



Report
on
Sustainable Development Goal 9

9 INDUSTRIES, INNOVATION
AND INFRASTRUCTURE



Bukhara 2023

Indicator ID	Indicator name	Indicator weight (of its SDG)	Data source	Indicator component long name [for <i>Impact Ranking Dashboard</i> product reference]
9.1.1	Industry innovation and infrastructure: publications	0,116	bibliometric	Industry innovation and infrastructure: publications
9.2.1	Number of patents citing research	0,154	bibliometric	Patents citing universities research
9.3.1	Number of university spin offs	0,346	portal	Number of university spin-offs
9.4.1	Research income per academic staff	0,384	portal	Research income from industry, STEM (PPP-adjusted**)
				Research income from industry, Medicine (PPP-adjusted**)
				Research income from industry, Arts, Humanities and SoSci (PPP-adjusted**)
				Number of academic staff, STEM
				Number of academic staff, Medicine
				Number of academic staff, Arts, Humanities and SoSci
				Research income / aca. Staff, STEM (PPP-adjusted**)
				Research income / aca. Staff, Medicine (PPP-adjusted**)
Research income / aca. Staff, Arts, Humanities and SoSci (PPP-adjusted**)				

9. Industry, innovation and infrastructure

9.3.1. Number of university spin offs

Today, in our country, large-scale work is being carried out to ensure the effective use of existing financial and material resources in order to create favorable conditions for the implementation of scientific and scientific-technical activities, to ensure scientific-technical and innovative development. At the same time, the rapid development of the economy requires the need to fully use the existing potential in the commercialization of the results of the scientific and scientific and technical activities of the country's research and higher education institutions. In order to support scientific, practical, innovative, commercialization and start-up projects created by professors and students of Bukhara State University, department of commercialization of scientific and innovative developments (<https://buxdu.uz/19-boshqa-bolimlar/3684/3684-ilmiy-innovatsion-ishlanmalarni-tijoratlashtirish-bolimi/>) and the "Business accelerator" organized in cooperation with the Youth Future Fund ((<https://buxdu.uz/yangiliklar/2824/buxoro-davlat-universitetida-buxoro-biznes-akseleratorining-ochilish-marosimi-bolib-otdi/>)) are operating.



*"Business accelerator"
organized at the university in
cooperation with the Youth
Future Fund*

Considerable work is being done to support the projects of university students. Seminars and trainings are regularly organized on the content of startup projects, their specific aspects and the conditions for submitting them to competitions. Also, in order to support the projects of university students, the university regularly organizes various competitions.

On May 21, 2022, the awarding ceremony of the final stage of the Republican contest "Mirzo Ulugbek's Heirs" was held in the Youth Center of Tashkent and 100 winners of the Republic were awarded, including 10 talented people from Bukhara. Our youth became the winner of the Republican stage. They were awarded one-time cash prizes in the amount of 20 times the BCA (Base calculation amount) (5,400,000 soums). In addition, the winners had the opportunity to study for free in targeted educational courses organized by the "Ulugbek" Foundation for the Support of Talented Youth. 5 out of 10 winners from Bukhara are Bukhara State university students (<https://buxdu.uz/media/innovatsion/2022/5.pdf>).

Republican competition "Mirzo Ulugbek's Successors" held at the Youth Center of Tashkent city (<https://telegra.ph/Mirzo-Ulugbek-vorislari-tanlovi-Respublika-bosqichida-Buxorolik-10-nafar-istedodli-yoshlarimiz-Respublika-bosqichi-golibiga-ayla-05-21>)



Also, on September 8, 2022, an "Innovative Projects" competition was held for university students in cooperation with Israel's Ariel University.

On September 8, 2022, the competition of innovative projects held in cooperation with Israel's Ariel University at the "Business Accelerator" center of the university (<https://t.me/BUXORO-DAVLAT-UNIVERSITETIDA-ISROILNING-ARIEL-UNIVERSITETI-BILAN-HAMKORIKDA-TALABALARNING-INNOVATSION-LOYIHALARI-TANLOVI-BOLIB-0-09-08>)



On December 13, 2022, a competition of innovative projects was held among university students at the "Business accelerator" of Bukhara State University. More than 30 students of the university participated in the competition with their innovative projects. The projects were evaluated by the selection committee based on criteria such as project innovation, level of creativity, availability of demand for the project and implementation possibilities. The winners of the competition were encouraged at the expense of the university's innovation fund.

