



SCIENCE & TECHNOLOGY
CENTER IN UKRAINE



2007 Annual Survey

Kiev

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Key Conclusions

- For this 2007 survey, 209 Technical Units (TUs) responded to the survey questionnaire, out of 321 individual with active STCU projects. This 65% response rate is similar to that of previous surveys.
- The 2007 is the first STCU annual survey to receive responses from all five STCU Recipient Parties.
- There appears to be a slight improvement in the aggregate percentage of respondent TUs evaluated as “sustainable” between the 2007 and 2006 surveys. The percentage of “sustainable” TUs grew from 36% in 2006 to 39% in 2007, and the percentage of “non-sustainable” TUs fell from 59% in 2006 to 57% in 2007.
 - There was a slight decline in the percentage of sustainable TUs among the respondents from Azerbaijan (2007=33%; 2006= 30%) and Georgia (2007=37%; 2006=33%).
 - Ukraine showed an increase in the TU sustainability level (2007=42%; 2006=39%).
 - The inclusion of Moldovan in 2007 affected the aggregate TU sustainability evaluation by adding more “non-sustainable TUs” to the total than by adding “sustainable TUs”. The large difference in the Uzbek TU sample size from 2006 to 2007 makes comparison of its TU sustainability data suspect. These factors make it impossible to draw relevant conclusions about the TU sustainability levels of these two Recipient Parties (although when excluding their data, the remaining Recipient Parties still show a slight overall improvement in TU sustainability).
- There was an apparent strengthening in the quality of sustainability among the responding TUs, with 7% of the 2007 evaluated as “extra sustainable”, compared to 4% in the 2006 sample. Of the Recipient Parties surveyed, Ukrainian respondents showed the largest percentage increase in extra-sustainable TUs.
- There was no significant change in the aggregate diversification of TU budgetary financing sources between the 2007 and 2006 surveys. Overall, national governmental funding remained the major source of TU budgetary financing (making up 50% of the TU budgets), with the funding from STCU grants and funding from commercial sources holding roughly the same portions as in 2006 (38% and 9%, respectively). Only funding from other non-governmental sources showed any significant change in TU budgetary share, falling to a 3% share in the 2007 sample from a 10% share in the 2006 sample.
 - Non-governmental sources held a larger portion of budgetary funding than national governmental sources only for responding Azeri and Uzbek TUs.
 - Responses from Ukrainian TUs showed an increase in the share of national government funding and a decrease in funding from commercial sources between the 2006 and 2007 surveys. The share held by STCU grant funding in 2007 (21%) is the smallest percentage share of all the Recipient Parties (although this percentage falls roughly in same range as the 2006 and 2005 survey results for Ukraine).
 - The portion of funding from STCU grants grew between 2006 and 2007 for responding Azeri, Georgia, and Uzbek TUs. STCU funding for Uzbek TUs is so dominant, that they could be called “STCU reliant”.
 - The sample size from Moldovan TUs is too small to draw general conclusions, but the share of budgetary financing sources fall within the overall trend: 54% from national government, 25% from STCU. Surprisingly, Moldovan TUs reported receiving 25% of their funding from commercial sources, the largest such share among the Recipient Parties.
- While the TU respondents generally showed increases in international collaboration and in scientific publication activity, the TUs reported no significant change in STCU impact on these activities (when comparing the percentage share of TU activities that received STCU support). The 2007 survey continued to show a general weakness in the responding TUs’ preparation in transferring research into the marketplace and developing partnerships with commercial customers. More significantly, however, is that the TU responses showed few requests for STCU assistance in technology transfer-related activities, making the STCU impact on the responding TUs more superfluous in these areas.

Introduction

In February-March 2008, STCU conducted its third annual survey of Technical Units (TUs) with active STCU projects to evaluate the units' level of self-sustainability and the impact of STCU activities. The term "technical unit" refers to the organizational group where STCU projects are being conducted. The majority of these technical units lie within an institute organization, although in some cases, the TU responses may represent an entire (small) institute or small firm. STCU received 209 TU responses out of 321 surveys sent—an approximate 65% response rate that is similar to the response rates of previous annual surveys.

The STCU annual survey methodology (including the methodology for sustainability evaluation) was developed in 2005 by joint effort between STCU and National Academy of Sciences of Ukraine (NASU) through the Dobrov Center for Scientific and Technological Potential and Science History Studies (Ukraine).

Evaluation of Technical Unit Self-Sustainability

Table 1. Description of Sustainability Evaluation Criteria

#	Criteria	Description
1	Presence of non-government financing	Reflects the level of intensity of relations between business and the unit. If these relations are stable, the unit could potentially commercialize its results and receive extra income
2	Share of budget devoted to applied research	Min 10% of TU budget; reflects more 'practical' orientation of the unit
3	Differentiation of sources of non-government financing	Presence of not less than two financing sources; reflects the possibility of the unit receiving money from different sources and allowing it to continue activities should one source disappear
4	Number of publications in referred foreign journals	At least two such publications per unit; reflects the unit's connection and credibility within external science communities
5	Presence of contract with a foreign partner	At least one; reflects unit's capability to attract contract research from outside sources and foreign customers.
6	Number of technologies that are commercialized	At least one of such technology; reflects the unit's potential to attract external, commercial technology financing
7	Presence of young researchers in the TU	Not less than 5%; reflects unit's recruiting ability and attractiveness to new researchers, as a measure of the unit's long-term viability
8	Relatively young average age of researchers	Not higher than 55 years; reflects the unit's ability to retain newly recruited researchers, as well as its future R&D capability and viability

The first three criteria (highlighted above) represent an assumed minimum threshold for self-sustainability. The additional criteria provide a measure of the depth/strength of the technical unit's sustainability.

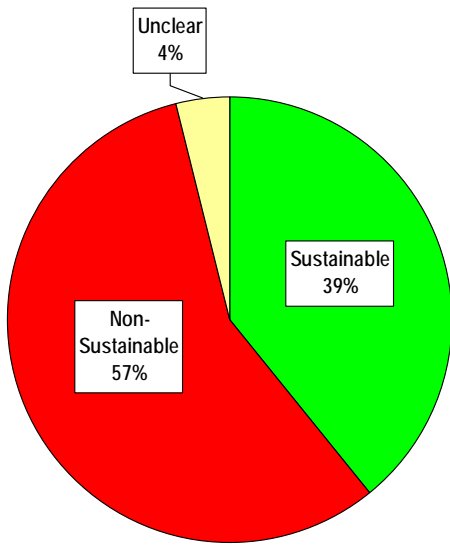
- Sustainable Technical Units: Units whose responses fulfilled Criteria 1-3 and at least one of Criteria 4-6.
- Extra Sustainable Technical Units: Units whose responses fulfilled all eight sustainability criteria.
- Non-Sustainable Technical Units: Units whose responses failed to meet Criteria 1-3.

The table below summarizes the share of respondent TUs that were determined to fall into one of the sustainability levels. A comparison to the 2006 survey evaluations are shown in the following graphics.

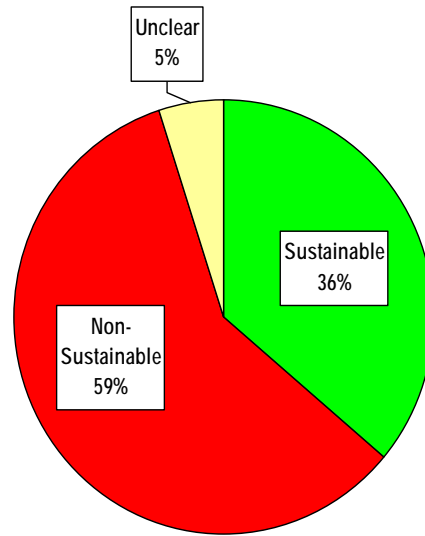
Table 2. Sustainability of Technical Units by Country and In Total, 2007

	AZ	GE	MD	UA	UZ	Total # (% of Total)
Sustainable Units	3 (30%)	6 (33%)	1 (25%)	68 (42%)	4 (25%)	82 (39%)
<i>including Extra Sustainable Units</i>	-	-	-	15 (9%)	-	15 (7%)
Non-sustainable Units	7 (70%)	12 (66%)	3 (75%)	85 (53%)	12 (75%)	119 (57%)
Units with unclear status (not enough data)	-	-	-	8 (5%)	-	8 (4%)

Technical Unit Sustainability Comparison

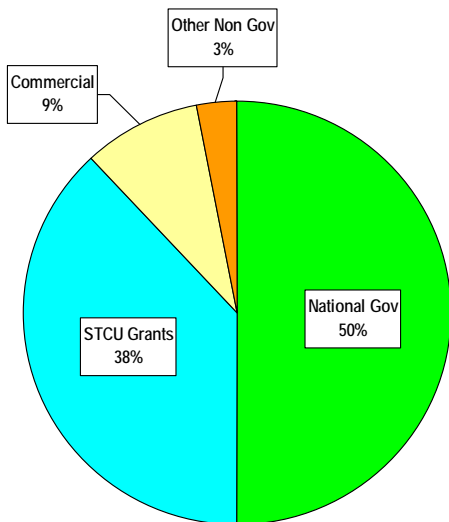


2007: 209 Responses

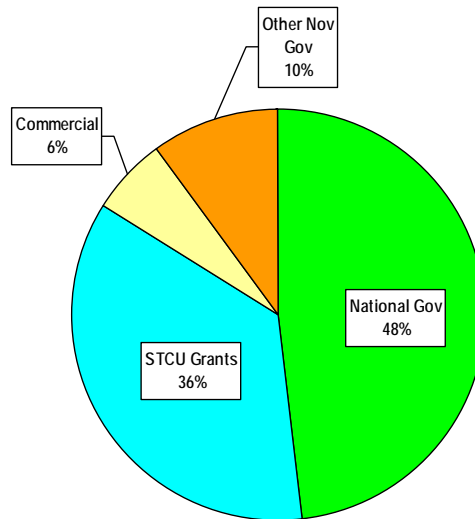


2006: 218 Responses

Technical Unit Sources of Income Comparison



2007: 209 Responses



2006: 218 Responses



AZERBAIJAN

Key Findings from Azeri Technical Units:

1. Questionnaires were sent to 15 Azeri Technical Units (TUs) with active STCU projects in 2007. Of these, 10 TUs responded for 67% response rate (2006 survey: 9 respondents, 90% response rate).
2. Of the Azeri respondents, 3 TUs (30% of the respondents) were evaluated as sustainable and 7 TUs (70% of respondents) were evaluated as non-sustainable. This is a slight decline from the sustainability levels evaluated in the 2006 survey. But an accurate comparison to 2006 data is difficult because 4 of the 9 respondents provided data about the entire institute, rather than about only the TUs with STCU projects.
3. The majority of the respondents' financing (53%) comes from the national government. STCU grants make up 40% of the respondents' total financing, which equates to 85% of all the non-government financing received by the responding TUs.
4. In 2007, fewer promising technologies were reported, and no respondent requested STCU assistance in technology promotion. The impact of STCU on international collaboration appears to be higher.

