Department of Foreign Affairs and International Trade
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MID-TERM EVALUATION OF THE GOING GLOBAL S&T PROGRAM

Final Report

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Evaluation Division/ Direction de l'évaluation
Office of the Inspector General / Bureau de l'Inspecteur général

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Acronyms

AAFC	Agriculture and Agri-Food Canada
CFI	Canadian Foundation for Innovation
CIHR	Canadian Institutes of Health Research
CSA	Canadian Space Agency
DFAIT	Department of Foreign Affairs and International Trade
IRAP	Industrial Research Assistance Program
JSTF	Japan Science and Technology Fund
KBE	Global Knowledge-Based Economy
NRC	National Research Council
NSERC	Natural Sciences and Engineering Research Council of Canada
PTP	Partnerships for Tomorrow Program
RMAF	Results-Based Management and Accountability Framework
R&D	Research and Development
SBDAs	Science-Based Department and Agencies
SIE	Evaluation Division – DFAIT
SMEs	Small and Medium-Sized Enterprises
S&TCs	Science and Technology Counsellors
STEP	Science and Technology with European Partners
TAM	Area Management Office – International Business
TBR	Science and Technology Division

Executive Summary

CONTEXT

The present summary features the main findings of the mid-term evaluation of the Going Global S&T Program including an assessment of the effectiveness, efficiency, relevance and impact of the Fund. The evaluation also examined the quality of the management processes and the degree of achievement of the programs' mission and objectives, *which are to assist Canadian researchers to identify and establish new collaborative research and development initiatives with foreign partners.*

Created in 1989, the Fund was restructured in June 2000, with a budget of about $1,170,000 for a 3-year period (June 2000-March 2003). The Program supports non-research expenses such as international travel and accommodation by eligible members of Canada`s R&D community. The annual contribution is $390,000 and funding allocations are limited to $50,000 per project. The size of the approved contributions depends on the nature of the event being supported, the number of individuals involved (groups of two or more representing research organizations), project duration, travel distance and other eligible expenses involved.

FINDINGS

The main findings of the formative evaluation are presented below.

- The Fund, although modest, has a unique niche among S&T contribution mechanisms as a start up fund to facilitate international R&D collaboration.
- The programme was often described as a flexible and responsive mechanism: it is flexible compared to other similar research services, which are either restricted to specific sectoral activities or have complex selection and approval processes.
- The demand for the programme has been constant, with more than 60 requests for information over the last 3 years (2000-2003).
- Over the period (2002-2003), the Fund has supported 33 initiatives distributed among 14 countries, with 20% of the initiatives involving Germany, 15% France and 14% Japan.
- Different types of Canadian organizations are supported: 61% of the approved organizations come from the academic sector; 11% from the private sector; 17% are NGOs (these numbers were derived from the survey performed by the evaluation team).
- 26% of the initiatives supported were institutional linkages; 25% were research activities; 20% were attendance at conferences; 11% workshops; 7% study tours; 7% training initiatives; and, 4% trade show.

In terms of financial management since the Fund was consolidated in 2000:

- Of the $1,170,000 budget: $853,159 was committed and $622,996 disbursed. Hence, 47% of available funds were lapsed.
- The low level of disbursements was due to a combination of factors including TBR restructuring, staff turnover, limited promotion of the Fund, strict eligibility criteria as well as internal processes and tools used to manage the fund.
- Discrepancies or variances between the allocated budget and disbursements at the project level are explained by adjustments or corrections made on claim expenses by TBR.

In terms of promotion and the overall visibility of the fund:

• The program remains unknown to a vast majority of potential applicants and SBDAs.
- Interviews with senior management and TBR staff confirm the lack of promotion of the Fund, owing to the modest size of the Fund budget and staff workload.
- The Fund has been promoted mostly through word of mouth and the Fund Web page.

CONCLUSIONS

The Fund is contributing to the strategic objectives pursued by TBR and Canada's key goals in S&T development by supporting international R&D networking among Canadian and foreign counterparts. The data gathered from the various sources of information indicates that the Fund contributed in part to the realization of the anticipated outcomes, such as the following:

- New partnerships were established between Canadian organizations and foreign counterparts.
- The Fund's initiatives have in some instances led to joint R&D projects, publications and transfers of technology and/or commercial licensing.
- Former recipients have succeeded in mobilizing financial resources after their mission.

In addition, the Fund was successful in:

- Providing a broader exposure to academic institutions and SMEs to Canadian S&T by exchanging information on available expertise, capacities and needs in S&T.
- Providing great opportunity for Canadians to offer services and support in key sectors outside Canada.
- The Fund's recipients were able to interact and better understand S&T developments foreign markets.

The Fund was found to be an effective mechanism to support and facilitate access of Canadian researchers to major international research networks and to help Canadian companies gain access to cutting edge research and technology not available in Canada. Respondents confirmed that initiatives supported by the Program allowed them to better perform as an organization by providing them the opportunity to access R&D knowledge, scientific and information technology and new international business opportunities.

The evaluation also identified opportunities to improve the delivery of the programme. For the remaining duration of the program, the Science and Technology Division (TBR) should take into consideration the following aspects to ensure the achievement of optimal results.

RECOMMENDATIONS

1. It is recommended that information sessions be offered to all TBR personnel on core management processes, priorities and key results of the Fund.

2. It is recommended that TBR's monitoring and financial management capacities be strengthened to ensure the full disbursement of available funds in a timely manner.

3. It is recommended that :

   - the success of the GG program in creating and fostering R&D partnerships be further strengthened through better promotion within DFAIT (via staff meetings, newsletters, web page, etc.);

- TBR establish a mechanism to promote greater dissemination of the program's activities and results. This could take the form of a subsection in the Web site where current GG initiatives would be briefly described; and,

- TBR capitalize on current S&T initiatives and successes to increase the awareness of the GG program, particularly among groups eligible for support.

4. It is recommended that:

- an online application process be developed, promoted and made available to applicants for possible corrections after initial transmission to the GG S&T administrator;

- information that is often requested by telephone or email be presented on the Web site in point form structure (i.e., Frequently Asked Questions).

5. It is recommended that TBR establishes a procedure of automatic acknowledgement of receipt of applications and introduces timelines to be adhered to at all levels of the selection process re: pre-screening, sector prime assessment and approval by deputy-directors and director.

6. It is recommended that a standard financial template be developed to guide recipients in the submission of expenses. This measure is expected to reduce time delays due to improper reporting.

1. Introduction

1.1 Purpose and Scope of the Study

The consultant firm Le Groupe-conseil Baastel ltée was contracted by DFAIT's Evaluation Division to evaluate the Going Global (GG) Program. Under the Terms of Reference, the specific objectives of the mid-term evaluation were to:

- Assess the adequacy and overall efficiency of the processes and systems used to plan resource, implement, coordinate, administer and control the program, and report on program performance;

- Assist program management and other personnel within TBR with the development and/or refinement of internal processes, tools and systems required for the purposes of on-going performance management;

- Generate baseline data to allow measurement of progress made in achieving program objectives and expected results; and,

- Identify any possible changes required to the program structure and/or administrative procedures with a view to enhancing future program performance and results.

1.2 Methodology

A team of three Baastel consultants conducted the evaluation from December 16, 2002 to March 30, 2003. From the beginning, the team focussed on establishing an evaluation framework that was impartial, transparent, systematic and comprehensive, and that integrated the views of the Evaluation Division (SIE) representatives regarding methodological choices.

The evaluation team devised a comprehensive evaluation matrix for the GG S&T Program, based on performance indicators presented in the draft Results-Based Management and Accountability Framework (RMAF). The matrix incorporates three main levels of program evaluation – the implementation, management and impact levels. Developing the matrix required doing a preliminary review of available program documentation. This resulted in an adjustment of the original identified indicators: additional indicators were proposed to better assess the adequacy of key administrative processes and systems, as well as the achievement of planned outputs and outcomes. DFAIT had the opportunity to comment on the evaluation matrix early in the process. The evaluation matrix became the organizing framework for data collection, for analysis and for the overall structure of this report.

Four data collection tools were used to meet the information requirements identified in the evaluation matrix and to ensure that results could be crosschecked and triangulated. The data collection tools are as follows:

- Desk studies – A comprehensive review of the literature and reports was conducted by the evaluation team throughout the entire December 2002-March 2003 period. Sources were diverse and included administrative memos, applicants' files and reports, DFAIT and GG program Web pages, and financial reports.

- Questionnaires – A questionnaire, which was based on the evaluation matrix, was developed to collect information from GG S&T Program applicants. The Evaluation Division reviewed draft versions of the

questionnaire and adjustments were made based on comments received to ensure that all relevant aspects were in fact covered through the survey process. Questionnaires were sent to GG applicants approved and rejected, since 2000. To encourage full and frank answers, respondents were assured that the information they provided would remain strictly confidential.

Questionnaires were sent to 40 applicants, 19 of whom responded, for a response rate of 48%. The questionnaires were sent to all Canadian applicants who had applied between June 2000 and September 2003 (based on a listing provided by TBR), whether their applications had been accepted or rejected.

Two follow-up e-mail were sent to those being surveyed to improve the response rate. A certain number of questionnaires were eventually administered by telephone to ensure a higher response level.

The responses were compiled and analysed by the evaluation team and the key findings derived from them are presented both textually and graphically in summary graphs and tables in the report.

- Interviews – To collect in-depth information and to complement the information obtained from the questionnaires, multiple interviews were conducted with the TBR management team and key stakeholders in S&T development in Canada.

- Telephone interviews were conducted to ensure that the evaluation team had some direct primary sources of information from the field.

Data collection was slowed down due to delay in obtaining applicants coordinates for the fiscal year 2000-2001.