On December 13, 2022, the competition of innovative projects was held among university students at the "Business accelerator" of Bukhara State University. (<https://buxdu.uz/yangiliklar/5077/5077-buxoro-davlat-universitetida-innovatsion-loyihalar-tanlovi-bolib-otdi/>)



University professors and teachers presented 13 projects with a total value of 11 billion 153.3 million soums in 2022 to the Ministry of Innovative Development of the Republic of

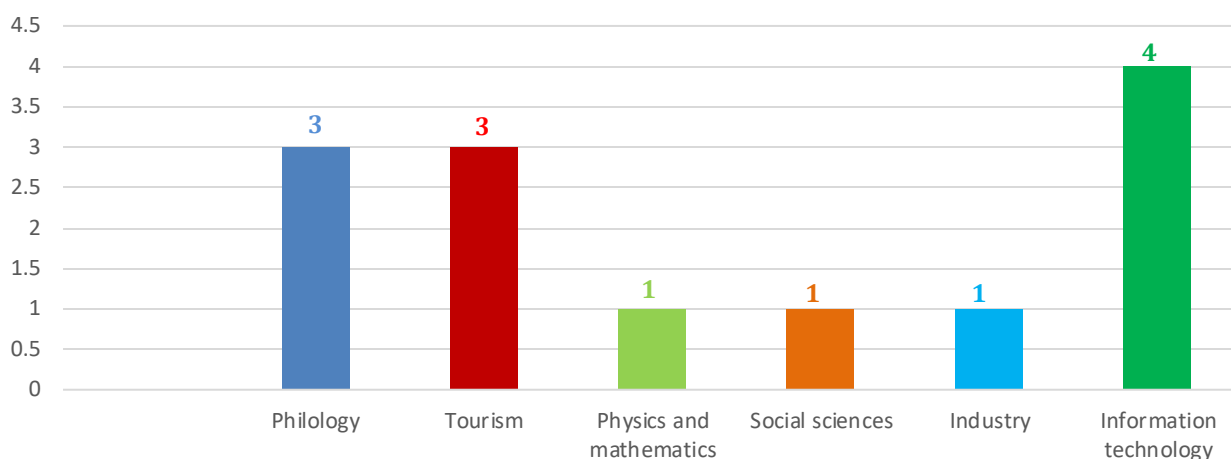
Uzbekistan and the Bukhara Regional Government

(<https://buxdu.uz/media/innovatsion/2022/2.pdf>).