Background

Questionnaires were sent to 15 Azeri Technical Units (TUs) that had active STCU projects during 2007. Of these, 10 TUs provided responses for a 67% response rate. While this response rate was lower than the 2006 survey rate of 90%, nearly the same number of TUs responded in 2006 as in 2007 (9 TUs responded to the 2006 survey). However in 2006, four of the responding TUs gave information about their whole institutes, rather than just on the TU itself. This makes comparison of Azeri responses from the two annual surveys difficult.

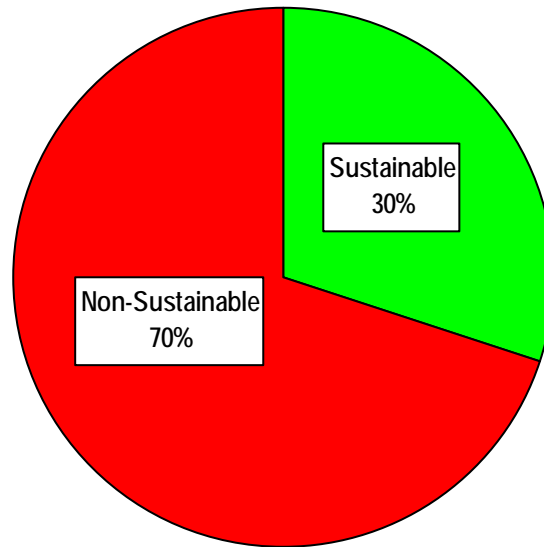
Technical Units Sustainability Evaluation

Using the sustainability criteria described earlier, the responding Azeri TUs were categorized accordingly, using the data drawn from the TU responses to the questionnaire. Of the Azeri respondents, 3 TUs (30 % of the respondents) were evaluated as sustainable and none was evaluated as extra sustainable. These percentages are almost exactly the same as those evaluated in 2006. However, the small number of responding TUs in both the 2006 and 2007 surveys makes it difficult to draw general conclusions about Azeri TU sustainability.

Table AZ-1. Sustainability Evaluation of Azeri Technical Units

	Total (% of Total)	
	2006	2007
Sustainable Units	3 (33%)	3 (30%)
<i>including Extra Sustainable Units</i>	1 (11%)	0
Non-sustainable Units	6 (67%)	7 (70%)
Units with unclear status (not enough data for ranking)	-	0

Sustainability of Responding Azeri TUs (2007)

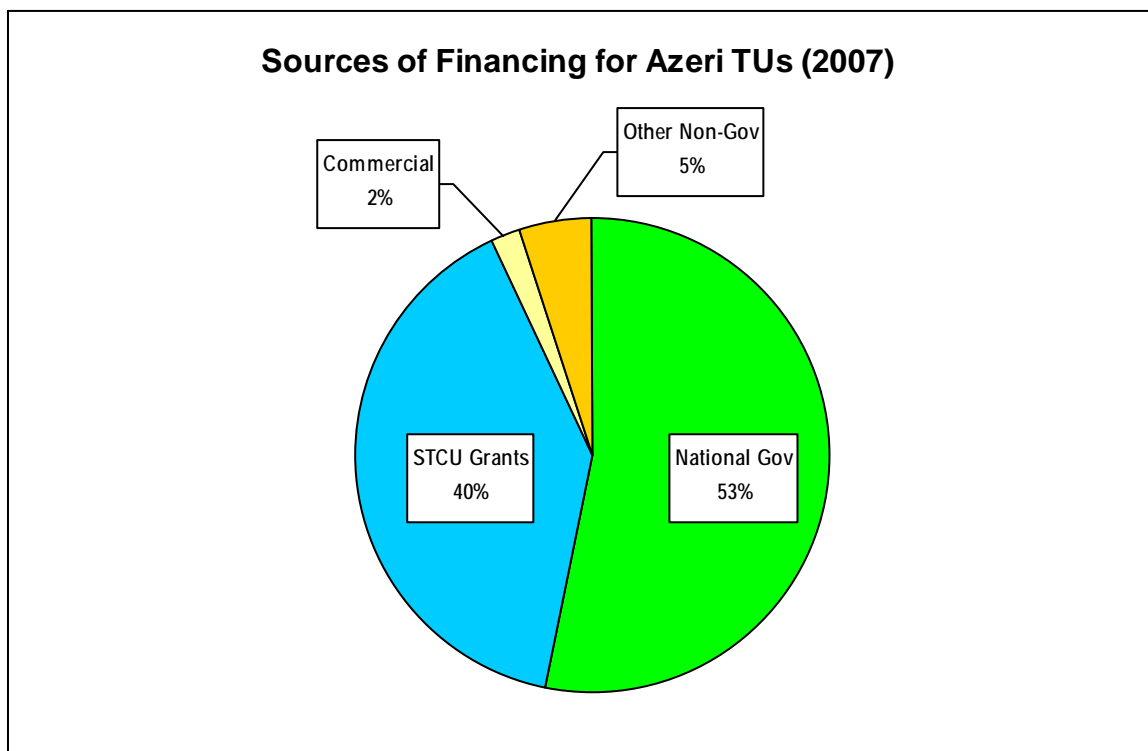


Financing Sources

The majority of the Azeri respondents' financing (53%) comes from the national government. Between the 2006 and 2007 surveys, Azeri TU responses show that STCU grants doubled in share of budgetary financing, holding a 40% portion of the respondents' funding and being the dominant share of all non-government financing. Among the five Recipient Parties in the survey, only Uzbekistan has larger share of STCU grants as a portion of non-government financing. Of note, between 2006 and 2007 surveys, the share of funding from commercial sources and from domestic NGOs declined, while the share of funding from external NGOs increased slightly.

Table AZ-2. Source of Budgetary Financing for Technical Units

Source of Financing (% of TU Budget)	2006	2007
National Government	58%	53%
Non-Government	42%	47%
• <i>Share from STCU Grants</i>	21%	40%
• <i>Share from Private Commercial Entities</i>	11%	2%
• <i>Share from Other Domestic Non-Government Organizations (except STCU)</i>	8%	0%
• <i>Share from Foreign Non-Government Organizations (except STCU)</i>	2%	5%



Characteristics of Technical Units

Table AZ-3. Quantity of STCU Projects

	Total	
	2006	2007
# of Responding TUs with 1Project	6 (67% of total)	8 (80% of total)
# of Responding TUs with 2 Projects	3 (33% of total)	2 (20% of total)
# of Responding TUs with 3 Projects	-	-
# of Responding TUs with 4 Projects	-	-
# of Responding TUs with 5 Projects	-	-

Areas of Research Focus

The main research areas reported by the Azeri respondents were physics, chemistry, biology, nanotechnology.

Collaboration with Foreign Countries

Unlike in the 2006 survey, in 2007 the responding Azeri TUs reported more scientific contacts with the USA and Germany and less contact with Russia. Other partner countries were Ukraine, Canada, Hungary, Italy, Romania, Finland, Turkey, Belgium, Belarus, Georgia, Netherlands, the UK, Spain, and India.

Profile of Technical Unit Scientists

Table AZ-4. Average Age of Scientists in Responding Azeri TUs

	Average Age (years)	
	2006	2007
All Researchers	44	45
Doctors of Science	53	62
Candidate of Science (PhD equivalent)	50	48

Table AZ-5. Proportion of Scientists in Responding Azeri TUs, by Age

	% of TU Staff	
	2006	2007
Under 35 years old	12%	25%
Retired	26%	35%

STCU Impact on Promoting S&T Excellence

Technology Promotion & Patenting

While 60% of the responding Azeri TUs reported having technologies ready for market, these TUs reported fewer specific promising technologies than were reported in 2006 (only 12 technologies compared to 35 in 2006). Further, fewer technologies were reported as patented in 2007 than in 2006. None of the reported technologies had associated business plans or marketing research, and none of the Azeri TUs requested STCU technology promotion assistance.

Table AZ-6. Technologies Reported by Responding TUs

	2006 (Total and % of Total)	2007 Total (and % of Total)
Technologies, total	35	12
- implemented in market	2 (5.7%)	1 (8%)
- patented	29 (83%)	5 (42%)
- supported by a business plan	4 (11%)	0
- supported by marketing research	2 (5.7%)	0
- applied for STCU technology promotion assistance (e.g., patent support, etc.)	0	0

* Total percentage exceeds 100% because respondents could choose multiple categories in the question

Table AZ-7. Patenting Reported by Responding TUs

	2006		2007	
	Total	with STCU Assistance	Total	with STCU Assistance
Patents Received	5	0	4	0
National (Azeri) Patent Applications	5	0	4	0
Foreign or International Patents Applications	0	0	0	0

Level of International Collaboration & Scientific Activity

Participation in international conferences and joint publications was much less numerous in 2007 than reported in 2006, but the share of the 2007 activity promoted by STCU appears to be higher. However, this may not be the actual case as data in four 2006 questionnaires were given about the entire institute and not only the TUs where the STCU projects are taking place.