2. Background and Context of the Program

2.1 Background

The Going Global Program was launched in 1989 by the Government of Canada in order to generate long-term economic growth and prosperity for Canada in response to the opportunities and challenges created by the new Free Trade Agreement (FTA). Providing funding for the Japan Science and Technology Fund (JSTF) and the Science and Technologies with European Partners (STEP) Program was part of the overall initiative. As a result of program restructuring and budget reductions however, this funding was substantially reduced. By 2000, much smaller programs were being funded, with $300,000 going annually to the JSTF and $90,000 to the STEP Program. At the end of 2000, the Department decided to phase out its support for both programs, as the support was no longer considered consistent with either the Department's science and technology priorities or the JSTF's stated objectives. In June 2000, both programs were consolidated into the Going Global Science and Technology (GG S&T) Program to allow the Department to respond to Canada's increasingly diverse international collaborative research interests in countries such as Chile, Russia, China, Korea and India.

2.2 Program Objectives and Process

The GG S&T Program is administered by DFAIT's Science and Technology Division (TBR). The mandate of the Science and Technology Division is to strengthen Canada's S&T capacity and to promote international business by gathering international S&T insights, by facilitating the access of Canadian research institutions and firms to international R&D opportunities, and by contributing to the development of Canada's S&T foreign policy. The GG S&T Program supports the identification and establishment of new collaborative R&D initiatives with the aim of establishing coordination mechanisms/platforms for exploring international R&D collaborative opportunities with foreign partners or international programs.

The implementation of the GG S&T program is carried out by TBR: one director and two deputy directors are responsible for the overall program management and have the authority to approve all contributions made under the program. They are involved to some degree in identifying and assessing applications. Five sector prime officers and the administrative coordinator do the bulk of the work in marketing and identifying potentially successful applicants, verifying the information provided in the applications, assessing eligibility, evaluating the strength of applications against the assessment criteria and monitoring approved projects until they are completed. The management of the program is realized mainly through paper files, Excel templates and a virtual program (Internet) where information guidelines are provided to potential participants. During the approval process, management and monitoring processes are managed by TBR. A financial specialist in the Area Management Office (TAM, financial department of DFAIT) manages fund delivery.

Since it was restructured in 2000, GG S&T has received 56 applications on an ongoing basis and has provided financial support to more than 70 researchers travelling to other countries.[1] The program covers up to 50% of non-research costs in Canada and abroad for the establishment of collaborative R&D. Eligible expenses

[1] Statistics are based upon data provided by the questionnaires collected during the evaluation and project file analysis. (Files for the first year of the program were not accessible.)

include: transportation, accommodation, translation and hospitality. The program contributes up to a maximum $50,000 per project.

2.3 Program Budget

When the program was restructured in June 2000, an initial budget of $1,170,000 was approved for the 3 years period (June 2000-March 2003) for the program management and provision of travelling assistance to GG participants. The annual contribution is $390,000. Funding allocations are limited to $50,000 per project. The size of the approved contributions depends on the nature of the event being supported, the number of individuals involved (groups of two or more representing research organizations), the duration and distance of travel and other eligible expenses involved.[2] The entire GG S&T budget is supposed to be allocated to successful applicants. Although no budget has been reserved for operations and program management costs, the entire program requires one TBR full-time equivalent annually to manage and administer the fund. The full-time equivalent required by TBR is spread out between the Division's director, deputy directors, officers and the administrative coordinator.

[2] Eligible expenses: transportation, accommodation, non-research activities including workshops or seminar costs, translation hospitality.

3. Evaluation Issues: Key Findings

3.1 Strategic Framework

Federal S&T priorities and operating principles put a strong emphasis on collaboration and partnership in response to the emerging policy climate created by the global knowledge-based economy (KBE). Several DFAIT programs involve international S&T[5] (see diagram 1). DFAIT's GG S&T Program helps establish person-to-person contacts and networks that will help Canada's international R&D efforts take root and develop. DFAIT's program is delivered by Canada's Science and Technology Counsellors (S&TCs) Network, which is located in Berlin, Brussels, London, Paris, Tokyo and Washington; by Trade Commissioner Services Officers with S&T responsibilities; and by the Ottawa-based S&T Division (see Annex 9 for the organigram illustrating the interrelationship between units/divisions).

Within TBR, two units work in collaboration. The S&T Intelligence Unit and the International R&D Unit. The S&T Intelligence Unit oversees existing S&T agreements with France, Germany, Japan and European Union, which provide an official framework for the discussion of policy and research priorities. The S&T Intelligence Unit is in constant contact with the Canadian S&T community and provides S&T strategic intelligence based on the information provided by the S&TCs. The cross-Canada tour organized every year for the S&TCs and selected IBD officers with S&T responsibilities enables them to travel across the country and provide S&T briefings on their respective host countries. At the same time, they are advised by Canadian researchers and officials on key issues and developments. GG S&T Program development also organizes (through the International R&D Unit) R&D business and venture capital missions to strategic markets. These missions are often linked with international trade and technology fairs. The GG S&T Fund is another initiative under the GG S&T Program that specifically supports the development of international collaborative R&D initiatives and feeds from S&T activities/networks developed by both the Intelligence and the International R&D Units.

Data gathered from various sources of information reveal that the GG S&T Program's contribution mechanism has contributed to the development of international R&D collaboration. Since 2000, over 33 initiatives have been supported, involving Japan, France, Germany, Taiwan, Indonesia, China, Korea, Sweden, Singapore, Denmark, Switzerland, Argentina and the EU. As R&D has a long-term perspective, it is difficult to assess the full contribution of GG funded activities and their broader impacts on the economy and society. However, the data gathered from the applicants surveyed and from project files reveal that the S&T funding has been successful in giving academic institutions and SMEs a broader exposure to the science and technology infrastructure in European and Asian countries. GG recipients have been able to demonstrate and exchange available S&T-related expertise, capacities, needs and expectations.

In some cases, the funded missions have initiated preliminary discussions to explore either commercial or collaborative research projects. These missions provide Canadians with great opportunities to offer their services and support in key sectors. The recipients have indicated that they were able to identify potential researchers with whom they will pursue future collaboration, to have exchanges with mission members and foreign counterparts on key technologies, and to better understand the S&T foreign market. GG S&T has allowed Canadians to take full advantage of international business/research opportunities. The table below provides an overview of GG sectoral activities since the program was implemented:

International Conferences/ Shows/Fairs	International Workshops	Exploratory Missions	Collaborative Research
• Biopharmaceutical Biocontact 2001-2002 • JEC Composite Show	• Sub-Glacial Lake • New therapies and the genome • Integrated coastal zone management • Bio-safety	• Heath Telematic and Geomatic; • Composite materials • Materials R&D for environmental technology • Eco-materials • Electronic and optoelectronic • Aluminum transformation	• Innovative construction materials • Broadcasting, new media • Geochemical tools • Cybertographic • Genetic research-genomic • Advance materials

It is still early to assess whether the funded initiatives have facilitated international business opportunities. For instance, biotechnology requires a long period of R&D (including clinical trials) from the proof-of-technology concept to commercial scale production. The pooling of resources, including cooperation in carrying out research and exchanging findings, enables better research findings to be obtained at lower costs than if the research were undertaken by one country on its own.

If Canadian researchers are to be competitive in many fields of research, they need to be able to participate fully in international facilities and programs. *Without this participation, Canadian researchers would often be unable to work at a competitive level in their field*. Companies engage in international R&D for the same reasons that universities and researchers do. In addition, R&D is a good way to develop business links in foreign markets. For SMEs, the main factor affecting success and growth in today's global knowledge-based economy is the strong ability to innovate – to apply technological knowledge to the development of new products and services, and to improve existing products and services and production processes. Client surveys reveal some interesting R&D developments:

- Some of our technologies that are being successfully licensed worldwide will be enhanced and will remain competitive."
- "Volume of sales is expected to increase in the long term."
- "Numerous contacts in the satellite navigation business…"
- "Participants understood the fundamental imperative of photonics technology as a critical economic driver for the 21st century."
- "Learned about a number of business models from various research institutes."
- "Agreement to pursue bilateral cooperation…"
- "Better understanding of economic climate and steel industry business abroad."
- "Meetings with key management scientists…"

The Going Global Science and Technology program, although modest, has a unique niche among S&T contribution mechanisms as it provides seed money to explore new international collaboration. The program's relevance and contribution to international collaboration in R&D is undeniable. Interviews conducted with fund recipients, S&TCs and representatives from other science-based department and agencies (SBDAs) and granting councils underscore the uniqueness of the fund as a start-up fund to facilitate access for Canadian researchers to international research network, and as a platform to promote exploration of international R&D collaborative opportunities. GG allows initial contact among researchers and/or companies to gain access to cutting-edge research and technologies that are not available in Canada.

The GG S&T Program is consistent with departmental S&T priorities and addresses part of extensive current R&D needs. Moreover, interviews with TBR senior managers and key contacts at Natural Resources Canada and Industry Canada (IRAP) underscore the comparative advantage of the GG S&T Program: it is very flexible compared with other similar research services, which are either restricted to specific sectoral activities (i.e., natural resources, engineering) or which have complex selection and approval processes. The demand for the program has been constant, with more than 60 requests for information received over the last 3 years.

3.2 Implementation of the Results-Based Management and Accountability Framework

As explained in the federal government's management framework, Results for Canadians, Results-Based Management and Accountability Frameworks (RMAFs) are intended to help managers to focus on measuring and reporting on outcomes throughout the life cycle of a policy, program, project or initiative.[3]

In December 2001, the Science and Technology Division developed a RMAF for the Fund with the assistance of DFAIT's Evaluation Division (SIE) in order to fulfill a condition established by the Treasury Board. In the RMAF, the Division clearly defines the roles and responsibilities of the main partners involved in program delivery, and provides a results-based logic model with performance measures to ensure adequate reporting.