<p>A practical project on the topic of "Creation of the Uzbek-Russian, Russian-Uzbek annotated electronic dictionary of architectural and construction terms" with a total cost of 400.0 million soums prepared under the leadership of Associate Professor of the Department of Russian Language and Literature, Ph.D. (DSc) L.X. Nigmatova</p>	<p>A practical project on the topic "Creating an electronic platform on the scientific and literary heritage of the creators of the literary environment of Bukhara" with a total cost of 693.6 million soums prepared under the leadership of Teacher of the Department of Uzbek Language and Literature, Ph.D. (PhD) N.S. Kadyrova</p>	<p>A practical project on the topic "Creating a mobile application of transport services for traveling to historical monuments in Bukhara" with a total cost of 125.8 million soums prepared under the leadership of M.E., 2nd stage basic doctoral student of the Department of Tourism and Hotel Management. Akhmatova</p>	<p>The innovative project "Ensuring continuous operation of traffic lights using alternative energy sources (solar energy)" with a total cost of 67.7 million soums prepared under the leadership of Associate Professor of the Department of Physics, Ph.D. I.I. Rakhmatov</p>
<p>An innovative project on the topic of "Creating a mobile educational application in history for blind and visually impaired students studying in higher education institutions" with a total cost of 189.7 million soums prepared under the leadership of Associate Professor of the Department of World History, Ph.D. (PhD) B.N. Rizayev</p>	<p>A practical project on the topic "Development of indicators and software for diagnosing socio-economic development of regions" with a total cost of 1,600.0 million soums prepared under the leadership of Associate Professor of the Department of Economics, i.f.n. D.Sh. Yavmutov</p>	<p>The innovative project "Creating a national video game dedicated to the memory of the first Uzbek general S. Rakhimov" with a total cost of 2,000.0 million soums, prepared under the leadership of Associate Professor of the Department of Information Systems and Digital Technologies, Ph.D. (PhD), I.I. Bakayev</p>	<p>An innovative project on the topic of "Creating an interactive map of the infrastructure of halal tourism of the Republic of Uzbekistan" with a total cost of 1,600.0 million soums prepared under the leadership of Associate Professor of the Department of Economics, (PhD) Z.S. Nurov</p>
<p>The innovative project "Creation of an electronic explanatory dictionary of standardization, metrology and certification terms and an integrated platform for translation of international ISO standards into the national language" with a total cost of 800.0 million soums, prepared under the leadership of Associate Professor of the Department of Uzbek Linguistics, Ph.D. (DSc) G. Toirova</p>	<p>"Creation of a mobile application and platform providing information on domestic air, railway and bus routes in Uzbekistan" with a total cost of 1,600.0 million soums prepared under the leadership of Professor of the Department of Tourism and Hotel Management, Ph.D (DSc) Ibragimov Nutfillo Salimovich " innovative project</p>	<p>The startup project "Development of a platform for online education based on artificial intelligence using blockchain technology" with a total cost of 556.8 million soums, developed under the leadership of N. Ergashev, a teacher of the department of applied mathematics and programming technologies</p>	<p>The startup project "Portal of various services" with a total cost of 796.7 million soums, developed under the leadership of F. Khazratov, a teacher of the department of applied mathematics and programming technologies</p>
<p>Under the leadership of Associate Professor of the Department of Information Technologies, Ph.D. (PhD) Kh.I. Eshankulov, the start-up project "Creation of DIY (do it yourself) constructors based on arduino base in STEM direction and development of their training methodology" with a total cost of 723.0 million soums</p> <p>Projects developed by university professors and teachers and submitted to the Ministry of Innovative Development of the Republic of Uzbekistan and the regional government</p>			

Division of projects developed by professors-teachers of the university and presented to the Ministry of Innovative Development of the Republic of Uzbekistan and the regional government.

Distribution of projects by industry developed by university professor-teachers



These projects, developed by university professors and teachers, were presented at various fairs and exhibitions throughout the year

Exhibition of innovative ideas and projects "InnoWeek-2022" held on August 16, 2022 in the building of "Youth Center" in Bukhara

Participation of the university team in the exhibition of innovative ideas and projects "InnoWeek-2022" held on August 16, 2022 in the building of "Youth Center" in Bukhara
(https://t.me/buxdu_uz/25653)



Regional industrial fair held in Bukhara on September 22-23, 2022

Participation of the university team in the regional industrial fair held in Bukhara on September 22-23, 2022 (<https://telegra.ph/Buxoro-viloyatida-hududiy-tarmoqlararo-sanoat-yarmarkasi-oz-ishini-boshladi-09-22>)



"Innoweek.uz-2022" Week of Innovative Ideas and Developments held at the Ministry of Innovative Development of the Republic of Uzbekistan on October 18-22, 2022



Participation of the university team in the Innoweek.uz-2022 Week of Innovative Ideas and Developments held at the Ministry of Innovative Development of the Republic of Uzbekistan on October 18-22, 2022 (<https://telegra.ph/Buxoro-davlat-universiteti-jamoasi-INNOWEEKUZ-2022-Xalqaro-innovatsion-goya-lar-haftaligid-ishi-tirok-etimoqda-10-18>)

In 2022, 3 start-up projects developed by university professors and teachers with a total value of 1 billion 258.8 million soums were financed.

(<https://buxdu.uz/media/innovatsion/2022/1.pdf>).

1. Start-up project on the topic "Development of a platform for online education based on artificial intelligence using blockchain technology" (financed in 2022, the value is 513.8 million soums)

2. Start-up project on the topic "Portal of various services" (financed value of 489.4 million soums in 2022)

3. A start-up project on the topic of "creating DIY (do it yourself) constructors based on the Arduino base in STEM and developing a methodology for teaching them" (255.6 million soums funded in 2022)

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As of 2022, 7 spin-off organizations established as a result of intellectual activity of professors and teachers of Bukhara State University are operating. 4 of these organizations do not have a university share. 3 have a university stake.

