

THE IMPACT OF 30-YEAR HIGHER EDUCATION COOPERATION WITHIN TEMPUS AND ERASMUS + PROGRAMMES OF THE EUROPEAN UNION IN UZBEKISTAN

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Abstract: The article is focused on the impact of 30-year cooperation within Tempus and Erasmus+ programmes on higher education system of Uzbekistan. For more than three decades, the Tempus (since 1994) and the Erasmus+ programmes (since 2014) have been the key programme fostering cooperation in higher education, not just with European universities, but also with universities in Central Asia, and other regions of the world. The impact is presented at the system and institutional levels based on the results of the National Impact Study, the regional and national thematic cluster meetings.

Key words: cooperation, best practice, Erasmus+, higher education, impact, modernization, Tempus, joint projects.

20 YEARS OF TEMPUS IN UZBEKISTAN (1994-2013)

The Tempus programme began its activities in Uzbekistan in 1994, and more than 80 inter-university cooperation projects had been funded over 20 years with a total amount of over €34 million. In total, over 55 Uzbekistan Higher Education Institutions (HEIs) and over 150 universities from 22 countries of the European Union and 10 partner countries took part in these projects. In this regard, the Tempus programme has had a significant impact on the overall process of internationalisation of higher education in Uzbekistan, as it was the only programme that provided the basis for intensive cooperation with the universities of European Union and partner countries.

The Tempus programme has been a powerful and efficient tool to support educational reforms in the country, especially since 1997, when the new Education Law and the National Programme for Personnel Training were adopted.

Over the years, many Tempus projects have focused on curriculum development with the introduction of new specialties, mainly at the master's level, in engineering, applied sciences, teacher training, social sciences, management and business. The new curricula were aligned with the needs of the local labour market through the direct participation of local enterprises operating in the energy, aviation, automotive, food, textile and chemical sectors, as well as various line ministries, the Chamber of Commerce and other non-academic organizations representing key sectors of the national economy.

Several ministries, enterprises and various public and private entities and organizations have expressed interest in employing graduates trained under Tempus projects, and this led to increased demand for students who have completed training in new master programmes on food safety, water and land management, ICT, etc. The numerous training laboratories created under the Tempus projects also contributed to the improvement of professional skills of specialists from enterprises that were part of project consortia in Uzbekistan.

The Ministry of Higher and Secondary Specialised Education [1] noted the significant impact of the Tempus programme at the national level due to the long-term activity and wide participation of a large number of HEIs (over 55 HEIs from all regions of the country) out of total of 64 HEIs operating at that time, which means that coverage of the Tempus programme in Uzbekistan was about 86%

Tempus projects have been of great benefit to HEIs from various regions of the country, as due to them HEIs strengthened interaction with other domestic HEIs throughout the country, in addition to establishing long-term partnerships with many European universities.

The programme assisted in the development of quality assurance systems, introduction of Bologna Process principles and procedures into the curricula and their use for the development of new initiatives and improvement of university governance.

Information and methodological materials of the Tempus project “UNIWORK: Strengthening Career Centres in Central Asia Higher Education Institutions to empower graduates in obtaining and creating quality employment” and Erasmus+ “MIND: Management - Innovation – Development” projects served as a basis for development of incubation and acceleration centres for start-ups and innovative enterprises in the HEIs of Uzbekistan starting from the Bukhara State University and the Tashkent State University of Economics. Also, these projects significantly strengthened the innovative and scientific capacity of participating HEIs by enhancing linkages with employers and introducing a culture of student start-ups, which in turn led to the multiplier effect; now incubators and start-up`s accelerators are being created in all universities in Uzbekistan.

Erasmus+ "IMEP: Internationalisation and modernisation of education and processes in the higher education of Uzbekistan" project has had a tremendous impact on the development of a continuous professional development system for senior administrative and academic university staff in Uzbekistan. Moreover, cooperation under this project was started as early as during Tempus QAPD [2] - Enhancement of Quality Assurance System through Professional Development of Academic Leaders (2011-2014) project implementation. Members of the project team at first created a course on Educational Process Management, and then a new Management in Education speciality.