The implementation of the RMAF led to a number of changes: implementation of new guidelines in which:TBR clarified the project selection criteria to emphasize the program's expectations of commercial applications and potential economic benefit to Canada; modifications in application and reporting procedures: narrative reports submitted by recipients were modified to capture data relevant to the resource use, outputs and short-term outcomes.

Senior staff and delivery personnel who had been interviewed helped to clarify several important issues: they explained how much the personnel involved with the GG S&T Program knew about the RMAF, what the impact of the RMAF was on the fund, and whether the RMAF reflected the reality of the program. Interviews conducted within DFAIT confirmed that TBR personnel were not really familiar with the RMAF – most were not involved with it, nor had contributed to its development. Even though most of the staff mentioned an information session at which a formal presentation had been made on the subject, there was no follow-up staff meeting to supervise the implementation of the RMAF.

[3] Results for Canadians: A management framework for the Government of Canada, Treasury Board Of Canada Secretariat.

Successful implementation of an RMAF requires active involvement and support from management and administrative personnel. Ensuring that employees have a solid understanding of the RMAF will increase commitment to the Fund Program (ensuring that everyone buys in), clearly establish responsibilities and timetables, and establish and ensure accountability for results.

Recommendation # 1

> It is recommended that information sessions be offered to all TBR personnel on the core management processes, priorities and key results of the Fund.

Implementation of the RMAF depends on support from TBR's management and the methodological support provided by DFAIT's Evaluation Division (SIE). The ongoing performance measurement strategy has been implemented and monitored by the deputy directors with the support of the GG S&T administrator. Annual performance reports have been prepared and provide basic information on Fund progress. An analysis of these annual reports indicates that they focus primarily on activities. However, over time, they should evolve and concentrate on outcomes and impacts.

Because performance measurement development is an iterative process that allows performance measurement capacities to be improved over time, the RMAF also requires that TBR's management and administrative staff have access to adequate archival systems, so that they can refer to a Corporate Memory of the initiatives funded by the GG S&T Program. A review of the existing archival system, consisting mostly of paper files, reveals the difficulty of accessing historical data and, in some cases, has uncovered information gaps, notably missing files.

Performance measurement should also be monitored against ongoing changes to TBR's strategic plan. The strategic plan is supported by an annual work plan that spells out what will be accomplished each year. Interviews carried out with TBR personnel and S&T counsellors (S&TCs) indicate that the strategic planning process, although close to the S&T Canadian priorities, is the sole responsibility of TBR's senior officers (i.e., deputy directors). By nature, strategic planning is participatory and should not be left solely to managers, but should ideally involve staff at all levels, from executives and managers to administrative staff, including S&TCs and networks abroad. Interviews conducted with key stakeholders in the GG S&T Program confirmed that TBR staff and S&TCs are informed on the yearly strategic intent by an annual presentation of senior management.

In addition, TBR staff and S&TCs have been selected for their abilities. They contribute diversified expertise and, in some cases, differing viewpoints on S&T opportunities, bringing a broader perspective to the strategic planning process. Their input will contribute to a TBR shared view of the Fund opportunities. Furthermore, the managers'workload does not allow them to get out and identify all S&T opportunities. This mean that sector prime officers and S&TCs have a key role to play as advisors for their host country or field of expertise. Bringing key players to the table to discuss the strategy will contribute to a shared vision of priorities and a better allotment of resources in implementing the strategy.

Increased consultation with key S&T stakeholders would allow for better targeting of GG funded initiatives. S&TCs are expected to know the scientific world in Canada and abroad (most were university teachers or researchers in Canada and have kept close networking ties with the research community in Canada and elsewhere), and so they should have the strongest say in recommending specific initiatives, but are rarely asked for their opinions. Relying on S&TCs expertise would ensure a better-targeted S&T collaboration.

The information flow between TBR staff and S&TCs is informal. S&TCs regularly report on the status of S&T in their respective countries. Sector allocations are established by the R&D Business Development Unit and the annual work plan describes the GG initiatives to be carried out during the fiscal year. The annual plan is prepared by TBR and is sent to all S&TCs. Feedback is welcomed but very rarely results in changes to GG funded initiatives. An annual consultation brings all S&TCs to DFAIT, during which the deputy director for S&T development and the one for the Canadian initiatives give formal presentations. S&TC involvement in the annual planning process should be more proactive. GG annual initiatives should be based on a careful consideration of the S&T environment in priority sector and key countries. S&TCs have a key role to play by providing key information on sectoral S&T priorities and by identifying R&D initiatives worth financing in their respective countries. Interviews indicated that S&TCs play a minimal role in strategic planning and the approval process of GG initiatives. Where the GG S&T Program is concerned, S&TCs are relegated to a more logistical role, in that they facilitate GG missions and initiatives abroad.

The S&TCs network is not limited to promoting awareness of Canadian scientific and technical excellence internationally, but also assists Canadian-based research institutions and firms in accessing advanced knowledge and technology, as well as supporting SMEs in their effort to expand internationally. The evaluation team recommends that the strategic processes rely on closer consultation between TBR staff and S&TCs to identify sectoral priorities and potential initiatives to be supported on a yearly basis.

3.3 Program Relevance

3.3.1 Program Take Up

The program was expected to fund 10 to 15 projects annually, but, at the end of 2000, TBR management realized that GG funds for the first year would not be fully disbursed by the end of March 2001. The low level of fund disbursements was due to a combination of factors, including strict eligibility criteria, little promotion of the program, staff turnover following TBR restructuring, internal processes and the administrative tools used to manage the GG S&T program. This trend continued over the next two years and is illustrated by budget allocations below the yearly-allotted ceiling: of the $390,000 in funding available for each of the first three years, respectively only 57%, 27% and 75% of the committed budget was used.[4]

[4] This information was extracted from the Annual Reports and TAM financial data.

Year	Annual Budget	Budget Committed	Actual Disbursements	Lapsing Funds (%)
2000-2001	$390,000	301.379	225.035	27%
2001-2002		194.925	105.041	
2002-2003		356.855	326.525	

Internal processes and tools were strengthened in 2002-2003 and have allowed a better capture of reporting data. It is recognized that the level of GG program disbursements has increased since 2000, given the above figures.

Since 2000, when the GG S&T fund was consolidated, 60 program inquiries have been received, and 52% have been approved for funding. So far, in the time period assessed by the evaluation team, only $789,224 was committed and 53% of available funds were disbursed. For the April 2000-March 2003 period, the program/budget evaluation indicated that more efforts were required for management and monitoring than for marketing. TBR restructuring, staff changes, and the implementation of new terms and conditions and new guidelines and applications procedures have meant that a lot of energy has been spent on managing the fund, instead of promoting and further developing it.

Recommendation # 2

> It is recommended that TBR's monitoring and financial management capacities be strengthened to ensure full disbursement of available funds in a timely manner.

Of the funding committed, 79% was paid to applicants.[5] Discrepancies or variances between the allocated budget and disbursements are explained by adjustments or corrections made on claim expenses by TBR. The financial data generated by the TAM tracking system has proved to be accurate, as it was used by the evaluation team to assess the status of GG S&T implementation. No payments exceeded the amount approved in the contribution agreements signed by the applicants. The average payment made per project ranges from $13,000 to $25,000, depending on the number of projects approved every year. Ninety-nine percent of the applicants received the funding after they had completed their missions. The waiting period for receiving payments varied from 30 days to two months**.**

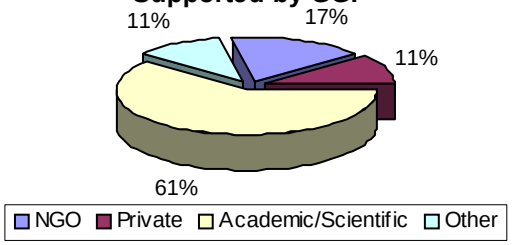
The evaluation team investigated the reason behind the late delivery and found out that the claim expenses and/or the narrative reports were incomplete or inaccurate. The effectiveness of funding delivery is related to the type of communication process and mechanism used. In this respect, most respondents used an electronic medium to transmit their final report, although a paper copy of all expenses was mandatory. The S&T coordinator spent a lot of time verifying recipient expenses. For disbursement and reporting efficiency, the S&T coordinator has expressed interest in having a financial template developed to guide fund recipients and standardize financial reporting.

[5] Percentage based on preliminary data for FY 2002-2003.

The Fund financial tracking system must also capture information on other matching sources of funding. A review of existing reporting tools reveals that the capture of this information needs to be improved. The percentage contribution by clients, their partners and other funding sources started to be captured systematically in the course of the last fiscal year. Prior to 2002-2003, information on matching sources of funding was only capturing the funding sources (i.e., university, company, government).

Statistics drawn from the annual reports indicated a balanced representation between applicants from the academic and scientific sector and from the private sector. The survey of applicants revealed a much more diversified mix of applicants. Over the last three years, as seen in Figure 1, Going Global projects have included a mix of applicants from the private sector, NGOs and academic institutions. In addition, the review of the applicants reveals that a high percentage of applicants (61%) came from the academic and scientific sector.

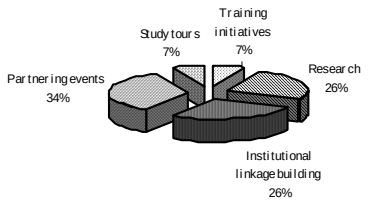
Figure 1
Types of Canadian Organizations Supported by GGP



Annual Reports produced by TBR capture two broad categories of organizations supported by the GG S&T Program. The survey of past and current applicants has provided a more detailed breakdown of organizations. The evaluation team, therefore, considers that it would be useful to collect more detailed information on the mix of Canadian organizations supported by the GG S&T Program by modifying the application form to include a section where applicants can indicate a category. This will allow TBR to capture accurate information on the mix of applicants supported rather than relying on the annual report compilation to capture such information.