Spin-off organizations that do not have a share of the university, established as a result of the intellectual activity of university professors and teachers

<p>“Novator chorvador” MChJ</p> <p>Main line of activity: Production of feed in the form of pellets for livestock, conducting scientific research activities in this field</p>	<p>“Sharq Business Solution” MChJ</p> <p>Main line of activity: Development of bleaching polymer-compositions and their introduction in textile enterprises</p>	<p>“Robots and Me” MChJ</p> <p>Main line of activity: Creating software, conducting research in the field of artificial intelligence, providing educational services in the fields of robotics and schematic engineering</p>	<p>“Robokit” MChJ</p> <p>Main line of activity: Production of constructions based on Arduino in STEM direction</p>
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Spin-off organizations in which the university has a share, established as a result of the intellectual activity of university professors

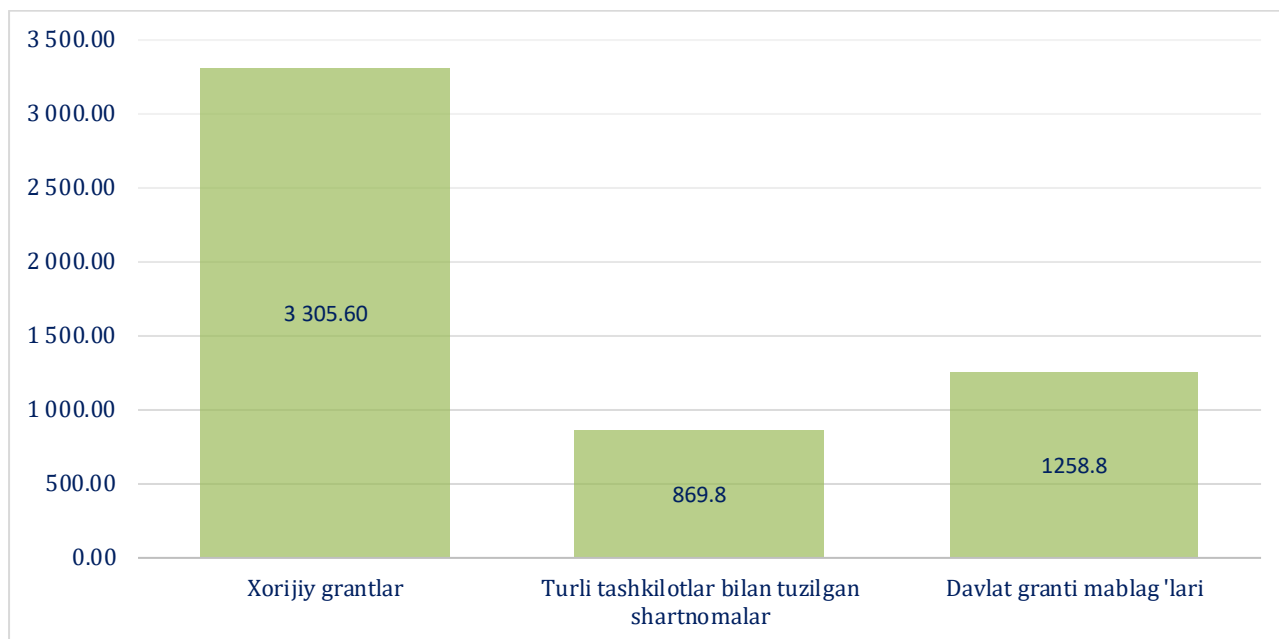
<p>“TSKMOQT” DUK</p> <p>Main line of activity: Training and retraining of personnel in the field of tourism</p>	<p>“BukhSU Scientific Biotechnology” UK</p> <p>Main line of activity: Application of innovative biotechnologies in agriculture</p>	<p>“I-Innoturizm” MChJ</p> <p>Main line of activity: Provision of economic forecasting, economic analysis, marketing, accounting audit, and other financial services, support of start-up projects</p>
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9.4.1 Research income per academic staff

In 2022, a total of 5 billion 434.2 million soums were attracted as a result of the research activities of professors and teachers. Of this, 3 billion 305.6 million soums from grants of foreign scientific research centers and orders from foreign scientific foundations, 869.8 million soums from contracts concluded with various organizations, 1 billion 258.8 million soums were obtained from state grants.