Table AZ-8. International Collaborative Activities

	2006		2007	
	Total	With STCU assistance (% of Total)	Total	With STCU assistance (% of Total)
Participation in International Conferences	161	13 (8%)	65	24 (37%)
• within the country	76	7 (9%)	33	13 (39%)
• Abroad	85	6 (7%)	32	11 (34%)
Joint Publications	137	5 (3%)	34	12 (35%)
Joint Scientific Projects	30	10 (33%)	14	6 (42%)
Contracts with Business Partners	20	3 (15%)	11	2 (18%)
• within the country	16	1 (6%)	5	1 (20%)
• From Abroad	4	2 (50%)	6	1 (17%)
Training abroad	0	0	6	2 (33%)

Table AZ-9. Scientific Publications

	2006		2007	
	Total	With STCU assistance (% of Total)	Total	With STCU assistance (% of Total)
Monographs	11	0	6	0
• within the country	9	0	6	0
• Abroad	2	0	0	0
Articles	233	10 (3%)	119	30 (25%)
• within the country	184	6 (3%)	89	17 (19%)
• Abroad	49	4 (8%)	30	13 (43%)
Abstracts of the conferences	126	24 (16%)	101	31 (31%)
• within the country	58	7 (12%)	57	16 (28%)
• Abroad	68	17 (25%)	44	15 (34%)

Summary of Responding Azeri Technical Units (2006 - 2007)

Total (or % of Total)	2006	2007
Technical Units (TUs) to which questionnaires were sent	10	15
TUs which responded to questionnaires	9 (90%)	10 (67%)
Source of Financing (% of TU Budget)		
National Government	58%	53%
Non-government	42%	47%
- STCU Share of Total (Government + Non-government Financing)	21%	40%
- STCU Share of Non-government Funding Portion	50%	85%
Technical Unit Sustainability Evaluation		
Sustainable Units	3 (33%)	3 (30%)
<i>including Extra Sustainable Units</i>	1 (11%)	0
Non-sustainable Units	6 (67%)	7 (70%)
Units with unclear status (not enough data for ranking)	0	0
Areas of STCU Project and Supplemental Activities	# of TU activities with STCU Support (% of Total)	
Technologies that are Market-Ready	33	12
International Collaboration Connected with STCU		
Participation in International Conferences within Country	7 (9%)	13 (39%)
" " " Conducted Abroad	6 (7%)	11 (34%)
Joint Scientific Articles with Foreign Colleagues	5 (3%)	12 (35%)
Participation in Joint Research Projects (with foreign partners)	10 (33%)	6 (42%)
Contracts with Private Companies within the Country	1 (6%)	1 (20%)
" " " From Abroad	2 (50%)	1 (17%)
Participation in Training Programs Abroad	0	2 (33%)
Scientific Publishing Activity Connected with STCU		
Scientific Articles within the Country	6(3%)	17 (19%)
" " Abroad	4(8%)	13 (43%)
Abstracts Submitted to Conferences within the Country	7(12%)	16 (28%)
" " " Abroad	17(25%)	15 (34%)
Patenting Activity Connected with STCU projects		
National Patent Applications	0	0
Foreign/International Patent Applications	0	0



GEORGIA

Key Findings from Responding Georgian Technical Units:

1. Questionnaires were sent to 21 Georgian Technical Units (TUs) with active STCU projects in 2007. Of these, 18 TUs responded for an 86% response rate (2006 survey: 19 respondents, 80% response rate).
2. As Georgia also receives similar project funding and supplemental support from ISTC, this may influence any general evaluation of Georgia based from these STCU-focused results.
3. Of the Georgian respondents, 6 TUs (33% of the respondents) were evaluated as sustainable, 11 TUs (67% of respondents) were evaluated as non-sustainable, and none of TUs was evaluated to be extra sustainable. These are similar to the sustainability evaluations in the 2006 survey.
4. Non-government financing forms the biggest share (66%) of the responding Georgian TU budgetary financing. These results are similar to the 2006 survey findings. The non-governmental share is the biggest percentage among the 5 STCU Recipient Parties, where in most cases government financing dominates. STCU grants make up a larger share of the responding TUs' total financing than the share received from the national government (52% from STCU vs. 34% from the government), and this STCU share increased from the level in the 2006 survey. Financing from commercial sources also increased between the 2006 and 2007 surveys.
5. In 2007, Georgian scientists reported more articles and abstracts published, yet the impact of STCU became less than reported in the 2006 survey.

Background

Questionnaires were sent to 21 Georgian TUs with active STCU projects in 2007. Of these, 18 TUs provided responses, for an 86% response rate (similar to the response received in 2006). As Georgia is the only Recipient Party that is also a member of STCU's sister center, the International Science and Technology Center (ISTC), it is possible that the results of these STCU-focused survey results underestimates the overall impact of "science center" activity in Georgia.

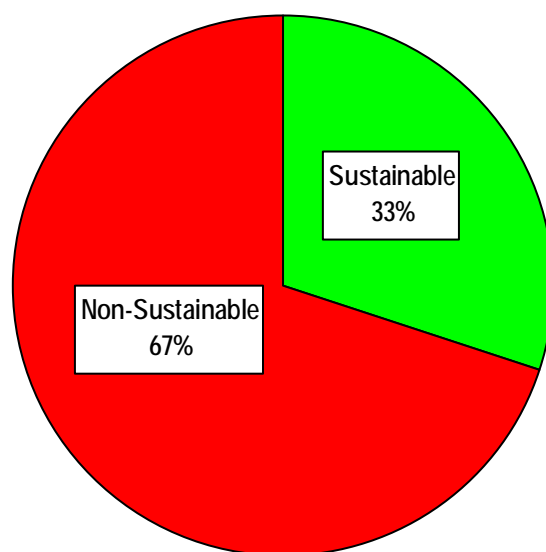
Technical Units Sustainability Evaluation

Using the sustainability criteria described earlier, the responding Georgian TUs were categorized accordingly, using the data drawn from the TU responses to the questionnaire. The overall number and percentage share of sustainable and non-sustainable TUs were similar to the 2006 survey results, but in the 2007 there were no responding Georgian TUS that were evaluated as extra-sustainable.

Table GE-1. Sustainability Evaluation of Georgian Technical Units

	Total (% of Total)	
	2006	2007
Sustainable Units	7 (37%)	6 (33%)
<i>including Extra Sustainable Units</i>	1 (5%)	0
Non-sustainable Units	11 (57%)	12 (67%)
Units with unclear status (not enough data for ranking)	1 (5%)	0

Sustainability of Responding Georgian TUs (2007)

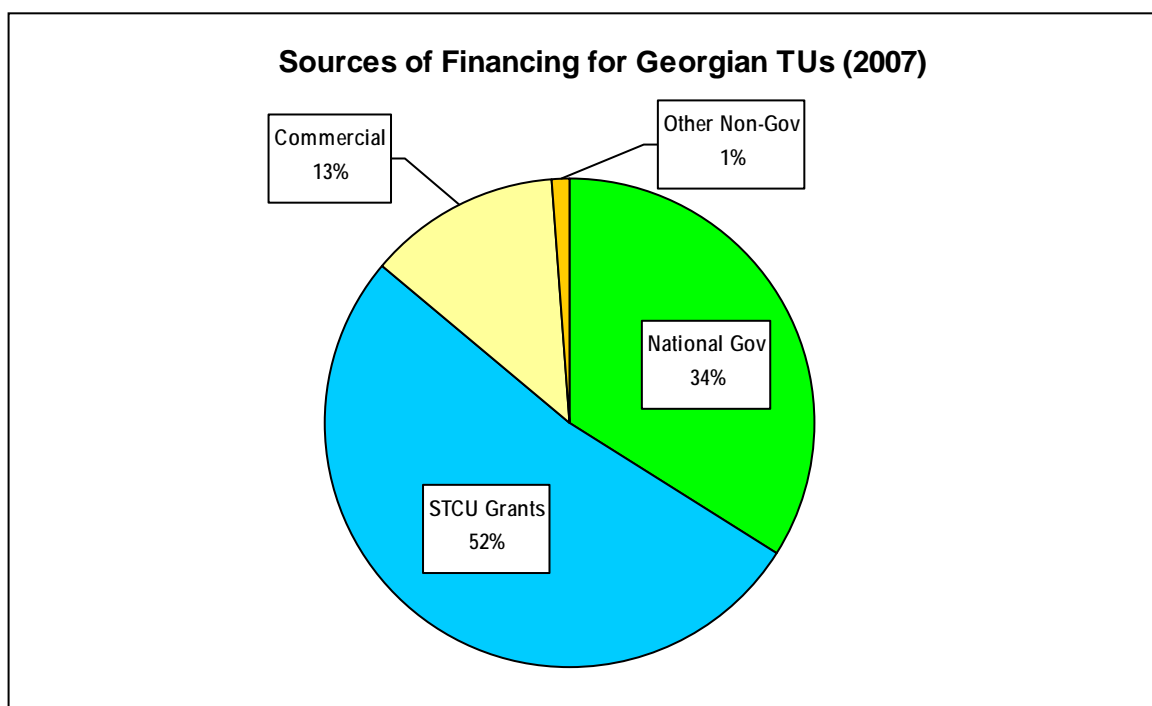


Financing Sources

Of the responding Georgia TUs, non-governmental financing formed the largest portion of the TU budgetary financing, amounting to 66% of the TU budget. STCU project grant funding formed half of the Georgian TU financing (52%) and is larger than the portion of TU financing coming from the national government. The percentage share of government and non-government financing remained close to the percentages of the 2006 survey. However, the share of STCU grants increased between the 2006 and 2007 surveys, as did the share of funding from commercial sources.