Since 2008, Uzbekistan has been involved in more projects with the participation of several countries: for example, 20 out of 30 projects under Tempus IV (2007-2013) [3] programme are multi-country with the participation of 46 Uzbekistan higher educational institutions and more than 150 universities from 10 partner countries and 22 EU Member States.

Moreover, the experience that Uzbekistan HEIs obtained under Tempus projects became a success factor for the start of the Erasmus+ programme in the country and served as a foundation for the launch of Erasmus+ International Credit Mobility partnerships and bilateral cooperation with EU universities.

10 YEARS OF ERASMUS + IN UZBEKISTAN (2014-2024)

The Erasmus+ Programme, funded by the European Commission, supports the reform in higher education systems through the financing of joint projects between European higher education institutions and Higher Education Institutions in partner-countries worldwide, including Central Asia.

The beginning of the new Erasmus+ programme coincided with a period of fundamental transformations of Uzbekistan’s higher education system and important decisions aiming to improve the quality of higher education. It has greatly increased the relevance and importance of rapidly developing international cooperation. One of the important areas of this cooperation is the Erasmus+ programme, involving more than 95 universities from all regions of the country.

The relevance of Erasmus+ programme has been considerably reinforced in 2017 with the adoption of the “Comprehensive Development Programme of the Higher Education System for 2017-2021” and, as of October 8th 2019, with the adoption of a “Concept of Higher Education Development in Uzbekistan until 2030”.

Thanks to Tempus and Erasmus+ programmes the higher educational institutions of Uzbekistan could greatly enrich their experience of cooperation with universities in the European Union and in the neighboring countries, develop a number of joint master's programmes, create joint departments and unique scientific laboratories, which had a significant impact on improving their international recognition and ranking.

The programme impact at the system level has been ensured by the ownership demonstrated by the Ministry of Higher Education, Science and Innovations, which was directly involved in 17

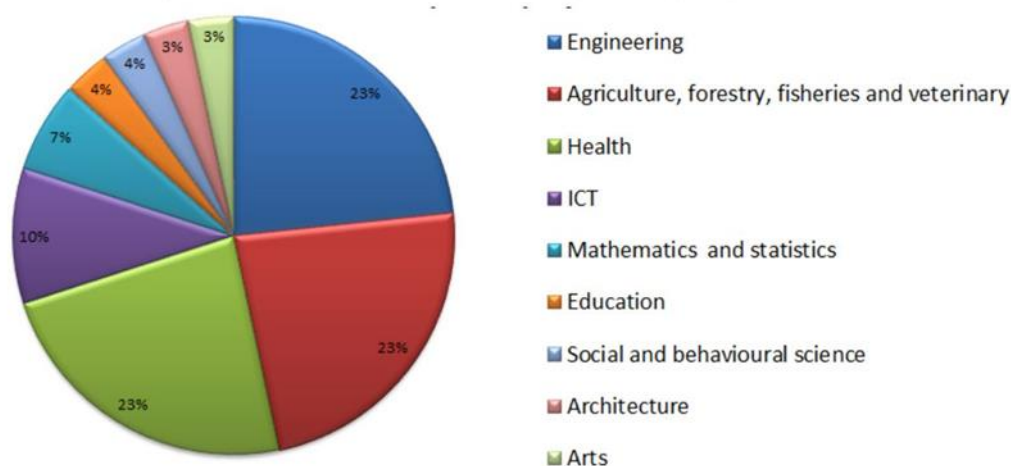
out of 58 CBHE projects financed for 2014-2023 and supported the Erasmus+ National team of Higher Education Reform Experts.

Within six Calls (2015-2020) of the 1st Erasmus+ programming period in total **43** CBHE projects were financed for Uzbekistan, including **12** national projects, involving European and Uzbekistan universities, **11** cross-regional projects, and **20** regional projects with the participation of HEIs both from Uzbekistan and a number of other Central Asian countries. The total project budget allocated for 43 Erasmus + CBHE projects (2015-2020) is €36.6 million euro, including about €11.5 million (31.4%) particularly for HEIs in Uzbekistan.

A certain number of CBHE projects, of which 23% each are in Engineering, in Health sector and Agriculture **assisted in establishing ECTS** in Uzbekistan. Several projects also worked on the establishment of the ECTS with the result that it is currently utilised by a big number of HEIs and thus supporting the international mobility on exchange of staff and students.