Distribution of funds raised as a result of research activities

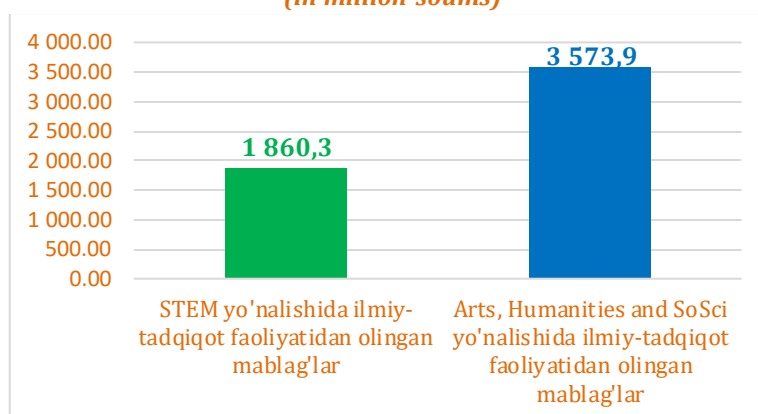
(in million soums)



1,860.3 million soums of the total funds raised were obtained as a result of scientific research activities of professors and teachers working in the field of STEM, 3,573.9 million soums in Arts, Humanities and SoSci.

Distribution of the funds attracted as a result of scientific research activities

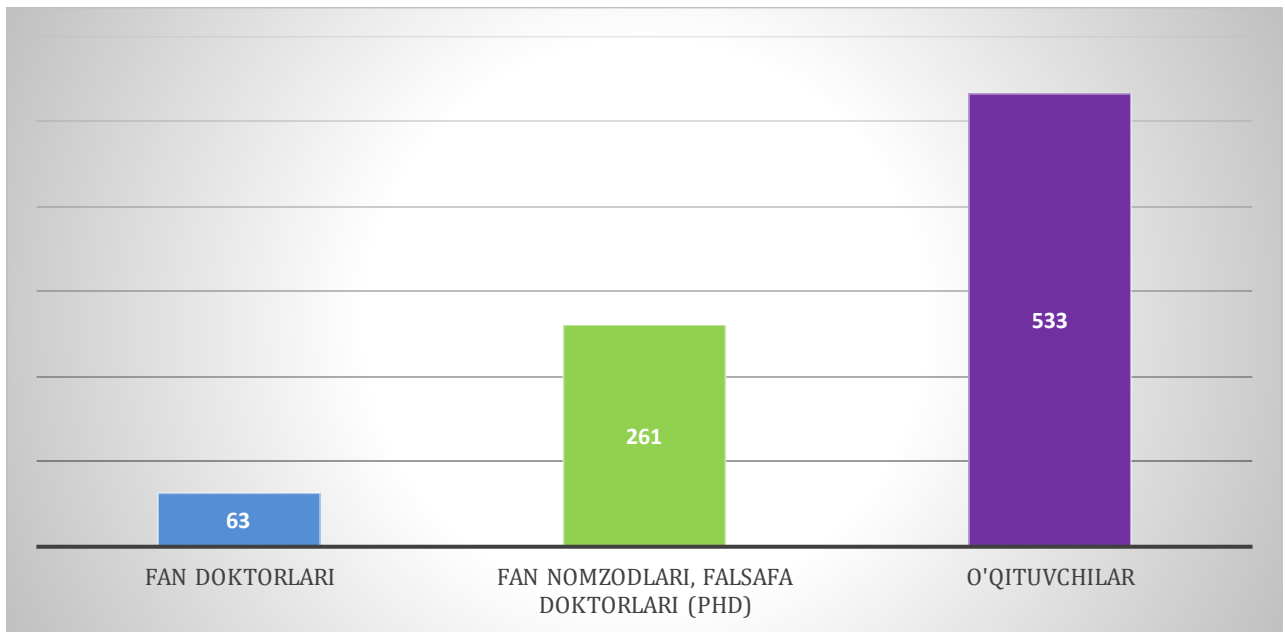
(in million soums)



In 2022, Bukhara State University will have 857 professors and teachers in the main state. Of these, there are 63 doctors of science, 261 candidates of science and doctors of philosophy (PhD) and 533 teachers.