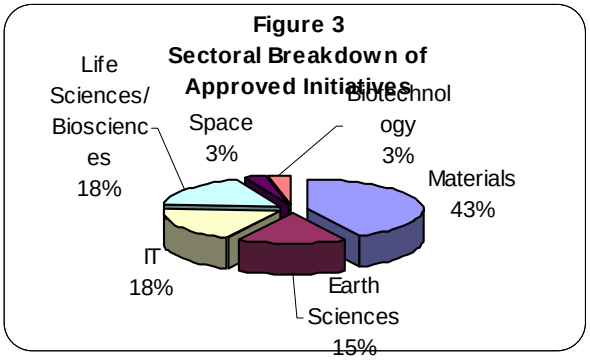
According to the annual reports and the file review,[6] since the program was implemented, more than 30% of the initiatives supported were exploratory missions, followed by collaborative research activities (24%). As shown in Figure 2, the applicants survey reveals that 34% of the initiatives supported by GG S&T were partnering events, followed by institutional linkages (and research activities (26%) and study tours (non-research activities) and training initiatives (7%).

Figure 2
Types of GG Initiatives Supported



Once again, statistics compilation would be improved if the applicants were to choose from a preset list of initiatives supported (see Appendice 8 for suggestions to the application form).

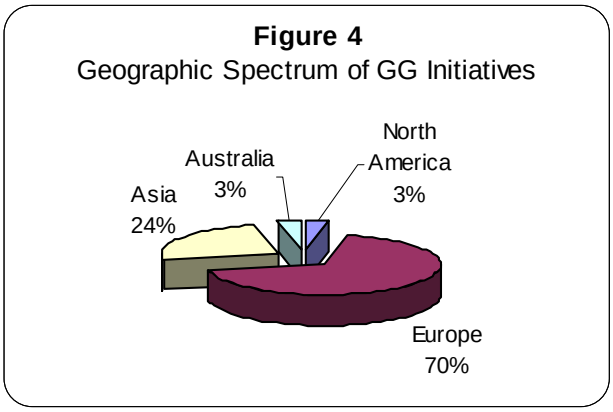
[6] File review was done for FY 2002-2003 – for previous years no narrative reports were available.

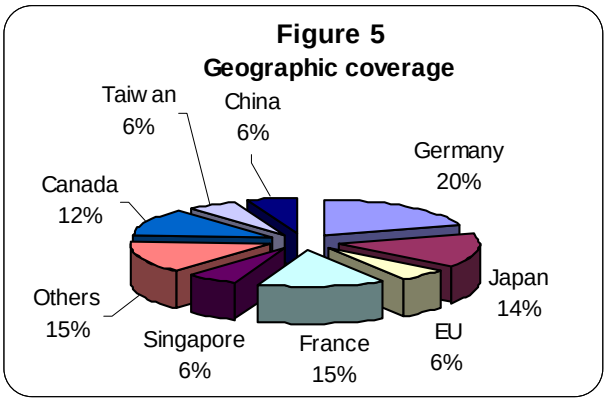


Regarding the sectorial breakdown of initiatives supported (see Figure 3), the file reviews and the survey compilation all show that the highest percentage of funding was allocated to materials/ advance technologies (43 %). The evaluation team does not see any mechanism for allocating funds in a sectorial manner, even though five sectors of intervention are identified within TBR and assigned to sector prime officers. Rather, sector allocation is done on the basis of the applications' merit as determined by peer review (the selection committee).

The evaluation team believes that the Fund should consider the appropriateness of providing the opportunity to support initiatives for each of the five sectors of intervention. The Division's annual strategic planning could allocate a pre-set budget percentage to support sector-specific initiatives. Regular reviews and updates on approval status for each sector would determine progress and allow TBR to make adjustments to the sector allocation and reassign financial resources to take advantage of emerging opportunities (international conference, workshop etc.). Sectorial allocation will allow sector primes to play a proactive role in the promotion of GG initiatives and therefore increase program visibility among their respective networks of contacts.

A review of administrative files and annual reports reveals that aggregating sectorial information is sometimes difficult, owing to different sector classifications The evaluation team suggests that the sector of intervention be clearly identified on the application form to facilitate the compilation of accurate statistics. As seen in Figure 4, the geographic spectrum of the approved initiatives reveals that 70% of the applications were approved for European countries.





Further analysis of files and annual reports indicates (see Figure 5) that, since the program was implemented, the 33 approved projects were distributed among 14 countries, with 20% of the initiatives involving Germany, 15% France and 14% Japan, which is in line with trends in S&T R&D. It also illustrates the increased collaboration between Canadian researchers and their European counterparts. Others countries involved in the GG initiatives represents 15% and include; Argentina, Korea, UK, Switzerland, Sweden and, Denmark.

3.3.2 Overall Program Visibility

The opinions of those who participated in the evaluation of program visibility confirm that the program is insufficiently promoted within DFAIT and other SBDAs. The data collected from different sources reveal a common view of the GG S&T Program and its unique role in helping Canadian researchers gain access to major international research networks and cutting-edge research and technologies not available in Canada. The program was often described as a flexible and responsive mechanism that fills the gap left by other mechanisms aimed at creating and reinforcing S&T development.

In spite this positive feedback on the usefulness of the fund, the program remains unknown to a vast majority of potential applicants. Interviews with senior management and TBR staff confirm the lack of promotion, owing to the modest size of the budget and staff workload. The Program has been promoted mostly by word of mouth and the GG Webpage. The Internet is a powerful enabler for building and sustaining effective communication within DFAIT and with its clients across Canada and around the world. Promoting the fund adequately through existing DFAIT fora (Web, newsletter, etc.) and publicising GG funded initiatives would greatly raise awareness of the S&T services provided by DFAIT GG S&T Program and would contribute to the recognition of the program's role in the development of new international R&D collaborative initiatives.

The interaction with other SBDAs and granting councils (see Diagram 2: S&T Canadian Ecosystem) is essential. GG S&T's specific interventions do not occur in isolation from other organizations, local contexts, wider economic and political policies or, more importantly, the actions and reactions of foreign partners, S&TCs and SBDA representatives involved in the process. Canada's S&T ecosystems are quite intertwined and the GG S&T Program has a specific role to play as a door opener for academic institutions and/or companies to facilitate the development of collaboration and partnerships. Telephone interviews with SBDA representatives confirm that the GG S&T fund would benefit from being publicized more widely, as it still has a low profile in researchers' communities, even though some of the organizations surveyed do have a hyperlink to the GG Web site.

All interviewees agreed that the GG S&T Program contributes somewhat to fostering international collaboration in R&D, considering its relatively small funding capacity. The evaluation team is convinced that the fund needs to be more widely promoted. It is suggested that TBR use all S&T committee meetings as a forum to promote the GG S&T Program. *Partnership with SBDAs to publicise the Fund should be encouraged.* For example, Industry Canada's innovation officers could play an active role not only in promoting the Fund but in identifying R&D opportunites /projects.

The Branch should use its publications to disseminate information on the fund. For instance, the Branch is currently updating a document called *Partnership*, which could be an appropriate medium for disseminating information about the fund and reaching potential applicants. Staff meetings should openly discuss GG-funded initiatives. In addition, strengthening links with other DFAIT branches involved in S&T activities is strongly encouraged to increase the program's visibility within the department.

Recommendation # 3

It is recommended that:

- the success of the GG program in creating and fostering R&D partnerships be further strengthened through better promotion within DFAIT (via staff meetings, newsletters, web page, etc.);
- TBR establish a mechanism to promote greater dissemination of the program's activities and results. This could take the form of a subsection in the Web site where current GG initiatives would be briefly described; and,
- TBR capitalize on current S&T initiatives and successes to increase the awareness of the GG program among SBDAs and measures should be taken to ensure extensive interaction and networking with all SBDAs involved in S&T development.

Different marketing media have been used to promote the GG S&T Program, such as the Internet/Web, meetings, and word of mouth. A survey of the applicants confirmed that, in 42% of the cases, they learned about the fund through discussions with colleagues. Moreover, interviews with SBDA representatives confirmed the fund's lack of exposure. In some instances, interviewees indicated that the Web page is difficult to locate within DFAIT's Internet site. As well, the applicants mentioned that, in terms of content, the information provided by the Web site needed to be improved.

The marketing dimension has been an area of concern in the interviews conducted by the evaluation team. Consideration has been given to potential avenues to strengthen marketing and to see that it reaches a larger audience and provides user-friendly, relevant information. The annual reports occasionally address the issue of marketing, simply citing the lack of time and human resources allocated to promoting the fund. An interview with the GG S&T administrator confirmed that, for 2000-2003, more time was required for management and monitoring than for marketing the program with potential participants. Due to her workload and the modest budget allotted for the program, the administrator did not spend much time improving the Web site but indicated it was updated on a monthly basis. When questioned about the number of visitors, she confirmed that no mechanisms were in place to capture this type of information. Since most of the Web site is continuously updated, it is important to indicate clearly when the last update was done. Outdated content is a sure way to lose credibility.

Moreover, the evaluation team found that, in terms of content, the Internet GG webpage could use further input and attention to provide a more user-friendly design by making user interface and information adjustments. The evaluation team suggests several improvements to the Web site to ensure that the information is accessible in multiple formats to accommodate diverse needs, and that the information provided is clear, relevant, easy to understand and useful.[7]

[7] Taking into consideration that the Web site must conform to the requirements of the Treasury Board's Common Look and Feel for the Internet: Standards and Guidelines.

The user's view of the information on the GG page should start with a home page/index presenting the overall structure and providing a program overview. To the left, the user would have access to a menu with multiple links leading to clear and concise information on the fund and the processes involved.