Diagram from the Erasmus+ National Impact Study [4]

Diagram 6. Curriculum development projects: themes



In total 6 Thematic Cluster meetings [5] aimed on increasing synergies among the various CBHE projects in Agriculture, Medicine and Engineering, Curriculum Development and University-Industry Cooperation and enhancing Erasmus+ visibility, dissemination of best practice and the achievements of ongoing and completed projects were organized by National Erasmus+ Office (NEO), HEREs with the support EU Delegation and in cooperation with Ministry of Higher Education, Science and Innovations (MHESI) and other profile ministries and stakeholders respectively.

Agricultural, environmental, water management and veterinary sciences in Uzbekistan have particularly been developed through CBHE projects [6].

A network of universities **in mathematical sciences** was formed through project work (Establishment of Computing Centres and Curriculum Development in Mathematical Engineering Master program-Erasmus+ ECCUM).

Erasmus+ NURSLIN “National Qualification Frameworks: Guidelines for Development and Recognition of Qualifications” project managed to produce Guidelines on national qualifications framework (NQF) development in Uzbekistan, which were endorsed by the Ministry. An NQF Committee (Legislative Council of Developing Stages of NQ) was officially established and a ‘Classifier Database of Professional Qualifications for the Republic of Uzbekistan’ was produced.

Erasmus+ programme is one of key directions of cooperation not just with the European universities, but also with universities in Central Asia, CIS member states and other regions of the world: **37 out of 63** are regional and cross-regional CBHE projects.

Within **International Credit Mobility (ICM)** Erasmus+ offers the opportunity for higher education institutions to send students and staff abroad to study, teach, or train at participating institutions, as well as to participate in a traineeship.

International Credit Mobility (ICM)

There are a number of examples of the relationship between the Tempus, CBHE and ICM projects.

The European partners under 38 Tempus projects at Bukhara State University, National Research University “Tashkent Institute of Irrigation and Agricultural Mechanization Engineers” TIAME and Urgench State University used the new ICM area to resume cooperation with former Tempus partners and current Erasmus+ partners.

The most active HEIs participating in CBHE, such as National University of Uzbekistan, Tashkent University of Information Technologies, National Research University “Tashkent Institute of Irrigation and Agricultural Mechanization Engineers” TIAME, Urgench State University, Samarkand Veterinary Medicine Institute, Karakalpak State University and Turin Polytechnic University in Tashkent are also involved in ICM projects.

ICM participants from academic and administrative staff have repeatedly noted that short-term internships in European universities helped acquire advanced experience in the field, and then introduce and adapt it at their home universities. The students, on the other hand, had the opportunity to get exposure to the European education system, and then, upon returning, exchange experiences with other students and with the teachers at their university. The students and faculty who visited European universities and adopted best practices were definitely able to enhance capacity building opportunities of CBHE projects.

Within 2 last Calls in total 603 ICM partnerships have been established between 93 universities of Uzbekistan and universities of 28 countries out of 33 countries associated to Erasmus+ programme with leading role presented by Turkey (102), Poland (96), Romania (68), Spain (67), Italy (44), Germany (34), Greece (33).

Within 2022 and 2023 Call ICM leaders among the local universities are: Karshi Engineering Economics Institute (58), Namangan State University (33), Urgench State University (30), National University of Uzbekistan (27), Uzbek State World Languages University (24), Samarkand State University (22), Bukhara State University (21), Samarkand Medical Institute (21), Karshi State University (20).

Considering that nowadays 93 HEIs of Uzbekistan out of total number of HEIs in Uzbekistan (212 HEIs in October 2024), the current coverage by ICMs is 43.9 % [9].

Erasmus+ has broadened the horizon for individuals and in particular within ICM, Jean Monnet and Erasmus Mundus.

Erasmus Mundus Joint Masters (EMJMs)

Erasmus Mundus Joint Masters (EMJMs) award EU-funded scholarships to Master students worldwide. So far in total 6 EMJMs have involved the Uzbekistan HEIs as associated partners.

