



TARGETED INITIATIVES: 2005 RESULTS AND FUTURE ACTIONS

The reorganization of the STCU in 2004 and the resulting new priorities for action made it increasingly important for the Centre to rethink and its range of activities. One of the new activities resulting from the reorganization was the Targeted R&D Initiatives Program, a supplemental budget activity approved at the 19th Governing Board. Our goal was to use the TRDP to enhance self-sustainability of former weapon scientists and institutes while building effective partnerships within and outside of the STCU Recipient Parties through equal partnerships/financial participation from the Recipient Party national government and national science agencies.

Targeted Initiatives (TRDP)

The initial program focused first on engaging the Ukrainian Party, which is the largest STCU Recipient Party and in the best position to work with STCU as we developed the pilot TRDP concept.

In implementing the initiative, it was important to build effective partnerships and alliances within and outside Ukraine. In such an approach, we engaged key stakeholders in order to identify research areas of distinctive competence within Ukraine. Moreover, the research areas had to provide for the possibility of sustainability of technical teams / institutes and for attracting Ukrainian state funds designated for support of research in these priority areas. In implementing the initiative, our activities were guided by the STCU mandate regarding engagement of a significant portion of former weapons scientists (FWS).

Through consultation and engagement, five priority areas were established. The areas: nano/technology – nano/materials; biotechnology; environmental technology; information technology and industrial scale safety related technologies are also reflected in Ukraine's scientific areas of national priority.

In attempting to enhance the country's innovation potential, through the activities of the STCU, the importance of establishing an effective partnership with the country's National Academy of Sciences (NASU) was given a high priority. The success of the relationship is reflected in the historic statement on cooperation signed between the STCU and NASU, wherein both sides agreed to equally co-fund research projects within the targeted technology areas.

Whereas in the past, Regular STCU Projects were designed simply to engage FWS in collaborative research with western peers, it was quickly realised that the existing processes are limited in scope when attempting to enhance innovation in the context of sustainability of FWS and their institutes. As such, certain specific additions to the Regular Project cycle were necessary for projects under the TRDP.

- Partner with elements of the Government to co-fund projects – both the STCU (through combined Financing Party funds) and NASU each committed \$500,000 to TRDP in 2005
- Establish a national-wide program that integrated STCU non-proliferation objectives with Ukrainian national S&T development priorities (including emphasis on inter-departmental and inter-institutional linkages)
- Establish a mechanism to strengthen the technical quality of research proposals – this was accomplished through constructive feedback from western peer reviewers (without revealing the identity of the reviewers), which was conveyed directly to the technical teams

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- Reduce the time required for Host Government Concurrence (HGC) – for Targeted Initiatives project, the NASU acquired HGC within 4 – 6 weeks after receipt of proposals, as opposed to 6 – 12 months average for other Regular Project proposals
- Focusing research within the broad S&T areas identified as being of distinctive competence and National priorities – in 2005, organised National workshop on environmental technologies bringing academics, government and industry together in order to establish research priorities
- Provide training in key areas – training provided in grant writing, industrial partnering, intellectual property and commercialization
- Organise in-coming and outgoing technology missions within the Targeted areas to establish corporate partnerships as means of moving promising technologies from the laboratory to the marketplace –two technology missions to Canada (nano/photonics and nano/materials) and a mission of Canadian companies to Ukraine that made use of TRDP connections to assist in focusing the Ukrainian participation.

For clarification, the timetable of major TRDP events is summarized below:

December 2004: STCU Governing Board approves creation of Targeted R&D Initiatives Program, and approves \$500,000 (shared by the Financing Parties) as a Supplemental Budget item.

February-May 2005: STCU and NASU develop a statement of cooperation and outline of a process under which NASU and STCU will participate in the initial TRDP effort

April 2005: STCU and NASU issue a joint call for proposals within the targeted national S&T areas and with a minimum of 50% FWS on each project team. Within 2 weeks, 62 pre-proposals (short forms) from across Ukraine were submitted to the NASU. Of these, 28 technical teams were requested by NASU to submit full research proposals under the TRDP guidelines.

Mid-July 2005: After an internal review by the NASU, 14 of the 28 proposals were transmitted (with HGC) to the STCU. STCU registered these using the Regular Project proposal format and system and posted the proposals for STCU Party technical and policy reviews.

Mid-July 2005: The STCU Parties were requested to make use of a simplified, standard project appraisal form (developed by STCU) to organize the reviewer comments into a standard format. Also, STCU requested that the Parties submit their priority ranking of the 14 proposals for TRDP funding (i.e., each Party's decision on each TRDP project, organized in priority order).

August-October 2005: Reviews from western peer reviews were received by STCU, translated and passed to NASU and directly to the project proposers. In some cases, the project teams made adjustments to their proposals based on suggestions/critiques of these western reviewer comments.

Mid-October 2005: All STCU Parties responded with their list of the proposals that they approved for TRDP funding. At first, 5 of the 14 TRDP proposals received consensus support for TRDP funding from all three Financing Parties, and these 5 choices were relayed by the STCU to NASU. The STCU relayed a request from NASU to the STCU Parties that the Parties reconsidered 2 additional proposals from the list of 14, and the Parties concurred with adding those 2 additions for TRDP funding. Therefore, based upon the reviews and recommendations from the Parties and NASU, a list of 7 (of the original 14) projects were selected for TRDP funding.

November-December 2005: STCU and NASU began the paperwork necessary to activate the TRDP projects as STCU Regular Projects. The projected operating commencement date for all 7 TRDP projects is 1 December 2005. In addition, STCU and NASU consulted regarding future STCU Financing Party consideration of the 7 proposals not

selected for TRDP funding. It was agreed for STCU to keep the 7 unfunded proposals registered as STCU project proposals for future funding consideration, either by the Financing Parties or possibly by an STCU Partner.