Table GE-2. Source of Budgetary Financing for Technical Units

Source of Financing (% of TU Budget)	2006	2007
National Government	39%	34%
Non-government	61%	66%
• <i>Share from STCU grants</i>	47%	52%
• <i>Share from Private Commercial Entities</i>	0%	13%
• <i>Share from Other Domestic Non-Government Organizations (except STCU)</i>	2%	1%
• <i>Share from Foreign Non-Government Organizations (except STCU)</i>	12%	0%



Characteristics of Technical Units

Table GE-3. Quantity of STCU Projects

	Total	
	2006	2007
# of Responding TUs with 1 Project	16 (85% of total)	16 (88% of total)
# of Responding TUs with 2 Projects	1 (5% of total)	2 (22% of total)
# of Responding TUs with 3 Projects	1 (5% of total)	-
# of Responding TUs with 4 Projects	-	-
# of Responding TUs with 5 Projects	1 (5% of total)	-

Areas of Research Focus

The main research areas reported by the Georgian respondents were biochemistry/biotechnology, medicine/pharmacology, physics, chemistry, and material science.

Collaboration with Foreign Countries

The Georgian TUs reported scientific contacts mostly with the USA, Canada, Germany, Russia, Italy, Poland, Great Britain, Belgium, and Greece. Other contacts included Spain, Netherlands, France, Ukraine, and Armenia.

Profile of Technical Unit Scientists

Table GE-4. Average Age of Scientists in Responding Georgian TUs

	Average Age (years)	
	2006	2007
All Researchers	48	48
Doctors of Science	60	58
Candidate of Science (PhD)	49	45

Table GE-5. Proportions of Scientists in Responding Georgian TUs, by Age

	% of TU Staff	
	2006	2007
Under 35 years old	36%	16%
Retired	35%	20%

STCU Impact on Promoting S&T Excellence

Technology Promotion & Patenting

The respondent Georgian TUs reported 39 market-ready technologies and all of these technologies are patented. Seven of the technologies obtained national patents in 2007, two of which were obtained with STCU assistance. One TU reported obtaining a patent outside of Georgia. The STCU impact in all of these technology promotion activities declined in the 2007 survey from the percentage shares in the 2006 survey.

Table GE-6. Technologies Reported by Responding TUs

	2006 (Total and % of Total)	2007 (Total and % of Total)
Technologies, total	35	39
- implemented in market	9 (26%)	0
- number of patents	24 (68%)	39 (100%)
- supported by a business plan	2 (5.7%)	5 (13%)
- supported by marketing research	-	5 (13%)
- applied for STCU technology promotion assistance (e.g., patent support, etc.)	2 (5.7%)	1 (3%)

* Total percentage exceeds 100% because respondents could choose multiple categories in the question

Table GE-7. Patenting Reported by Responding TUs

	2006		2007	
	Total	With STCU Assistance (% of Total)	Total	With STCU Assistance (% of Total)
Patents Received	6	6 (100%)	8	2 (25%)
National (Georgian) Patent Applications	11	8 (72%)	7	2 (29%)
Foreign or International Patents Applications	0	-	1	-

Level of International Collaboration & Scientific Activity

Participation in international conferences and other collaborative activities remained popular among the respondent Georgian TUs, with the share receiving STCU support remaining generally the same as in 2006. In scientific publications, there was a general increase in activity, but the share of STCU involvement became less compared to 2006 levels.

Table GE-8. International Collaborative Activities

	2006		2007	
	Total	With STCU Assistance (% of Total)	Total	With STCU Assistance (% of Total)
Participation in International Conferences	72	20 (28%)	115	27 (23%)
• within the country	15	3 (20%)	29	11 (38%)
• Abroad	57	17 (30%)	86	16 (19%)
Joint Publications	110	23 (21%)	61	15 (25%)
Joint Scientific Projects	28	5 (18%)	31	16 (52%)
Contracts with Business Partners	6	2 (33%)	19	3 (11%)
• within the country	2	-	14	2 (14%)
• From Abroad	4	2 (50%)	4	1 (25%)
Training abroad	16	3 (19%)	10	1 (10%)

Table GE-9. Scientific Publications

Name	2006		2007	
	Total	With STCU Assistance (% of Total)	Total	With STCU Assistance (% of Total)
Monographs	6	-	2	-
• within the country	4	-	2	-
• Abroad	2	-	-	-
Articles	149	35 (23%)	282	36 (13%)
• within the country	63	19 (30%)	159	19 (12%)
• Abroad	86	16 (19%)	123	17 (14%)
Abstracts for conferences	57	13 (26%)	135	18 (12%)
• within the country	12	3 (25%)	37	6 (16%)
• Abroad	45	10 (22%)	98	12 (12%)

Summary of Responding Georgian Technical Units (2006 - 2007)

Total (or % of Total)	2006	2007
Technical Units (TUs) to which Questionnaires were sent	23	21
TUs which responded to Questionnaires	19 (80%)	18 (86%)
Source of Financing (% of TU Budget)		
National Government	39%	34%
Non-government	61%	66%
- STCU Share of Total Budget (Government + Non-government Financing)	47%	52%
- STCU Share of Non-government Funding Portion	77%	79%
Technical Unit Sustainability Evaluation		
Sustainable Units	7 (37%)	6 (33%)
<i>including Extra Sustainable Units</i>	1 (5%)	0
Non-sustainable Units	11 (57%)	12 (66%)
Units with unclear status (not enough data for ranking)	1 (5%)	0
Areas of STCU Project and Supplemental Activities	# of TU activities using with STCU Support (% of Total)	
Technologies that are Market-Ready	35	39
International Collaboration Connected with STCU		
Participation in International Conferences within Country	3(20%)	11(38%)
" " " Conducted Abroad	17(30%)	16 (19%)
Joint Scientific Articles with Foreign Colleagues	23(21%)	15 (25%)
Participation in Joint Research Projects (with foreign partners)	5(18%)	16 (52%)
Contracts with Private Companies within the Country	-	2 (14%)
" " " From Abroad	2(50%)	1(25%)
Participation in Training Programs Abroad	3(19%)	1 (10%)
Scientific Publishing Activity Connected with STCU		
Scientific Articles within the Country	19 (30%)	19 (12%)
" " Abroad	16 (19%)	17 (14%)
Abstracts Submitted to Conferences within the Country	3 (25%)	6 (16%)
" " " Abroad	10(22%)	12 (12%)
Patenting Activity Connected with STCU projects		
National Patents	8 (72%)	2 (29%)
Foreign/International Patents	0	0



MOLDOVA

Key Findings from Moldavian Technical Units:

1. Questionnaires were sent to 5 Moldavian Technical Units with active STCU projects in 2007. Of these, 4 TUs provided responses, for an 80 % response rate. This was the first time that Moldovan TUs participated in the STCU annual survey. Due to this fact, and due to the small size of the sample, it is difficult to draw general conclusions about the overall state of Moldovan TUs or STCU's impact on their activities.
2. Of the Moldavian respondents, one TU was evaluated as sustainable and none were evaluated to be extra sustainable. Together with Uzbekistan, Moldova has the smallest percentage of sustainable TUs (with active STCU projects) among the STCU Recipient Parties.
3. Governmental financing represented 54% of the responding TUs budgetary funding. STCU grants form 22% of TUs' budgets, and are about a half of all non-governmental financing received by the TUs.
4. The influence of STCU on many indicators of international collaboration and scientific results is less significant that in other Recipient Parties.

Background

This is the first year that Moldavian TUs participated in this STCU annual survey. Questionnaires were sent to 5 Moldavian Technical Units with active STCU projects in 2007. Of these, 4 TUs provided responses, for an 80 % response rate.

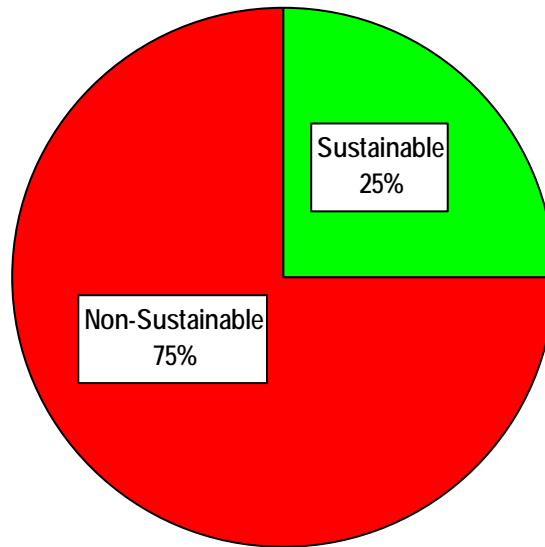
Technical Units Sustainability Evaluation

Using the sustainability criteria described earlier, the responding Moldavian TUs were categorized accordingly, using the data drawn from the TU responses to the questionnaire. One Moldovan TU (25% of the respondents) was evaluated as sustainable and none were evaluated to be extra sustainable. Together with Uzbekistan this percentage of sustainable TUs represents the smallest share from among all of the surveyed STCU Recipient countries. However, the small size of the sample (4 responding TUs) makes it difficult to draw general conclusions about the state of self-sustainability of Moldovan technical units.

Table MD-1. Sustainability Evaluation of Respondent Moldavian TUs (2007)

	Total (% of Total)
Sustainable Units	1 (25%)
<i>including Extra Sustainable Units</i>	0
Non-sustainable Units	3 (75%)
Units with unclear status (not enough data for ranking)	0

Sustainability of Responding Moldovan TUs (2007)



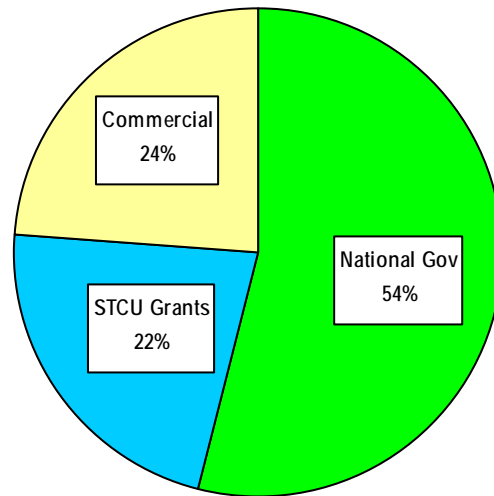
Financing Sources

Of the responding Moldavian TUs, governmental financing formed the largest portion of their budgetary funding, amounting to 54% of the TU budget. Among the sources of non-governmental funding, STCU grants made up 22% of the total budget for the respondent Moldovan TUs. Surprisingly, the Moldovan TUs reported that financing from commercial sources made up 24% of their budgets, which is one of the largest percentages seen of commercial financing of all the STCU Recipient Parties.