DFAIT should tap into internal informatics resources to support the development of the GG S&T Web site. Given that the GG program is an S&T funding body, it is surprising to see that applications are submitted on paper, not online. *An online application system would greatly reduce administrative work and improve the program's response time*. The evaluation team sees many advantages to having an online application system. Upon receiving the applications, the system would generate an automatic receipt to all applicants and indicate that, within 30 days, all applicants would be informed as to whether their application had been approved or refused, thereby increasing the responsiveness of the fund. The online applications could be fed into a database (Access or other) to capture basic information on the applicants, initiatives, sectors etc., and reduce the time that the S&T administrator spends inputting data for day-to-day management and the compilation of statistics for reporting purposes. Automation of administrative requirements (e.g., acknowledgements of receipt) would free up some time and allow the S&T administrator to do follow-up with applicants.

To sum it up, in terms of overall content, the Web page will need to be redefined and reformulated to address the information needs of target clients of the program. One suggestion would be to reformulate the presentation of the material to incorporate more user-friendly information (several applicants have mentioned the lack of clarity of requirements for reporting purposes).

In addition, those who market the program should also look into having Canadian embassies deliver GG program information, especially in countries involved in bilateral scientific cooperation with Canada.[8] The S&TCs at Canadian embassies in France, Germany, the United Kingdom, the United States and the European Union have a role to play in promoting GG. They are well aware of S&T priorities and opportunities within their host countries and can rapidly identify initiatives worth funding. They regularly report on S&T issues. A review of the reports for each country provides a good overview of what each embassy does to encourage the development of S&T. A rapid look at the information provided by the S&TCs (i.e., in the annual country reports posted on the Web) finds no mention of GG initiatives, even though narrative reports from recipients have underlined the active participation and key role of the S&TCs in identifying relevant research counterparts. One suggestion would be to include in the annual report a short description of GG initiatives funded during the year. This would increase program visibility.

The field visits/telephone interviews revealed an interesting trend, as respondents who had been previously funded by the program spoke positively of it and underlined the value-added of initiatives that fund the acquisition of S&T competitive intelligence. Therefore, tapping into the experiences of such applicants and using their success stories could be instrumental in furthering the growth and development of the GG Program and its fund.

This quality of communication could be seen as an important strength of the program, as it allows applicants to better prepare their application and later report on results. As the GG is one of the first bridges to partnership opportunities, it is recommended that this aspect be further recognised and valued by DFAIT, as

[8] S&T agreement with France, Japan, Germany, European Union- international arrangements with Korea.

it supplies the program with the means to reinforce the capacity of participants and indirectly to promote sustainable program results.

The Web site is a preferred medium for increasing program visibility. One suggestion would be to include a section where a sample of previously funded initiatives would describe how the fund has opened doors for international technology intelligence gathering, allowed access to new technology, facilitated the development of partnerships, allowed licensing of commercial applications and encouraged researchers to travel to enhance connections with world-class research facilities and know-how. Sector prime officers could play an active role in the sampling of key initiatives. Such initiatives will convey compelling evidence of the usefulness of the fund and galvanize understanding throughout the S&T Canadian community.

A proactive promotion of the GG S&T Program will lead to an increased visibility and demand for its resources. Senior management and staff expressed their concern regarding TBR's ability to increase its promotion of the program, citing among other things, the modest size of the fund and the administrative implications (i.e., heavier workload). The evaluation team consideres that increased promotion is essential, given the fact that the yearly financial envelope has never been fully used. Close financial monitoring of fund disbursements would allow the S&T administrator to inform applicants on the status of the fund.

One could argue that the GG S&T fund's modest budget is an impediment to improvement but increased visibility and the full disbursement of the funds prior to the end of the fiscal year could eventually lead to increased program funding.

3.3.3 Program's Responsiveness to Client Needs

Analysis of project proposals and/or narrative reports reveals that, in most cases, applicants clearly defined project objectives and supporting activities (i.e., what the applicants wanted to accomplish with the funds). Since the program was implemented, the approval form has been adjusted and a template developed to capture the soundness of the partnering project and to identify the possible economic benefits to be gained from the project. In cases where the information supplied by the applicants was insufficient, the S&T coordinator often followed up with the applicants to request more information As mentioned earlier in the report, file reviews and detailed analysis of the approval template provided to contribution applicants has prompted the evaluation team to recommend some modifications to the form, such as the inclusion of additional fields to capture information on the type of organization, initiatives supported, and sector. The roll-up of this information would facilitate and increase the quality of the annual reporting and allow an assessment of GG's target clientele. Analysis of the narrative reports reveals that it is somewhat difficult to assess the impact of the initiatives. The evaluation team suggests including some specific indicators to help recipients better assess the impact of the GG contribution.

Consultation with TBR staff and analysis of project files revealed that the assessment of client needs is based on the quality of each proposal submitted. Funds are allocated based on the Fund's objectives and eligibility criteria. The S&T administrator first determines whether the project's financial requirements match the project activities proposed, and then sector prime officers with specific sector expertise provide advice on the validity of the proposal.

A survey conducted with approved applicants has enabled the evaluation team to capture opinions and assess to what extent the fund addresses their needs.[9] As illustrated in survey excerpts below, all approved applicants confirm that the GG contribution met their needs and contributed to:

- "Conducting a feasibility study for Canada-Germany S&T cooperation on the inclusion of health telematics in future endeavours."
- "Building research collaborations with academic and private sector partners. "
- "Strengthening partnership development."
- "Supporting international research collaboration."
- "Promoting Canadian interests in research related to sub-glacial lake and deep ice exploration, with particular emphasis on Antarctica."
- "Developing relationships in the academic and industrial sectors in Europe."
- "Exploring S&T collaboration opportunities."
- "Fostering linkages to foreign researchers and their organizations."
- "Enhancing trade and technology exchanges between Canadian composite companies and their French counterparts."
- "Learning who is out there and what they are doing in my field, finding potential partners for our R&D programs, finding potential customers for our technologies."
- "Attracting international venture capital for a plenary session on investment in biotechnology."
- "Developing linkages and complementary expertise and experience."
- Discussing research related to interactions between ecosystems and genetically modified organisms."

From this perspective, *it clearly emerged that the GG fund fully addresses clients' specific needs in facilitating access to major international research networks and that it helps Canadian companies gain access to cutting-edge research and technologies not available in Canada.* Once they have been funded by GG to initiate research networking, researchers can then go to other granting councils for funding further research.

However, interviews with SBDA representatives did not allow the evaluation team to obtain accurate information on any further research funded by other granting councils. A follow-up survey conducted with former GG recipients could assess the extent to which GG-funded initiatives allow applicants to be better matched (i.e., identified partners and technologies) to get funding elsewhere.

Due to the heavy workload of the S&T coordinator, and GG's daily administrative requirements, no follow-up measures were taken to assess whether GG-funded initiatives contributed to other projects or initiatives. The applicant survey provides useful information on partnerships sustainability (see section 3.5); however, further input and attention to this issue are required.

[9] Even though the sample population for the survey was small (44 applicants) the high rate of response (48%) confers the validity of the exercise.

Analysis of the application form and narrative reports makes it possible to make valuable comments to provide input for annual reporting and meet the criteria set by the RMAF. However, narrative reports should include specific indicators.

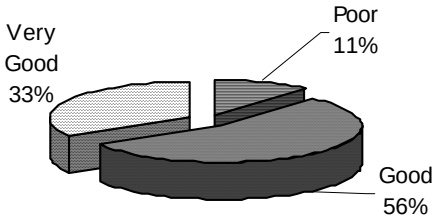
3.4 Efficiency of Management Processes

3.4.1 Information and Advice to Applicants

Analysis of the questionnaires and telephone interviews revealed consistent comments about the quality of the communication process initiated by the GG S&T coordinator. In particular, it was said that the S&T coordinator was open, informative and client-oriented.

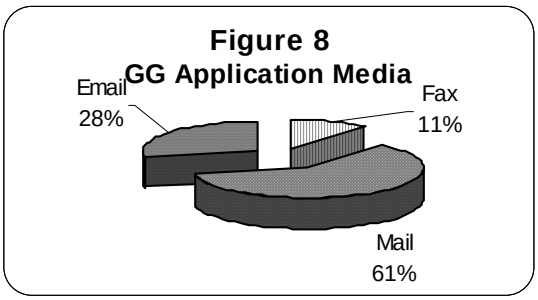
As indicated in Figure 7, when questioned on the clarity of the information provided, 33% of the applicants replied that the information provided was very good, while 11% commented on the lack of clarity in the application form and reporting guidelines. This information was corroborated by eight random telephone interviews conducted with approved and refused applicants to discuss the quality of the information provided by the Web site, documentation or telephone enquiries. In some cases, the applicants recommended simpler administrative procedures by providing online and/or electronic standardized templates for the application, and for narrative and financial reporting. Others mentioned that they would prefer to be able to submit their application online to accelerate the approval process and said that it would be useful to be able to re-access the application form to make modifications if requested to by the S&T administrator.

Figure 7
Clarity of the Information



The extent to which applicants were using an electronic medium to transmit their data was also assessed. The survey revealed that 61% of the applicants applied by mail. This is not surprising, considering that TBR requests paper copies of all project documentation. However, use of the Internet and online application would greatly accelerate the application process and reduce administrative time dedicated to receiving all applications and liaising with applicants; pre-screening the applications for completeness; providing additional information to applicants by email or by phone; clarifying proposal data if necessary; and inputting new submissions into the database (i.e., into the Excel templates developed by the administrator). On average, 30% of the S&T administrator's time is spent providing information and advice to applicants. It is difficult to assess the total number of inquiries received by TBR since the implementation of the program, given that there was no daily log of inquiries received by phone, either by the S&T administrator or other TBR staff. In total, there have been more than 60 written applications received, of which 31 were approved.