Erasmus Mundus Design Measures (EMDMs), introduced in 2021, are preparatory projects to bring a joint programme to the point where it is ready to operate as an accredited joint degree programme, and apply to EMJM. So far, the Uzbekistan HEIs have not been presented in any EMDM projects.

Individual EMJM scholarships

The Uzbek winners in 2024 consist of 3 female and 9 male young people. The Erasmus Mundus Joint Masters (EMJM) scholarship holders started their studies in September 2024 at the best universities in France, Germany, Italy, Spain and Czech Republic. Further studies will occur in Sweden, Austria, Norway, Luxemburg, France, Belgium, Estonia and Poland. All fields of studies chosen are very relevant to the needs of the country: Sustainability in Agriculture, Food Production and Food Technology, Embedded Computing Systems, Law and Economics, Treatment strategies in medicine, Biorefinery, Large Scale Accelerators and Lasers, Software Cybersecurity, Economics of Globalisation and European Integration.

In total 127 Uzbek winners (84 for 2015-2020 and 31(+12) for 2021-2024) have obtained the EM scholarships since 2015.

Erasmus+ Jean Monnet Activities in Uzbekistan [10]

Within Jean Monnet actions focused on enhance understanding and knowledge of the EU and its policies there are two Jean Monnet Centres of Excellence at the University of World Economy and Diplomacy and at the Tashkent State University of Economics.

In total 17 Jean Monnet projects have been financed for 7 involved universities in Tashkent, Samarkand and Bukhara.

Erasmus+ Higher Education Reform Experts (HERE)

Within the framework of the Erasmus + programme, in addition to financing joint projects for higher education institutions, support has been provided to the National Teams of Higher Education Reform Experts-HEREs.

The National Teams of HEREs operating since February 2008 in all partner countries help strengthening cooperation on general issues related to the higher education reform, including quality assurance, innovation and meeting the labour market needs. The main task of the National Team of HEREs is to disseminate information about the development of the national higher education system as well as about transformation in the common European Higher Education Area covering 49 countries participating in the Bologna process.

The impact of the National Team of HEREs in Uzbekistan [11] on the modernization of higher education at their institutions and at the national level is widely recognized.

A particular progress is observed with regards to the introduction of the ECTS (European Credit Transfer and Accumulation System) in HEIs, which increased the efficiency of the teaching and learning process and international integration. Through traditional training workshops [12], teleconferences, consultations and meetings HEREs have had a certain impact on the development of the higher education development strategy.

Initiated by the National team the HEREs` annual publication “Perspectives of Higher Education Development” has been published as a scientific and methodological collection since 2011 and officially registered in 2020 as a peer-reviewed scientific and methodological journal “Perspectives of Higher Education Development” [13].

The activities of the National Team of Higher Education Reform Experts were continuously coordinated with the Ministry and in particular for joint organisation of information seminars and Annual HEREs` Conference “Perspectives of Higher Education Development” [14]

WHAT ARE THE PROGRAMME STRENGTHS?

- ✓ Quick reaction and the flexibility of Erasmus+ projects in a **timely and constructive response to all government decisions to further improve the national higher education system** and respective updating of project plans;
- ✓ Close cooperation with the Ministry of HESI (information campaign, dissemination of best practice and project results, direct involvement in 16 out of 63 funded projects, ownership of the National Team of Erasmus+ Higher Education Reform Experts);
- ✓ **Continuous enhancing local ownership** and capacities in project management: 7 Capacity Building projects are coordinated by universities of Uzbekistan;
- ✓ **The cooperation opportunities within Central Asia and beyond**: 37 out of 63 Capacity Building projects are regional and cross-regional projects;
- ✓ **Ensuring the intra-regional** (in Central Asia) **mobility of staff and students** within the projects;
- ✓ Considerable support to **international short-term mobility** of academic /administrative staff, PhDs and students.

CONCLUSIONS

The long-term cooperation of the higher education institutions from all country regions within EU-funded programmes anticipated some government reforms and had a considerable real impact on the overall modernisation of national higher education. The Tempus programme and the Erasmus+ Capacity Building in Higher Education (CBHE) action have assisted in constructing a basis for the HE reform process. Quick reaction and the flexibility of Erasmus+ projects in a timely and constructive response to all government decisions to further modernization of the higher education system has been recognised by the national higher education authorities.