Table MD-2. Source of Budgetary Financing Reported by Moldovan TUs (2007)

Source of Financing	% of TU Budget
National Government	54%
Non-government	46%
• <i>Share from STCU grants</i>	22%
• <i>Share from Private Commercial Entities</i>	24%
• <i>Share from Other Domestic Non-Government Organizations (except STCU)</i>	0%
• <i>Share from Foreign Non-Government Organizations (except STCU)</i>	0%

Sources of Financing for Moldovan TUs (2007)



Characteristic of Technical Units

Table MD-3. Quantity of STCU Projects Reported by Moldovan TUs (2007)

	Total
# of Responding TUs with 1 Project	4 (100% of total)
# of Responding TUs with 2 Projects	-
# of Responding TUs with 3 Projects	-
# of Responding TUs with 4 Projects	-

Areas of Research Focus

The main directions of research reported by the respondents were applied physics, medicine and electronics.

Collaboration with Foreign Countries

The responding Moldavian TUs reported scientific contacts with such countries as the USA (reported by all TUs), Germany, and the UK. Other contacts included France, Greece, Belgium, Italy, Romania, Russia, Ukraine, Hungary, and the Czech Republic.

Profile of Technical Unit Scientists

Table MD-4. Average Age of Scientists in Responding Moldovan TUs (2007)

	Average Age (years)
All Researchers	46
Doctors of Science	59
Candidate of Science (PhD)	49

Table MD-5. Proportions of Scientists in Responding Moldovan TUs, by Age (2007)

	% of TU Staff
Under 35 years old	19%
Retired	8%

STCU Impact on Promoting S&T Excellence

Technology Promotion & Patenting

There are 13 technologies reported by the respondent Moldovan TUs as worth promoting to the market, and one-third of these technologies are patented. The TUs reported receiving four national patents in 2007 (with no assistance from STCU).

Table MD-6. Technologies Reported by Responding Moldovan TUs (2007)

	Total (and % of Total)
Technologies	13
- implemented in the market	4 (31%)
- patented	10 (77%)
- supported by a business plan	1 (8%)
- supported by marketing research	3 (23%)
- applied to STCU technology promotion assistance (e.g., patent support, etc.)	0

* Total percentages exceeds 100% because respondents could choose multiple categories in the question

Table MD-7. Patenting Reported by Responding Moldovan TUs (2007)

	Total	With STCU assistance
Patents Received	4	0
National (Moldovan) Patent Applications	4	0
Foreign or International Patents Applications	0	0

Level of International Collaboration & Scientific Activity

The impact of STCU on international collaborative activities is less than in other countries (with exception of Joint Research Projects with foreign partners). One possible explanation for this is the relatively short time that STCU has been active in Moldova, compared to other STCU Recipient countries.

Table MD-8. International Collaborative Activities Reported by Moldovan TUs (2007)

	Total	With STCU assistance (% of Total)
Participation in the International Conferences	36	2 (6%)
• within the country	26	1 (4%)
• Abroad	10	1 (10%)
Joint Scientific Articles with Foreign Colleagues	14	5 (36%)
Participation in Joint Research Projects (with foreign partners)	5	4 (80%)
Contracts with Business Partners	2	0
• within the country	2	0
• From Abroad	0	0
Training Abroad	4	0

Table MD-9. Scientific Publications Reported by Moldovan TUs (2007)

	Total	With STCU assistance (% of Total)
Monographs	1	0
• within the country	1	0
• Abroad	0	0
Articles	52	5 (10%)
• within the country	25	1 (4%)
• Abroad	27	4 (15%)
Abstracts Submitted to Conferences	56	2 (4%)
• within the country	37	1 (3%)
• Abroad	19	1 (5%)

Summary of Responding Moldavian Technical Units (2007)

	Total (or % of Total)
Technical Units (TUs) to which questionnaires were sent	5
TUs which responded to questionnaires	4 (80%)
Source of Financing (% of TU budget)	
National Government	54%
Non-government	46%
- STCU Share of Total Budget (Government + Non-government Financing)	22%
- STCU Share of Non-government Funding Portion	48%
Technical Unit Sustainability Evaluation	
Sustainable Units	1 (25%)
<i>including Extra Sustainable Units</i>	0
Non-sustainable Units	3 (75%)
Units with unclear status (not enough data for ranking)	0
Areas of STCU Project and Supplemental Activities	# of TU activities with STCU Support (% of Total)
Technologies that are Market-Ready	26
International Collaboration Supported by STCU	
Participation in International Conferences within Country	1(4%)
" " " Conducted Abroad	1(10%)
Joint Scientific Articles with Foreign Colleagues	5(36%)
Participation in Joint Research Projects (with foreign partners)	5(18%)
Contracts with Private Companies within the Country	0
" " " From Abroad	0
Participation in Training Programs Abroad	0
Scientific Publishing Activity Supported by STCU	
Scientific Articles within the Country	1 (4%)
" " Abroad	4 (27%)
Abstracts Submitted to Conferences within the Country	1 (3%)
" " " Abroad	1 (5%)
Patenting Activity Supported by STCU	
National Patents	0
Foreign/International Patents	0



UKRAINE

Key Findings from Ukrainian Technical Units:

1. Questionnaires were sent to 248 TUs with active STCU projects in 2007. Of these, 161 TUs responded for a 65% response rate (2006 survey: 160 respondents, 74% response rate).
2. Of the Ukrainian respondents, 68 TUs (42% of the respondents) were evaluated as sustainable, which is an increase in TU sustainability when compared to the 2005 and 2006 surveys. About 85 TUs (53% of the respondents) were evaluated as non-sustainable (compared to 49% in 2005 and 58% in 2006). The number of Ukrainian TUs evaluated as extra-sustainable is twice as large in the 2007 survey as assessed in the 2006 survey.
3. Ukrainian TUs reported receiving 66% of their financing from the national government; this is the largest governmental financing share reported among the Recipient countries, and a larger share than Ukrainian TUs reported in previous surveys. The share of budgetary financing received from STCU grants fell to 21% (compared to 28% in the 2006 survey) and is the smallest share reported among the Recipient Parties. However, STCU grants make up 60% of all non-governmental financing received by the respondent Ukrainian TUs. The share of commercial funding also fell to 4%, as compared to 6% in the 2006 survey and 10% in the 2005 survey.
4. Responding Ukrainian TUs reported 513 technologies ready for market, with 26 % of technologies already applied in the marketplace. But only 9% of the reported technologies were supported by business plans, and only 7% have been market researched (similar to the 2006 survey).
5. Through 2005-2007 surveys, the overall number of patents received and patent applications decreased. The impact of STCU on patenting also generally declined over this period, but was more significant in the foreign/international patent area.
6. The number of articles and abstracts for international conferences significantly increased during the 2005- 2007 surveys. However the impact of STCU in these publications slightly decreased over that same 2005-2007 period. The overall number of contacts with business partners fell in 2007 compared to 2006, but the number of contacts with foreign businesses abroad increased, with STCU assistance accounting for 70% of those foreign business contacts.

Background

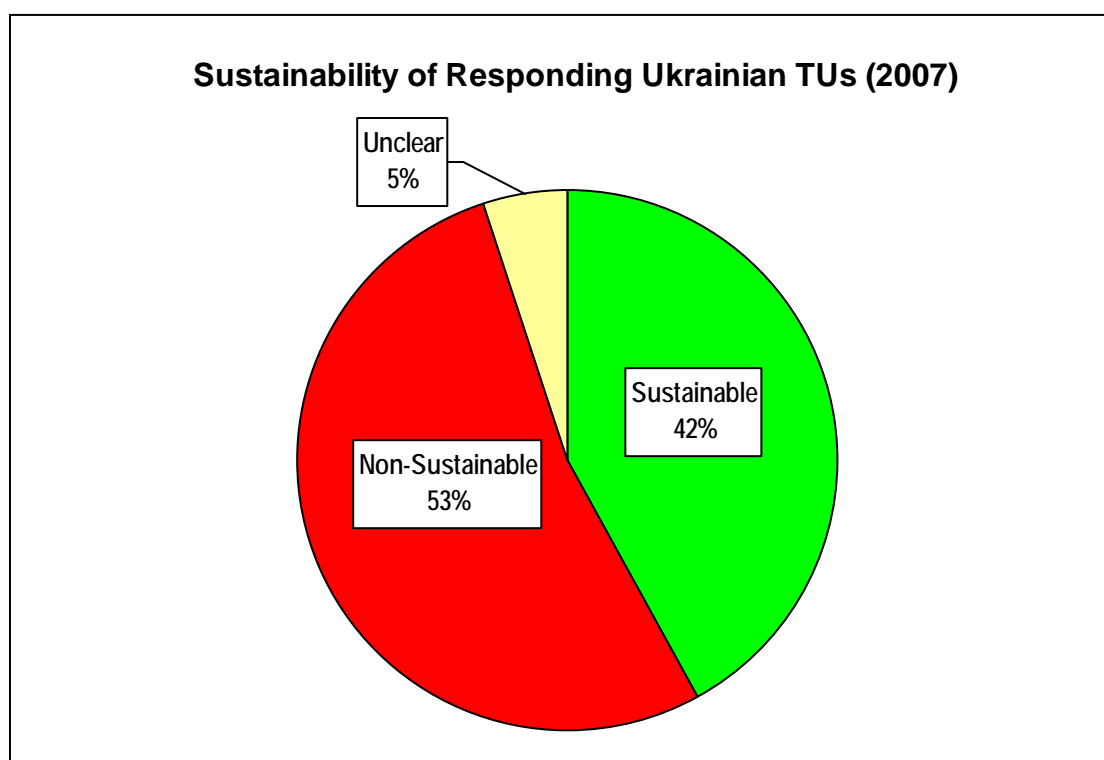
Questionnaires were sent to 248 Ukrainian TUs with active STCU projects, and 161 TUs provided responses for a response rate of 65%. This compares well with the 2006 survey (160 responses, 74% response rate) and 2005 survey (186 responses, 72% response rate).