As seen in Figure 8, Email was used by 28% of the respondents to apply. There is no doubt that the capacity of S&T organizations and individuals to use this medium could be increased by developing proper virtual applications and therefore justify a more proactive approach to encouraging applicants to apply through that medium.



The review of Web sites for other research and development funding agencies did provide some examples on how to better inform applicants about application procedures – that is, by putting more emphasis on information generally missed or misunderstood and by providing answers to questions raised during the application process.

Considering the above information, and the need to lighten the S&T administrator's workload as it relates to clarification of the application process and data entry requirements, the following recommendation is made.

Recommendation # 4

It is recommended that:

- an online application process be developed, promoted and made available to applicants for possible corrections after initial transmission to the GG S&T administrator;

- information that is often requested by telephone or email be presented on the web site in point form structure (i.e., Frequently Asked Questions).

3.4.2 Efficiency of the Management Process

The evaluation team has conducted a detailed analysis of the management cycle and duties performed by the S&T coordinator, as well as the administrative tools used to effectively manage the program. It is estimated that 40% of the S&T coordinator's current workload related to managing the Fund and 60% to other administrative responsibilities (see Appendices 3 and 4).

In delivering the GG, the S&T coordinator looks after the management of applications received from potential participants, the selection and peer approval process, the delivery of funding to successful applicants, and follow-up once funding has been delivered. In addition, the S&T coordinator must report annually on project progress and on the disbursement of funds, and increase applicant awareness of S&T services provided by TBR through the Going Global S&T Web site (via updates and improvements). These aspects are briefly reviewed below.

A review of existing project documents and records indicated that data collected since the start of the program varies in quality and accessibility. For instance, records for the program's first year of operation were not readily accessible or easily retrievable. Available documentation proved to be useful. Although supporting facts and figures did provide some important qualitative information, they were often found to be missing.

3.4.2.1. Selection Process

The selection process is very thorough and includes three administrative levels. The S&T coordinator does the first screening of applications with respect to eligibility criteria. Then sector prime officers are asked to do further analysis based on the assessment criteria, and they recommend either approval or refusal. The final decision is taken by the director based on the recommendations of the deputy directors. These administrative steps were established to ensure that the limited funding is allocated on the basis of the merit of the proposals. However, site visits and discussions with TBR staff revealed that no specific timelines exist to set the selection process within a time framework.

It has been difficult to assess the number of informal inquiries received from potential applicants. Discussions with the S&T coordinator revealed that, in the course of 2002-2003, about 20 informal inquiries from potential applicants were received by telephone. Those with little chance of success were not encouraged to submit a formal written application. This information is not available for previous years.

Data collected from the questionnaires and telephone interviews show that the acknowledgements of receipt of applications vary from a few days to more than a month. The GG S&T coordinator did confirm a variance in the days needed to transmit acknowledgements of receipt, due to absences, lack of required information received from applicants or heavy workloads within TBR.

Recommendation # 5

It is recommended that TBR establishes a procedure of automatic acknowledgement of receipt of applications and introduces timelines to be adhered to at all levels of the selection process re: pre-screening, sector prime assessment and approval by deputy-directors.

The review of the approved/rejected applications and the correspondence between the applicants and TBR regarding the review of GG S&T approval of applications show that the selection criteria were consistently considered. The most common reasons for rejecting applications were the following:

- Proposal did not identify new areas of research;
- Government employee listed as a recipient;
- Proposal did not include other partners;
- Not an international project;
- Incomplete information.

Moreover, interviews with past and current applicants, TBR staff and S&T representatives provide interesting suggestions regarding the selection process. Some interviewees said that the selection committee should be an independent body composed of sectoral experts and S&TCs, and that it should consider proposals in a peer review manner and decide on what projects to approve. Others pointed out that the fund should be responding to the R&D needs of the S&T community and as such should be promoted more widely to provide equitable access to the financial resources.

An on-site visit clarified the application process and led the evaluation team to further investigate means to improve the content and structure of the information provided by the applicants, and to recommend online application as a way to increase the overall efficiency of the application process.

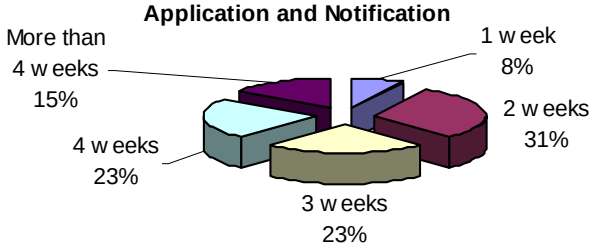
3.4.2.2 Approval process

The on-site visit and project file review have clarified the approval process and confirmed that each application is treated fairly. Documentation of the assessment of the project and justification for approval decisions is kept on file. The file includes initial inquiries from applicants, initial recommendations, consultations, project assessment, final project reports and accounting records. In addition, approval for projects is properly documented with the signing of internal project authorization forms, by the director and both deputy directors. A Contribution Agreement follows the approval notification and spells out project requirements, recipient obligations and the payment schedule. In 59% of the cases, respondents indicated they were notified of the date on which they would receive the decision for approval of their application.

As illustrated in Figure 9, the elapse time for the notification of decision varied from one week to more than a month.

The approval decision process was slowed down by the absences of sector prime officers and/or the travelling of deputy directors. The evaluation team suggests that the deputy-directors delegate signing authority while absent to speed up the approval process and provision of feedback to the applicants.

Figure 9
Elapse Time between Transmission of Application and Notification



Between April 2000 and March 2003, GG S&T approved 33 applications. The number of approved applications increased steadily over the years, from **9** in 2000-2001 to **16** in 2002-2003. A closer look at the applications reveals that over the last 3 years, 3 recipients received funding more than one time.

3.4.2.3 Disbursement Process

The financial data generated by the tracking system has proved to be useful and accurate as it was used by the evaluation team to assess the status of GG implementation. Once the narrative report and financial invoices have been reviewed for completeness and accuracy, and payments have been authorized, the documents are sent to a financial specialist in the Area Management Office – International Business (TAM), who issues the payment. An average of 30 days is necessary to issue payment. In some instances, funds were delivered in a longer timeframe (up to 8 weeks). The evaluation team investigated the reasons behind the late delivery of some funding and found that, in many cases, the narrative and financial reports were incomplete and had to be resent and redone by the applicants. In other cases, expenses exceeded the amount approved and had to be modified. Further analysis of the financial transactions indicates that the S&T administrative coordinator has no standard template to guide the applicants for the submission of expenses.

Recommendation # 6

> It is recommended that a standard financial template be developed to guide recipients in the submission of expenses. This measure is expected to reduce time delays due to improprer reporting.

Between April 2000 and March 2003, of the 1,170,000$ budget: 853,159$ was committed and 622,996$ was disbursed. 47% of available funds were lapsed. Low levels of disbursements are due to a combination of factors: TBR restructuring, staff turnover, little promotion of the Fund, strict eligibility, internal processes and tools used to manage the fund. Payment discrepancies were well documented for 2002-2003 and can be justified by adjustments made to the amounts invoiced by applicants (e.g., cost of accommodation too high). The average payment made per project was $18,879.

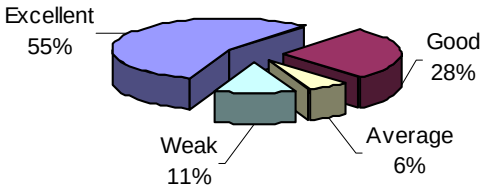
Out of a concern for improved reporting efficiency, the S&T administrator expressed interest in having a better tracking tool to monitor the status of GG disbursements and other sources of funding. Further analysis of the financial information available on matching funds reveals that the capture of this information was deficient prior to 2002-2003 and would require going back to the narrative reports for each application approved since the implementation of the program.

Considering that files for previous years were not easily accessible and that the first two years of operation were affected by TBR restructuring and staff turnover, the evaluation team strongly recommends looking forward to the next two years of the GG S&T Program and strengthening data collection by creating a database that is linked to the Web site. The evaluation team suggests that it be mandatory for applicants to apply via the GG S&T Program Web site. Online applications would feed into a database to gather basic information and reduce time spent on data entry.

3.4.2.4 Follow-up

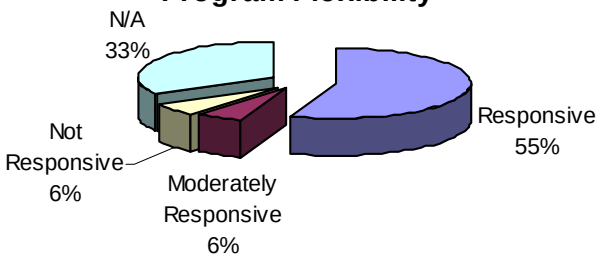
Questionnaire answers (see Figure 10), analysis of correspondence and the project documentation review supplied strong evidence of proactive follow-up to participants' requests during the application, fund delivery and results-reporting processes. In a minority of cases, some follow-up to rejected applicants was said to take more time.

Figure 10
Rate of Satisfaction with the Fund Follow-Up Initiatives



In addition, 56% of respondents indicated that the program (see Figure 11) was very responsive to adjustments during the implementation phase of the initiatives. The S&T administrative coordinator has to collect information on the activities expected to flow from the start-up collaborative initiative supported by Going Global. The reporting format should be improved to facilitate the compilation of data for reporting on the impact of the program. In a minority of cases, some follow-up to rejected applications was said to take more time.