Provision of Needed Training

An important aspect of our TRDP is the provision of targeted training in key areas pertaining to technology development and commercialization. In such an approach, representatives from the institutes that submitted the 14 TRDP projects to the STCU were invited to a training session in July 2005. A panel of international experts (North America and Europe) provided training on grant writing skills, technology development and management (including intellectual property identification and protection) and industrial partnering. The course was well received.

Technology Mission (outgoing & incoming)

The technology missions to and from Canada provided convenient and important contributions to the TRDP process. The first mission (August 2005) involved 5 Ukrainian scientists travelling to Calgary (Canada) to participate in a nano/materials conference. The second mission (September 2005), 11 scientists (10 from Ukraine) travelled to Quebec to participate in a NATO advanced biophotonics workshop. Following the conference and workshop, the scientists met industrial and academic researchers and explored partnership opportunities. In November 2005, a group of small and medium sized Canadian enterprises travelled to Ukraine and explored linkages aimed at moving promising research from the laboratory to the marketplace.

Environmental Workshop

In September 2006, the Department organised a Ukrainian workshop to identify research priorities in the environmental sciences in Ukraine. The workshop (by invitation only) has proven to be a catalyst for increased interactions between STCU and other parts of the Ukrainian government and S&T communities. It brought together senior government official (national and regional), senior industrial managers (representatives from 27 of the largest and most important companies from 13 cities within Ukraine's industrial heartland) and scientists from academia and research institutions. Whereas environmental research is one of STCU priority areas, to date, our involvement was unfocused.

Outcomes of the workshop were the establishment of environmental research priorities; establishing effective linkages with key stakeholders; engagement of the Ministry of the Environment / exploring how said Ministry and STCU could more effectively interact in coordinating and allocating resources to this area of National priority (c.f. STCU interaction with the NASU).

Important Observations / Lessons Learned in 2005, re Targeted Initiatives

Positive Aspects

- TRDP has solicited real funding and a truly equal partnership from a Recipient Party (the Ukrainian government) and a commitment to work with the STCU in funding research and technology development using former weapon scientists as the primary research element.
- The activities of TRDP are a unique integration of the mission / policies of the STCU and Recipient Party national S&T and civil-economic development goals, consistent with the direction identified in the STCU Reorganization Concept Paper of 2004.
- The review process was used to strengthen the technical quality of research projects. Ukrainian scientists appreciated, and made use of, the constructive feedback from Western scientists
- TRDP was shown to be an effective vehicle for actively linking Ukrainian scientists and technical institutions to their Western counterparts and provide enhanced mechanism of finding academic and industrial partners
- The holistic approach taken by TRDP address important issues that are linked to sustainability of FWS technical teams and research institutions

- TRDP provides mechanism whereby STCU Senior Specialists can provide value-added input to project managers
- TRDP provides a mechanism for engaging different governmental ministries/agencies within STCU Recipient States
- TRDP provides mechanism to focus research in Recipient States in ways that are consistent with sustainability, particularly self-sustainability of FWS and their institutes.

Negative Aspects

- Some of the STCU Parties did not clearly understand the process by which TRDP proposals were selected. STCU Parties need a process that clearly connects STCU Party decisions on the final selection of proposals for funding. Currently, TRDP proposals are funded based on the **consensus** decision of all three STCU Financing Parties, which in turn is based on each Parties' reviews and final recommendations. The STCU Secretariat role is only to convey this consensus position of the STCU Parties, not to be the decision-maker. Iteration, negotiation between the Financing Parties (such as that which takes place during GB Project Funding Sheet development) is necessary to arrive at a final, 3-Party consensus funding decision on all the TRDP proposals. So, the STCU Parties must work with the Secretariat to clarify the current TRDP process and establish faster, more complete communication between Canadian, EU, U.S. Party representatives, and STCU regarding TRDP proposal consideration.
- Time pressure due to the late start in this first TRDP attempt contributed to confusion and misunderstandings over specific steps and goals in the TRDP process. Need to ensure more time for the western review period, so that the interaction and iteration between the STCU Parties, the STCU Secretariat, and Recipient Party agency is clear and comprehensible to all. Need to avoid sending project proposals to Western reviewers during the summer months. Call for proposals must be initiated in January 2006.
- Some STCU Party requirements were raised only in the middle of the TRDP process, e.g., the requirement for project collaborators from certain Financing Parties. Need to design the call for proposals such that these Party-specific requirements are clearly communicated from the start of the TRDP process.
- Some misunderstanding between the STCU / Funding Parties and the NASU, probably due to the fact that the TRDP process is new and adjustments needed to be made. More regular communication and clearly established steps and goals are needed to be made at the start of the TRDP process.
- TRDP funding not enough to finance enough projects in all the priority areas. Spreading the funding over everything weakens the entire TRDP effectiveness. Need to agree with NASU on limit the call for proposals to one or two technical areas in any one fiscal year.
- Work with NASU to ensure that project proposals submitted to STCU are reflective of science competencies/strengths across Ukraine.

Georgian Initiative – At the request of the Georgian Ministry of Science & Education (GMSE), the STCU and GMSE had discussions (April & June 2005) re. the establishment of a TRDP in said country. Currently the basis for collaboration has been established and the priority research areas identified. A draft text has been developed by both sides outlining the scope and nature of the interaction. The proposed Georgian text, has some significant changes to the Ukrainian text. The most significant change is the GMSE (or its representative) would transfer their funds to the STCU and a single Agreement would be required to fund projects as opposed to two Agreements that are needed with the existing STCU / NASU collaboration. Subject to Board approval, the Georgian initiative would commence in 2006.