Technical Units Sustainability Evaluation

In 2007, 68 TUs (42% of total respondents) were evaluated as being sustainable and 85 TUs (53% of the total) were evaluated to be non-sustainable. Compared to the 2005 and 2006 surveys, there is a greater number of Ukrainian TUs evaluated as sustainable and twice as many TUs were evaluated as extra-sustainable. In the inaugural 2005 STCU survey, many TUs provided insufficient data for a sustainability evaluation. Therefore, comparisons between the 2005 evaluations and subsequent survey results are affected by these differences.

Table UA-1. Sustainability Evaluation of Ukrainian Technical Units

	Total (% of Total)		
	2005	2006	2007
Sustainable Units	46 (25%)	63 (39%)	68 (42%)
<i>including Extra Sustainable Units</i>	0	7 (4%)	15 (9%)
Non-sustainable Units	91 (49%)	92 (58%)	85 (53%)
Units with unclear status (not enough data for ranking)	49 (26%)	5 (3%)	8 (5%)

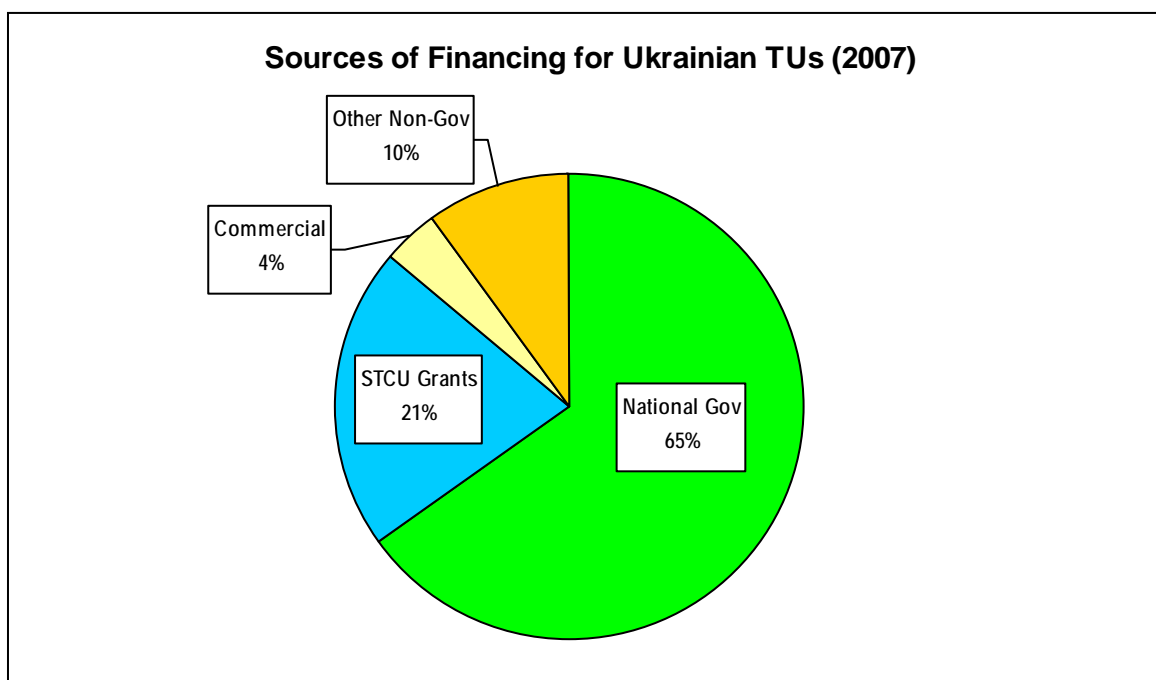


Financing Sources

Government financing still holds the largest share of Ukrainian TU funding (65% of total), and the 2007 survey showed a large shift towards even more governmental financing (as a percentage of total financing) than in previous surveys. The 65% share is the biggest percentage of all the Recipient Parties surveyed, and the largest share over the three annual surveys of Ukrainian TUs. STCU grant funding continues to be the largest portion of non-governmental funding received by the respondent TUs, but represents only 21% of the total budgetary financing of the respondent Ukrainian TUs (the smallest share of STCU funding among all the respondents from the Recipient Parties). Also, the share of financing from commercial sources has steadily decreased between the 2005, 2006, and 2007 surveys.

Table UA-2. Source of Budgetary Financing for Respondent Ukrainian TUs

Source of Financing (% of TU Budget)	2005	2006	2007
National Government	59%	57%	65%
Non-government	41%	43%	35%
• Share from STCU Grants	20%	28%	21%
• Share from Private Commercial Entities	10%	6%	4%
• Share from Other Domestic Non-Government Organizations (except STCU)	Combined Data Provided: approx. 11%	4%	1%
• Share from Other Foreign Non-Government Organizations (except STCU)		5%	9%



Characteristic of Technical Units

Table UA-3. Quantity of STCU Projects

	Total		
	2005	2006	2007
# of Responding TUs with 1 Project	<i>Data Not Available</i>	116 (73% of total)	118 (65% of total)
# of Responding TUs with 2 Projects	" " "	31 (19% of total)	32 (18% of total)
# of Responding TUs with 3 Projects	" " "	9 (6% of total)	7 (10% of total)
# of Responding TUs with 4 Projects	" " "	2 (1% of total)	3 (4% of total)
# of Responding TUs with 5 Projects	" " "	1 (0.6% of total)	1 (3% of total)

Areas of Research Focus

As with the 2006 survey data, one-third of the responding Ukrainian TUs reported working primarily in the physics area (including metal physics, quantum-, semiconductor physics, etc), chemistry, material science, and radio physics. Also, Ukrainian TUs reported major research activities in cybernetics, astronomy, biology, medicine, ecology, and agriculture.

Collaboration with Foreign Countries

The Ukrainian respondents reported scientific contacts with the USA (mentioned by 60% of the TUs), France (33%), Germany (30%), Russia (26%), Poland (24%), and Canada (13%). Also cited were Austria, Belgium, Italy, Spain, Czech Republic, Great Britain, Georgia, Azerbaijan, Uzbekistan, Japan, and Mexico.

Profile of Technical Unit Scientists

Table UA-4. Average Age of Scientists in Responding Ukrainian TUs

	Average Age (years) 2005	Average Age (years) 2006	Average Age (years) 2007
All Researchers	48	46	46
Doctors of Science	60	64	59
Candidate of Science (PhD)	50	49	48

Table UA-5. Proportions of Scientists in Responding Ukrainian TUs, by Age

	% of TU Staff 2005	% of TU Staff 2006	% of TU Staff 2007
Under 35 years old	29	25	22
Retired	24	20	21

STCU Impact on Promoting S&T Excellence

Technology Promotion & Patenting

The Ukrainian respondents reported many technologies with potential for the market (a total 513 technologies), with 26% of these technologies already marketed. About one-half of the reported technologies have patents, but only 9% are incorporated into business plans, and only 7% of them are supported by marketing research. These numbers are not statistically different from those in the 2006 survey.

Table UA-6. Technologies Reported by Responding TUs

	2005 (Total and % of Total)	2006 (Total and % of Total)	2007 (Total and % of Total)
Technologies	215	567	513
- implemented in market	<i>Data Not Available</i>	131 (23%)	134 (26%)
- patented	" " "	300 (53%)	291 (56%)
- supported by a business plan	" " "	55 (10%)	48 (9%)
- supported by marketing research	" " "	42 (8%)	38 (7%)
- applied for STCU technology promotion assistance (e.g., patent support, etc.)	" " "	39 (7%)	24 (5%)

Comment: Total percentage exceeds 100% because respondents could choose multiple categories in the question

Through 2005-2007, the surveys found a decreasing number of total patents received during the year. The impact of STCU on patenting in 2007 was less than in previous surveys (about 13% in 2007 instead of about 17-18% in the past). However, there were slightly more foreign/international patents received in 2007 than previously, and here STCU's impact appears to have been greater in 2007 than in past surveys.

Table UA-7. Patenting Reported by Responding TUs

	2005		2006		2007	
	Total	With STCU Assistance (% of Total)	Total	With STCU Assistance (% of Total)	Total	With STCU Assistance (% of Total)
Patents Received	367	64 (17.4%)	253	45 (17.7%)	221	28 (12.6%)
National (Ukrainian) Patent Applications	283	58 (20%)	240	43 (18%)	205	24 (11.7%)
Foreign or International Patents	84	6 (7%)	13	2 (15%)	16	4 (25%)

Level of International Collaboration & Scientific Activity

In 2007, the responding TUs reported more participation in international scientific conferences, especially conferences taking place within Ukraine. But the impact of STCU on such international conference participation (as measured by the share of STCU involvement in the total quantity per category) decreases from 2005 through 2007. Also the quantity of joint publications and joint scientific projects generally increased in 2007 versus the 2005 and 2006 surveys. The opposite situation occurred with reported contracts with business partners, which has seen an up-and down trend (158 in 2005, 254 in 2006 and only 115 in 2007). Generally, STCU involvement has stayed approximately the same (approximately 30% of all reported activities) across all International Collaboration categories.