Figure 11
Program Flexibility



3.4.2.5 Monitoring

Four primary tools are used to track/monitor GG activities: the administrative Excel templates developed by the S&T administrative coordinator, the TAM financial tracking system, annual reports and data management. These are briefly reviewed below.

a) Administrative Templates

The S&T administrative coordinator has developed Excel templates to track information on the applications processes, on applications rejected or approved by GG, as well as basic financial information. Although considered useful by the administrator, it does not allow her to compile all the information and statistics needed for annual reporting. The assessment of the administrative templates by the evaluation team revealed the soundness of such a tool for basic day-to-day operations, but also highlighted its deficiencies in terms of content and data compilation. For example, the S&T administrative coordinator cannot rely on the existing information inputted to generate the annual report. This annual exercise requires going through each project paper file to gather qualitative and quantitative information. Based on the above, the evaluation team strongly suggests developing proper tracking tools applications.

The administration of the program would greatly benefit from the development of a database that could supply accurate statistics for reporting purposes. At present, any request for information from the program manager is time-consuming for the coordinator. Greater program management efficiency would be achieved by automating some of the clerical tasks.

b) Financial Tracking

Once a project has been approved, the TAM financial specialist is informed by the S&T administrative coordinator to earmark funds for that specific project. The project is then assigned a commitment number. Upon reception of the expenses, TAM is advised in writing to process the invoice. The S&T administrative coordinator receives a snapshot of the TAM payment screen confirming processing of the funds. Once the request has been made to TAM, the coordinator considers the project complete, unless some delays occur before the final payment. Discussions with the S&T coordinator reveal the need to capture information on other matching sources.

c) Reporting

TBR has to provide an annual report on the GG Fund. Annual reporting on the GG S&T Program is weak. Analysis of the annual reports for the first two years (annual report for 2000-2001 has just been completed) stressed the importance of developing administrative tools to support reporting. Currently, the S&T administrative coordinator has to go through an extensive paper file search to extract the information in order to report adequately on the progress of the fund on a yearly basis. Recipients should as much as possible provide quantitative indicators (refer to recommendation #5).

d) Data Management

Data management is a process that allows the identification, collection, archiving and retrieval of pertinent information for the deputy directors and potential program partners. Relevant and effective data management allows the managers to save time and better track results to better achieve objectives. Interviews with staff and assessments of actual job duties revealed that the S&T coordinator spends a considerable amount of time entering data and handling other tasks that could be automated. This leaves less time for more strategic functions that could be performed by the Officer, such as follow-up and feeding the network created by GG with marketing information.

The assessment of the GG data management process has revealed that data identification and collection needed improvement, for it did not allow easy generation of accurate information. It was found that the archiving and retrieval of information could be improved through a better assessment of applicants' needs in terms of how the information should be made accessible and what kind of information would be useful for program effectiveness and strategic reasons. For the evaluation team, getting access to curent information on project status is a lengthy task and reinforces the suggestion that improvements need to be made to current data management tools used by TBR to archive and retrieve data. Strong evidence was found to support this opinion, such as the inacessibility to information prior to April 2000. Most of the files were paper files.

3.5 Program Effectiveness at the Short and Mid-Term Outcome Levels

3.5.1 Level of Applicants Awareness of S&T Services Provided by the Canadian Government

The increase in the number of applications approved through the last three years is a sign albeit partial that the Canadian R&D community is more aware of services provided by the Program.[10]

Data from different sources reveals a common view of the GG's unique role in promoting the creation of sustainable partnerships between Canadian, European and Asian organizations. The program was often described as a flexible and responsive mechanism that fills the gap left by other mechanisms aimed at creating and reinforcing multi-sectoral linkages.

This being said, feedback from the questionnaire and interviews convey a consistent message in regards to the lack of promotion of the fund. Several respondents noted that there is little knowledge about the Fund program within the R&D community and SBDAs. Discussions among colleagues were claimed by 42% of respondents to be the main reference to GG S&T. Interviews with SBDAs representatives also confirmed the fund's lack of public exposure. In other instances, interviewees indicated that the Fund webpage was difficult to locate within the DFAIT Internet site and that content-wise, the information provided on screen needed to be improved. As the GG S&T is the first bridge to partnership opportunities it is recommended the following.

The importance of effectively promoting the GG program should be further recognised and valued by TBR/DFAIT as it supplies the program with means to reach a larger audience and increase the level of awareness of S&T services provided by DFAIT and increase the R&D networking capacity of participants. The reader is referred to Recommendation 3 above regarding the need for increased promotion.

3.5.2 Enhanced Networking Related to International R&D Business Opportunities

While the data generated through this evaluation allows for an assessment of the expected outcomes, it is difficult to assess the realization of the entire anticipated impact of the GG S&T program. The assessment of sustaining beneficial partnerships can only be done on a longer-term basis. However, the actual outcome of the program can point to some indications of longer-term effects.

The assessment of the network established through GG S&T program showed that 78% of the partnerships established between Canadian organizations and foreign counterparts were new (see figure 13). In turn, 22% were ongoing. GG support to on ongoing initiatives is explained by the organizations re-applying for funding to follow-up on activities carried out the previous years for instance attendance to an international conference. The support to repetitive initiatives is justified by the participants/organizations possibility to get a broad exposure to the world S&T intelligence in a given sector and assess the feasibility of collaboration. This

[10] In 2000-01 – 16 applications; 2001-02 – 18 applications; 2002-03 – 22 applications; these numbers do not include unregistered inquiries over the last three years. In 2002-2003, about 20 unregistered inquiries from applicants were received. In the previous years, this information was not captured.

demonstrates effectiveness in the GG strategy toward strengthening linkages through the establishment of new networks of partnerships More than 70 people participated in GG funded initiatives.

Respondents to the survey revealed that more than half of the GG initiatives funded involved meetings with the academic sector and 33% with the private sector (see Figure 14).

Comments from respondents, and analysis of project reports gave examples of how their participation to the

Figure 13
Status of cooperation with counterpart organization

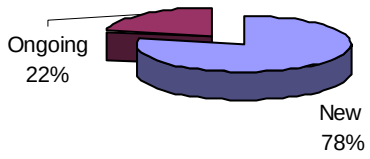
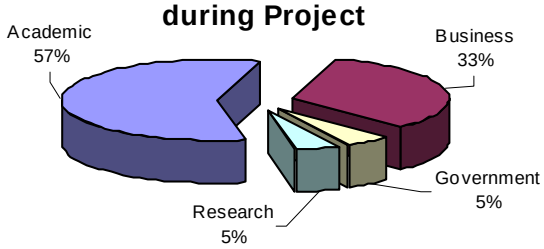


Figure 14
Type of Organizations met during Project



GG S&T program allowed them to increase their understanding of the organisational context in the countries visited. For instance some respondents mentioned:

- "Due to its geographical and organizational coverage the mission did wonders in giving a country cross section of science/technology infrastructure."
- "Broad exposure to assess knowledge and expertise of other countries."
- "Provide access to knowledge and expertise of other countries."
- "Increased cross-cultural awareness and greater understanding of economic/scientific processes."
- "Share common interest in the development of scientific issues."
- "Key to facilitate access to foreign market."

3.5.2.1 Knowledge Acquired

The assessment of the range of the type and level of new collaboration established between partners revealed that 33% of the GG initiatives (figure 15) were specifically addressing R&D, 24% addressed strategic networking while 12% facilitated the dissemination of R&D information (i.e attendance to R&D conference or workshop). The level of sustainability between Canadian organization and foreign counterparts has been positive as illustrated in Figure 16.

Figure 15
Types of Partnerships Established

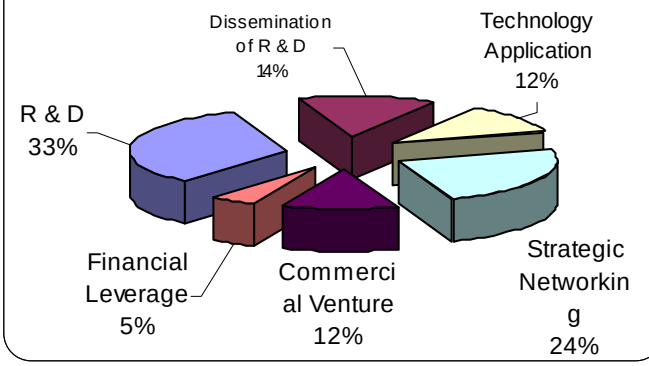
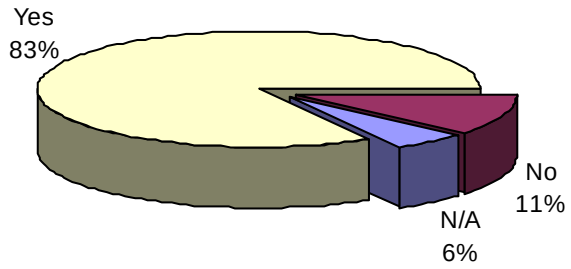


Figure 16
Sustainability of Partnerships Established



The feedback collected from questionnaires provide a list of examples of sustained networks and gives a representative picture of overall comments related to the outcome of GG and its possible impact in the long term. Sample comments are gathered via interview and questionnaires and are featured in shaded text box throughout this section.

- "Organization of an web-based network of scientists to exchange ideas on deep ice phenomena."
- "Potential strategic alliances with the research and technology industry sectors from Asia."
- "Identify business opportunities in coatings with nanomaterials."
- "Collaborative research project in the area of nano-ceramics and coatings."
- "Discuss new developments in genomics and therapies and develop actions plans for new collaborative research programs."
- "Develop on-going working relationship with organizations from Singapore and Asian researchers in Canada."
- "The opportunity to work with French companies would have disappeared without the seminar we participated in."
- "On going collaborative relationship with contacts established through GG."
- "Discussion with a German institute regarding potential collaboration in nano materials for coating."
- "Four workshops have resulted from the initial GG initiative."
- Great opportunity for Canadians to offer much needed help in the sector Increase interaction between researchers from Japan and Canada
- "Discussions on a possible joint technology venture."

