University of Technology  
Egerton University  
Jaramogi Oginga Odinga University of Science and Technology  
Kenyatta University  
Maseno University  
Moi University

## Madagascar

Malagasy Institute of Applied Research  
The University of Antananarivo  
University of Fianarantsoa  
University of Antsiranana

## Malawi

Malawi University of Business and Applied Sciences  
Malawi University of Science and Technology  
University of Malawi

## Mauritius

University of Mascareignes

## Mozambique

Universidade Eduardo Mondlane  
Universidade Licungo  
Universidade Lurio  
Universidade Politecnica - A Politecnica

## Rwanda

Rwanda Polytechnic

## Somalia

Amoud University  
East Africa University, Bosaso  
Somali National University  
University of Hargeisa

## Sudan

University of Khartoum

## Tanzania

College of African Wildlife Management  
Mbeya University  
Mzumbe University | Chuo Cha Kikuu Mzumbe  
Ruaha Catholic University  
Sokoine University of Agriculture

St. Francis University College of Health and Allied Sciences  
The Nelson Mandela African Institution of Science and Technology  
The Open University of Tanzania  
The State University of Zanzibar  
The University of Dodoma  
University of Dar es Salaam

## Uganda

Busitema University  
Gulu University  
Kabale University  
Kampala International University  
Kyambogo University  
Makerere University  
Mbarara University of Science & Technology  
Muni University

## Zambia

University of Zambia

## Zimbabwe

Great Zimbabwe University  
Midlands State University  
University of Zimbabwe  
Zimbabwe Ezekiel Guti University

# Partner institutes

## Ethiopia

The Urban Centre

## Italy

RE-CORD – Renewable Energy Consortium for Research and Demonstration

## Kenya

AICAD – African Institute for Capacity Development

# WAGON2Africa

Water energy Food Nexus 2 Africa

This booklet was produced within TNE23-00067 WAGON2Africa, an international cooperation project connecting Italian and East African universities around the Water-Energy-Food Nexus, with Kenya as the regional hub. The project promotes academic exchange, capacity building, and the sharing of best

practices to support sustainable development and mutual understanding.

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