Table UA-8. International Collaborative Activities

	2005		2006		2007	
	Total	With STCU assistance (% of Total)	Total	With STCU assistance (% of Total)	Total	With STCU assistance (% of Total)
Participation in International Conferences	1136	416 (36%)	1073	346 (32%)	1406	294 (21%)
• within the country	579	182 (31%)	525	133 (25%)	837	114 (14%)
• Abroad	557	234 (42%)	548	213 (39%)	569	180 (32%)
Joint Publications	642	214 (33%)	908	246 (27%)	958	284 (30%)
Joint Scientific Projects	157	78 (49%)	267	114 (42%)	295	119 (40%)
Contracts with Business Partners	158	44 (28%)	254	64 (25%)	226	78 (35%)
• within the country	80	22 (27%)	176	22 (12.5%)	115	24 (21%)
• From Abroad	78	22 (28%)	78	42 (53%)	111	54 (49%)
Training abroad	84	19 (22%)	103	6 (5.8%)	126	19 (15%)

Over the course of the 2005-2007 annual surveys, the respondent Ukrainian TUs reported a general increased in the quantity of scientific publications. The involvement of STCU on these activities was reported to be generally at the same level in 2007 as in 2006 (approximately 10%-30%), and lower than reported in the 2005 survey (approximately 25%-55%).

Table UA-9. Scientific Publications

	2005		2006		2007	
	Total	With STCU Assistance (% of Total)	Total	With STCU Assistance (% of Total)	Total	With STCU Assistance (% of Total)
Monographs	29	16 (55%)	97	12 (12%)	82	10 (12%)
• within the country	23	14 (61%)	55	11 (20%)	65	7 (11%)
• Abroad	6	2 (33%)	42	1 (2%)	17	3 (18%)
Articles	654	165 (25%)	2135	496 (23%)	2338	479 (20%)
• within the country	376	90 (24%)	1349	278 (20.6%)	1410	277 (19%)
• Abroad	278	75 (26%)	786	218 (27.7%)	928	202 (22%)
Abstracts of the conferences	596	196 (33%)	1625	470 (29%)	2621	589 (22%)
• within the country	297	74 (25%)	925	201 (22%)	1688	299 (18%)
• Abroad	299	122 (40%)	700	269 (38%)	933	290 (31%)



UZBEKISTAN

Key Findings from Uzbek Technical Units:

1. Questionnaires were sent to 32 Uzbek Technical Units (TUs) and 16 responses were received, for a 50% response rate. This is much less survey data than received in 2006 (66 questionnaires sent, 30 responses), due to fewer active STCU projects in Uzbekistan. Thus, it is difficult to compare the changes in Uzbekistan between 2006 and 2007.
2. Of the Uzbek respondents, 4 TUs, (25% of the respondents) were evaluated as sustainable. None of the responding Uzbek TUs were evaluated as extra sustainable.
3. Non-governmental financing formed the most significant share of the responding Uzbek TU funding (58%). STCU grants made up 54% of the respondent TU budgetary funding, having increased by 5% from the 2006 survey results. STCU funding was the dominate source of all non-governmental financing for the responding Uzbek TUs; the Uzbek TUs could be characterized as reliant on STCU funding.
4. The STCU impact increased and became really significant in area of international collaboration (25-69%), publishing activity (23-67%), patenting (50%). National and foreign patents, received with assistance of STCU, have appeared.

Background

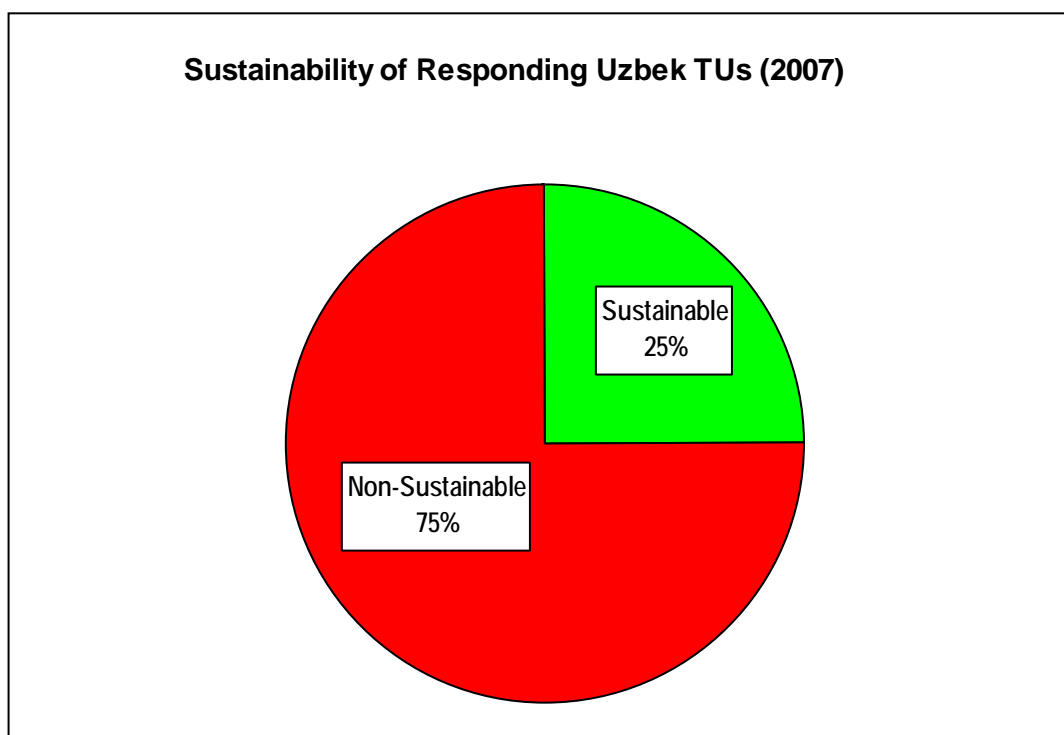
Questionnaires were sent to 32 Uzbek Technical Units (TUs) that had active STCU projects in 2007. Of these, 16 TUs provided responses, for a response rate of 50%. Due to the decline in the number of active STCU projects in Uzbekistan, the 2007 sample size is half of that in the 2006 survey (60 questionnaires sent, 30 responses received). Therefore, while survey results from 2006 and 2007 are provided for information, cross-year comparisons are practically impossible.

Technical Units Sustainability Evaluation

Using the sustainability criteria described earlier, the responding Uzbek TUs were categorized accordingly, using the data drawn from the TU responses to the questionnaire. Four TUs (25% of the respondents) were evaluated as sustainable, while 12 TUs (75% of the respondents) were evaluated as non-sustainable. None of the responding Uzbek TUs were evaluated as extra sustainable. Compared to the 2006 survey, respondent Uzbek TUs showed a equal level, to perhaps a decline, in overall sustainability, although the actual number of Uzbek TUs evaluated as sustainable was approximately the same in 2007 as in 2006.

Table UZ-1. Sustainability Evaluation of Uzbek Technical Units

	Total (% of Total)	
	2006	2007
Sustainable units	5 (17%)	4 (25%)
<i>including Extra Sustainable units</i>	0	0
Non-sustainable units	20 (66%)	12 (75%)
Units with unclear status (not enough data for ranking)	5 (17%)	0

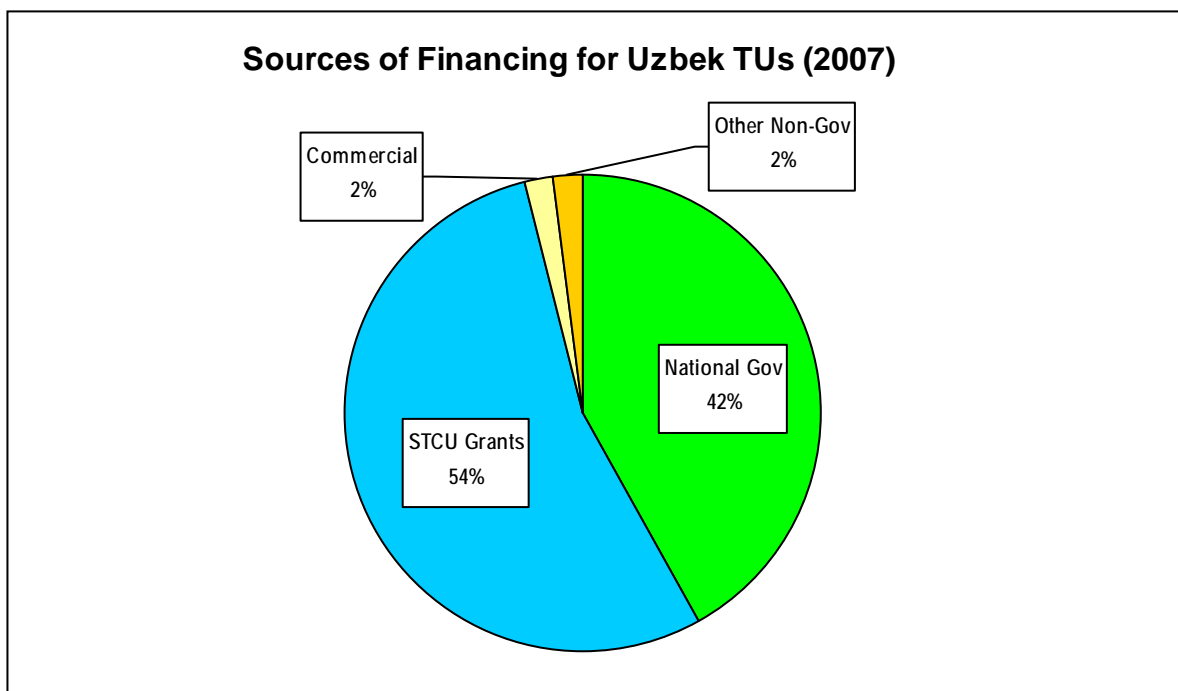


Financing Sources

The overwhelming majority of responding Uzbek TUs can be called “STCU reliant”. In general, the TUs reported two main sources of income: government financing (42%) and STCU grants (54%). STCU financing composed 93% of all non-government financing received by the Uzbek TUs. This STCU share of TU financing is the largest share of all the Recipient Parties, and is the dominate source of funding for the respondent Uzbek TUs. Of the 16 Uzbek TUs responding, only 4 TUs reported having some alternative budgetary financing sources. So, most responding Uzbek TUs failed to pass the first criteria of sustainability – diversity of sources of income.