The systemic impact of the Tempus and Erasmus+ projects on the development and modernization of higher education of Uzbekistan, especially with regards to internationalization and development of new areas of education was underlined in the latest Erasmus+ National Impact Study of the 1st programming period of 2015-2020. It was also noted that the new master's degree programmes (specialties) and improvement of quality of the educational process were the main outcomes of projects at the country level.

For the last years establishment of joint international faculties and master's degree programmes in Uzbekistan was supported by the Tempus and Erasmus+ projects, which served as a foundation for the development of new joint curricula on a bilateral basis with European partners. The internationalization of education has led to the emergence of new HEIs and branches of international universities in a number of regions. Their management teams consist of specialists with positive experience of cooperation with European partners under the Tempus and Erasmus+ projects.

There are a number of facts noted at Erasmus+ information/dissemination/ promotion sessions throughout the country the rapid career growth of both academic and administrative staff, the emergence of new HEIs and their effective governance as a result of the positive impact of the Tempus and Erasmus+ projects, primarily due to advanced training and experience gained in the course of their implementation in cooperation with the European partners.

The acquisition of unique innovative laboratory equipment and establishment of educational laboratories which supported strengthening of research activities was important for the modernization of higher education and strengthening the scientific and innovative potential of local HEIs and in particular all technical universities of Uzbekistan and Engineering HEIs (RENES, ECCUM, TechReh, MECHAUz, INTRAS, DSINGIS, ELBA, ERAMCA, SPACECOM, REILEAP).

Undoubtedly long-term cooperation within Tempus, Erasmus Mundus and Erasmus+ and enhanced capacity of teams facilitated the decision of the Government in 2019 to follow the Bologna principles and to introduce ECTS to all HEIs of Uzbekistan by 2030. It was clearly highlighted in the Concept of Higher Education development by 2030 adopted by Presidential Decree on 8 October 2019.

The working group on the development of the Concept on ECTS established in the Ministry directly involved HEREs and also the Erasmus project coordinators/participants. To this end, the Cabinet of Ministers' Resolution No 824 dated 31/12/2020 "On measures to improve organisation of education process in higher education institutions" can also be named since it was heavily influenced by the CBHE and International Credit Mobility projects.

The drastic increase in the number of HEIs in Uzbekistan in 2017-2024, including branches of international universities, and the emergence of a large number of non-state, private universities, also happened due to the trained personnel who took part in Tempus and Erasmus+ projects.

Moreover, during the COVID-19 pandemic the importance of experience in telecommunications, video conferencing and webinars under Erasmus+ projects was noted. This experience that made it possible for local HEIs, in general, to painlessly switch to online education due to the experts and members of project teams who acted as methodologists during the transition to distance learning.

Tempus projects and an even greater impact of Erasmus+ projects made an impact of on promoting ideas of innovation, including the importance of the role of HEIs in the process of

creating regional innovation clusters and the engagement of entrepreneurs and industry as equal partners in the so-called "innovation triangle", where universities, science, business, manufacturing and the local community are active participants in the development and implementation of innovations. Project visits to European universities and exposure to their industrial parks, clusters, business incubators and start-up accelerators, and in some cases placement in these institutions strengthened the innovative capacity of local teams as leading professionals and specialists in their area of expertise.

The significant impact of Tempus and Erasmus+ projects was also noted on understanding the role and importance of employers, industry and civil society for quality and efficiency of higher education. The project participants had an opportunity to obtain practical and theoretical experience about the "second and third mission of universities" which helped to develop a number of projects aimed at strengthening the interaction of HEIs and employers, with industry and partly with civil society participation. Non-academic community of Erasmus + projects were represented by profile ministries and agencies, enterprises, the National Committee for Tourism Development, the Farmers Association of Uzbekistan and the Youth Union.

Majority of experts and respondents participated in the National Impact Study covering 2014-2020 agreed that without the impact of the Tempus and Erasmus+ projects a rapid modernization of higher education in Uzbekistan in 2017-2020 would hardly have been achieved [4]. This is in particular true concerning the new and often innovative areas of education, strengthening of internationalization process, as well wide introduction of the credit-modular system.

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