Faculty members

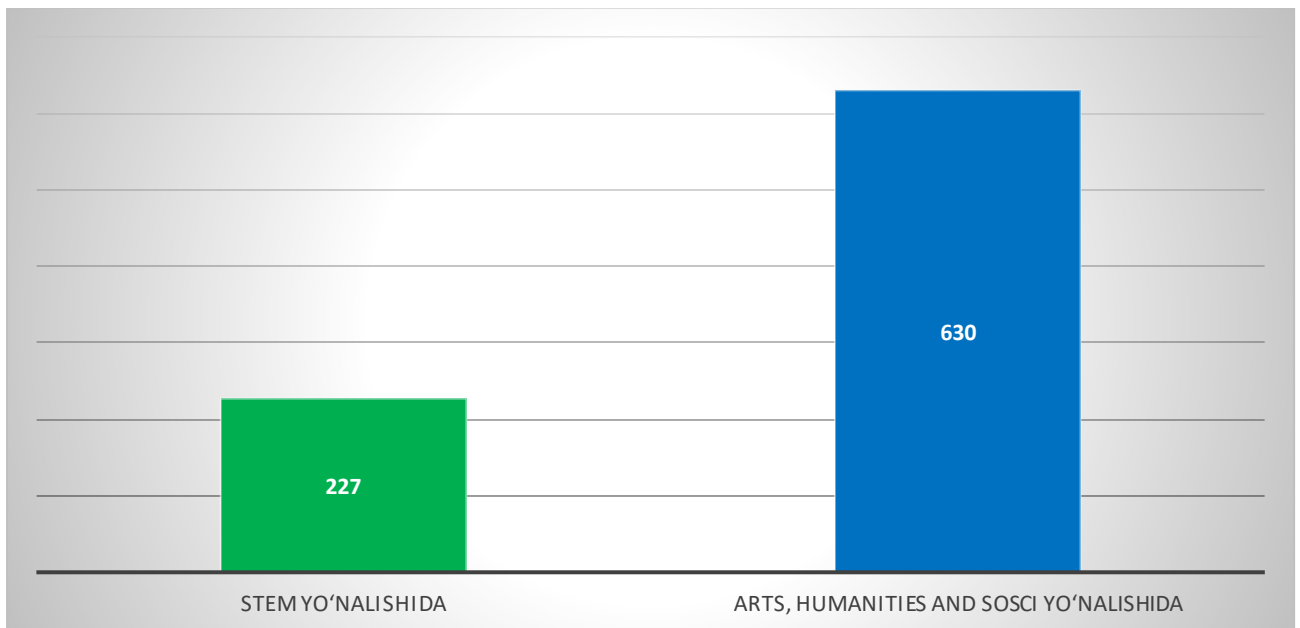
person



227 professors work in STEM, 630 in Arts, Humanities and SoSci.

Distribution of professors and teachers by fields of science

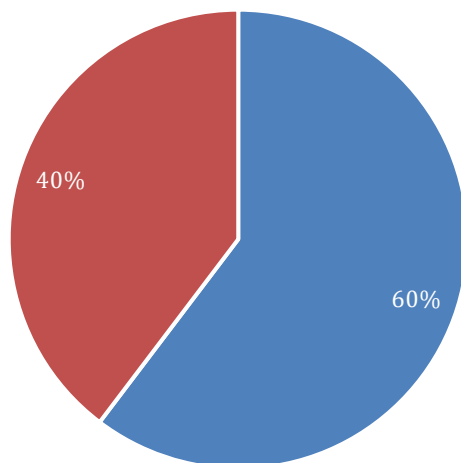
person



In 2022, 6.34 million soums were attracted from scientific research activities for 1 state unit of professors and teachers. Including, 8.62 million soums from scientific and research activity for professors and teachers working in the STEM direction, 1 state unit for professors and teachers working in the Arts, Humanities and SoSci direction 5.67 million soums were attracted to the state unit.

Distribution of funds attracted as a result of scientific research activities in relation to 1 state unit

in percent



- STEM yo'nalishida 1 shtat birligiga jalb qilingan mablag'lar summasi
- Arts, Humanities and SoSci yo'nalishida 1 shtat birligiga jalb qilingan mablag'lar summasi