Table UZ-2. Source of Budgetary Financing for Technical Units

Source of Financing (% of TUI Budget)	2006	2007
National Government	39%	42%
Non-Government	61%	58%
• <i>Share from STCU Grants</i>	49%	54%
• <i>Share from Private Commercial Entities</i>	6%	2%
• <i>Share from Other Domestic Non-Gov Organizations (except STCU)</i>	5%	1%
• <i>Share from Foreign Non-Gov Organizations (except STCU)</i>	1%	1%



Characteristic of Technical Units

Table UZ-3. Quantity of STCU Projects

	Total	
	2006	2007
# of Responding TUs with 1 Project	23 (77% of total)	12 (66% of total)
# of Responding TUs with 2 Projects	6 (20% of total)	4 (33% of total)
# of Responding TUs with 3 Projects	-	-
# of Responding TUs with 4 Projects	1 (3% of total)	-

Areas of Research Focus

The majority of responding Uzbek TUs reported research in biology (particularly microbiology) and physics (mainly nuclear physics). Other TUs deal with material sciences, chemistry, and seismology.

Collaboration with Foreign Countries

The majority of responding TUs reported scientific contacts with the USA (43%), followed by Russia (37%), Ukraine (31%), and less often with colleagues from Kazakhstan, Germany, China and others.

Profile of Technical Unit Scientists

The average ages in the responding TUs is younger than in other surveyed countries. The percentage of retired persons increased in the TUs, and percentage of younger scientists decreased, between 2006 and 2007.

Table UZ-4. Average Age of Scientists in Responding Uzbek TUs

	Average Age (years) 2006	Average Age (years) 2007
All Researchers	42	43
Doctors of science	50	48
Candidate of Science (PhD)	45	41

Table UZ-5. Proportions of Scientists in Responding Uzbek TUs, by Age

	% of TU Staff 2006	% of TU Staff 2007
Under 35 years old	24%	21%
Retired	16%	20%

STCU Impact on Promoting S&T Excellence

Technology Promotion & Patenting

The responding Uzbek TUs reported 38 perspective technologies, which is a large number considering that there were fewer respondents this year than in previous surveys. These 38 technologies are protected by 31 national and 4 foreign patents. Two of the responding TUs reported receiving STCU assistance in technology promotion.

Table UZ-6. Technologies Reported by Responding TUs

	2006 (Total and % of Total)	2007 (Total and % of Total)
Technologies	46	38
- implemented in market	10 (22%)	6 (15%)
- patented	22 (47%)	35 (92%)
- supported by a business plan	6 (13%)	7 (18%)
- supported by marketing research	3 (7%)	5 (13%)
- applied for STCU technology promotion	3 (7%)	2 (5%)
- received STCU assistance	3 (7%)	2 (5%)

Table UZ-7. Patenting Reported by Responding TUs

	2006		2007	
	Total	with STCU Assistance (% of Total)	Total	with STCU Assistance (% of Total)
Patents received in 2006	19	-	10	5
National (Uzbek) Patent Applications	20	-	6	3
Foreign or International Patents Applications	0	-	4	2

Level of International Collaboration & Scientific Publication

In 2007 (as reported in 2006), participation in international conferences, joint publications with foreign colleagues, and scientific articles published in foreign forums, were the most popular types of interaction by the responding Uzbek TUs. In these interactions, STCU impact became much stronger in 2007.

Table UZ-8. International Collaborative Activities

	2006		2007	
	Total	With STCU assistance (% of Total)	Total	With STCU assistance (% of Total)
Participation in International Conferences	126	18 (14%)	75	33 (44%)
• within the country	69	4 (6%)	39	8 (20%)
• Abroad	57	14 (24%)	36	25 (69%)
Joint Publications	133	44 (33%)	132	50 (38%)
Joint Scientific Projects	29	17 (59%)	17	11 (65%)
Contracts with Business Partners	21	2 (9%)	11	4 (37%)
• within the country	10	1 (10%)	6	2 (33%)
• From Abroad	11	1 (9%)	5	2 (40%)
Training abroad	8	2 (25%)	16	4 (25%)

Table UZ-9. Scientific Publications

	2006		2007	
	Total	With STCU assistance (% of Total)	Total	With STCU assistance (% of Total)
Monographs	5	0	4	0
• within the country	3	0	4	0
• Abroad	2	0	1	0
Articles	160	51 (32%)	117	50 (43%)
• within the country	66	10 (15%)	80	25 (31%)
• Abroad	94	41 (44%)	37	25 (67%)
Abstracts of the conferences	186	58 (31%)	150	55 (36%)
• within the country	104	15 (14%)	90	21 (23%)
• Abroad	82	43 (52%)	60	34 (57%)

Summary of Responding Uzbek Technical Units (2006-2007)

	2006	2007
Technical Units (TUs) to which Questionnaires were sent	66	32
TUs which responded to Questionnaires	30 (45%)	16 (50%)
Source of Financing (% of TUs budget)		
National Government	39%	42%
Non-government	61%	58%
- STCU Share of Total Budget (Government + Non-government Financing)	49%	54%
- STCU Share of Non-government Funding Portion	80%	93%
Technical Unit Sustainability Evaluation		
Sustainable units	5 (17%)	4 (25%)
<i>including Extra Sustainable units</i>	0	0
Non-sustainable units	20 (66%)	12 (75%)
Units with unclear status (not enough data for ranking)	5 (17%)	0
Areas of STCU Project and Supplemental Activities	# of TU activities with STCU Support (% of Total)	
Technologies that are Market-Ready	46	38
International Collaboration Connected with STCU		
Participation in International Conferences within Country	4(6%)	8 (20%)
" " " Conducted Abroad	14(24%)	25 (69%)
Joint Scientific Articles with Foreign Colleagues	44(33%)	50 (38%)
Participation in Joint Research Projects (with foreign partners)	17(59%)	11 (65%)
Contracts with Private Companies within the Country	1 (10%)	2 (33%)
" " " From Abroad	1 (9%)	2 (40%)
Participation in Training Programs Abroad	2(25%)	4 (25%)
Scientific Publishing Activity Connected with STCU		
Scientific Articles within the Country	10(15%)	25 (31%)
" " Abroad	41 (44%)	25 (67%)
Abstracts Submitted to Conferences within the Country	15 (14%)	21 (23%)
" " " Abroad	43(52%)	34 (57%)
Patenting Activity Connected with STCU projects		
National Patents	0	3 (50%)
Foreign/International Patents	0	2 (50%)

Summary Comparison of STCU Technical Units Survey - 2007

	Azerbaijan	Georgia	Moldova	Ukraine	Uzbek.	Total, average %
# of Technical Units (TUs) to which Questionnaires were sent	15	21	5	248	32	321
# of TUs responses received	10 (67%)	18 (86%)	4 (80%)	161 (65%)	16 (50%)	209 (65%)
Source of Financing (% of TU budget)						Average %
National Government	53%	34%	54%	66%	42%	50%
Non-government	47%	66%	46%	34%	58%	50%
- STCU Share of Total Budget (Government + Non-government Financing)	40%	52%	22%	21%	54%	38%
- STCU Share of Non-government Funding Portion	85%	79%	48%	60%	93%	76%
Technical Unit Sustainability Evaluation						Total, (% of total)
Sustainable Units	3 (30%)	6 (33%)	1 (25%)	68 (42%)	4 (25%)	82 (39%)
<i>including Extra Sustainable Units</i>	0	0	0	15 (9%)	0	15 (7%)
Non-sustainable Units	7 (70%)	12 (66%)	3 (75%)	85 (53%)	12 (75%)	119 (57%)
Units with unclear status (not enough data for ranking)	0	0	0	8 (5%)	0	8 (4%)
Areas of STCU Project and Supplemental Activities						Total
Technologies that are Market-Ready	12	39	26	513	38	628
International Collaboration Supported by STCU						Total (avg %)
Participation in International Conferences within Country	13 (39%)	11(38%)	1(4%)	114 (14%)	8 (20%)	147 (23%)
" " Conducted Abroad	11 (34%)	16 (19%)	1(10%)	180 (32%)	25 (69%)	233 (33%)
Joint Scientific Articles with Foreign Colleagues	12 (35%)	15 (25%)	5(36%)	284 (30%)	50 (38%)	366 (33%)
Participation in Joint Research Projects (with foreign partners)	6 (42%)	16 (52%)	5(18%)	119 (40%)	11 (65%)	157 (43%)
Contracts with Private Companies within the Country	1 (20%)	2 (14%)	0	24 (21%)	2 (33%)	29 (18%)
" " From Abroad	1 (17%)	1(25%)	0	54 (49%)	2 (40%)	58 (26%)
Participation in Training Programs Abroad	2 (33%)	1 (10%)	0	19 (15%)	4 (25%)	26 (17%)
Scientific Publishing Activity Supported by STCU						Total (avg %)
Scientific Articles within the Country	17 (19%)	19 (12%)	1 (4%)	277 (19%)	25 (31%)	339 (17%)
" " Abroad	13 (43%)	17 (14%)	4 (27%)	202 (22%)	25 (67%)	261 (35%)
Abstracts Submitted to Conferences within the Country	16 (28%)	6 (16%)	1 (3%)	299 (18%)	21 (23%)	343 (18%)
" " Abroad	15 (34%)	12 (12%)	1 (5%)	290 (31%)	34 (57%)	352 (28%)
Patenting Activity Supported by STCU						Total (avg %)
National Patents	0	2 (29%)	0	24 (12%)	3 (50%)	29 (18%)
Foreign/International Patents	0	0	0	4 (25%)	2 (50%)	6 (15%)