3.5.3 Level of New Collaborative International R&D Projects Launched with Potential Applicants

The sustainable relationship of collaborative R&D was assessed through the activities that were initiated with the new or established partners after participation in the GG S&T. In this respect, evidence of sustainability was revealed from answers gathered from the interviews and questionnaires. *As illustrated, 50% of respondents said that the GG initiative has led either to formal statement of intent, Memorandum of Understanding (MOU), joint funding and/or publications. Respondents and interviewees have supplied examples to support this assertion.*

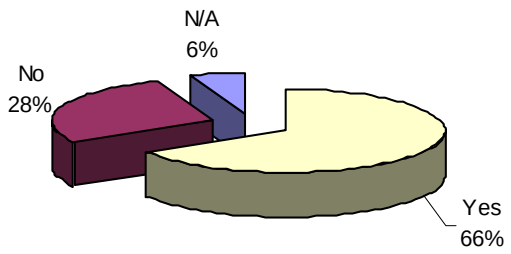
- "As a result of the work, some of our technologies are being successfully licensed worldwide will be enhanced and will remain competitive. Volume of sales is expected to increase in the long term."
- "Discussions during visit have fostered the idea of a joint educational activity for industry."
- "GG initiatives have led to establishment of R&D collaborations."
- "Joint R&D with a German-based company."
- "Afterwards, we have received major funding to continue the work."
- "Publications, seminars transfer of technology and know how."
- "Research and application of cyber cartography."

The extent to which research activities defined by formal statements have commenced is difficult to assess, as R&D is a long-term process. However comments collected from questionnaires and interviews convey evidence that this program effectively contributes to generate collaborative R&D It embraces a wide range of stakeholders (universities, NGOs and private sector) and facilitate initial networking and access to potential applications of emerging technologies. It is therefore an asset to build upon.

3.5.4 Level of Provision of Incremental and Shared Risk Support to Explore International Business Opportunities

The RMAF framework sets the indirect impact of building potential economic benefits through the GG. It has been difficult to assess potential trade benefits brought by the GG funding. Only 22% of respondents mentioned trade and consulting benefits as a result of their mission. In some cases, direct investments were followed by participants' mission in European /Asian countries and several respondents indicated that spin-off effects were expected from initial mission. Possible downstream activities will be either the exchange of technological information and company information leading to discussion of establishing a R&D project or venture financing for Canadian research project.

Figure 17
Success in Mobilizing Funds After Project Completion

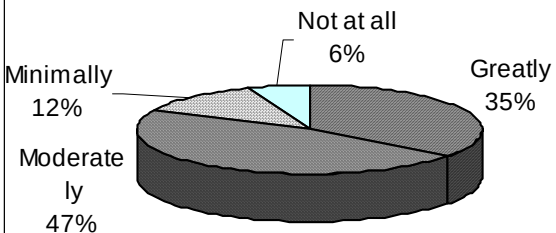


Interviews and field visits confirmed that 66% of former GG recipients have succeeded in leveraging/mobilizing financial resources after their mission, which underlines the sustainability of GG R&D initiatives as it defrays basic costs that lead to future collaboration and facilitates access to foreign market, attracting investment including venture financing and facilitates trade.(see Figure 17).

3.5.5 Transferred Knowledge

In regards to the transfer of knowledge, questionnaires corroborated that *35% of the respondents felt that the project allowed them to increase their knowledge to further pursue opportunities for international R&D collaboration* (see figure 18). A series of questions was asked to respondents to assess the type and level of knowledge acquired and, if applicable, skills transferred.

Figure 18
Satisfaction of Knowledge Learned During Project



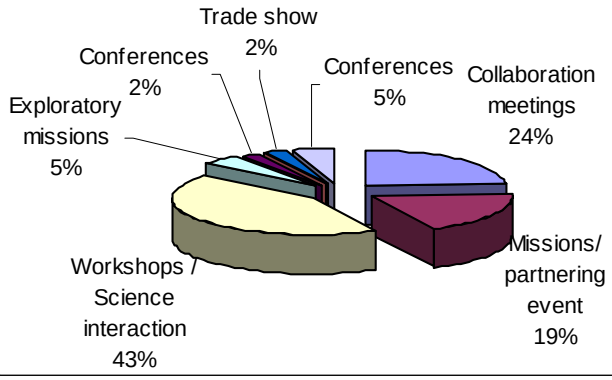
- More that 83% of respondents reported a transfer in new scientific knowledge
- More than 67% reported increase knowledge at the organisational level
- More than 78% of respondents reported increased knowledge at the country level.

Comments are provided below to illustrate the kinds of knowledge and skills that were transferred via initiatives supported by the GG program.

Professional knowledge	Organizational knowledge	Country level knowledge
• Acquired detailed information on research programs underway at 5 important academic laboratories serving the steel industry in Japan, Korea and Australia, including the two largest steel producers in the world. • Knowledge of research and regulatory environment regarding GMO-ecosystem interactions in Germany • Understanding of Priorities in Photonics Technology Development and sharing Canada's vision in this emerging technology • A greater awareness of the nature of the Canadian expertise, and the level of interest in participating in future activities re Sub glacial Lake Exploration. Enhanced awareness of the current state of international research activity in this field • Better knowledge of business operating in satellite navigation in Europe, their areas of specialization • A good overview of leading R&D activities in nanotech. And advanced materials in Europe.	· Professional contact established with world-renowned researchers in the ferrous metallurgy field. · Met with the senior executives of all the institutes visited along with the key management scientists that are at the forefront of this field · Methods of interaction between Universities and Corporations, management and overview of projects. · Funding agencies and mechanisms. · Numerous contacts in the satellite navigation business and recognition throughout Europe · The workshop provided better understanding of how Canadians can become involved in future research activities, and we have to strengthen our ties with SCAR. Improved national organization especially mechanisms for obtaining financial resources · Good to learn a number of business models in various research institutes	· R&D opportunities, and partnership opportunities · Agreement to pursue bilateral cooperation · Commercial aspects. Different aid program in Europe. · Economic climate and steel industry business conditions in three different countries. · Relationship between state of economic development and importance of type of technology under development. · Opportunities for collaboration with Canadian research · International Funding Programs (NEDO) · A good appreciation of R&D infrastructure in the country visited · R&D opportunities, knowledge of the country, legal and social context. · Knowledge of R&D related to GMO ecosystem interactions, knowledge of regulatory frameworks in the EU.

The evaluation team noted, as depicted in Figure 19 below, that a wide range of media was used to ensure a proper transfer of knowledge to participants.

Figure 19
Medium for skills and knowledge transfer



The evaluation team furthered their investigation of the validity of the above data with interviews. In a consistent manner, respondents considered that the GG S&T program gave them the opportunity to better perform as an organization by providing opportunity to access to R&D knowledge, innovative computing, scientific and information technology (i.e. nanotechnologies, advance materials) and business opportunities.

Follow-up procedures should be established to assess the realisation of GG S&T long-term impacts. The evaluation team realised that TBR workload has hindered the development of these procedures as described in the RMAF.

4. Conclusions and Recommendations

4.1 Conclusions

The Fund is contributing to the strategic objectives pursued by TBR and Canada's key goals in S&T development by supporting international R&D networking among Canadian and foreign counterparts. The data gathered from the various sources of information indicates that the Fund contributed in part to the realization of the anticipated outcomes, such as the following:

- New partnerships were established between Canadian organizations and foreign counterparts.
- The Fund's initiatives have in some instances led to joint R&D projects, publications, and transfers of technology and/or commercial licensing.
- Former recipients have succeeded in mobilizing financial resources after their mission.

In addition, the Fund was successful in:
- Providing a broader exposure to academic institutions and SMEs to Canadian science and technology by exchanging information on available expertise, capacities and needs in S&T.
- Providing great opportunity for Canadians to offer services and support in key sectors outside Canada.
- The Fund's recipients were able to interact and better understand S&T developments in technologically advanced foreign markets.

The evaluation team has also identified ways to further improve the programme. It will be important to fine-tune some aspects of the program in order to ensure further programme success. For the remaining duration of the program, TBR should take into consideration the following aspects to ensure the achievement of optimal results.

Address the pertinence and quality of the communication processes with all S&T stakeholders (i.e., promotion of the Fund and dissemination of results):

In spite of the very positive feedback on the usefulness of the Fund, the program remains unknown to a majority of potential applicants and SBDAs. The Fund Web page should be reformulated to improve communications with the R&D community and address the reporting requirements of the program.

Refine internal processes, tools and systems to monitor the program and report results:

The GG S&T program has to build on its experience of previous years and refine its various administrative tools for data management. Given the fact that GG program is a S&T fund, online applications will increase responsiveness of the Fund and could be fed into a database to facilitate the compilation of statistics and reporting.

Increase awareness among TBR staff on the core management processes, priorities and key results of the Fund:

The role of S&TCs and TBR staff in promoting the Fund could be enhanced by a collaborative annual working session in order to increase knowledge and strategic planning to set annual S&T priorities and to continuously improve the Fund and its management.

4.2 Recommendations

The specific recommendations made during the course of the mid-term evaluation and the corresponding responses from management are presented below:

RECOMMENDATION 1

It is recommended that information sessions be offered to all TBR personnel on core management processes, priorities and key results of the Fund.

MANAGEMENT RESPONSE:

TBR personnel were in fact given a comprehensive briefing on the Going Global Program by the Program Administrator in October, 2002 at which time attendees were given a Manual which included material on the administration et al of the Program. Additionally, Going Global updates have been provided at regular staff meetings. That said, formal reports will now be a feature of Divisional meetings on a monthly basis. A further comprehensive briefing for the Division is planned for October, 2003.

RECOMMENDATION 2

It is recommended that TBR's monitoring and financial management capacities be stengthened to ensure the full disbursement of available funds in a timely manner.

MANAGEMENT RESPONSE:

Full disbursement of available funds in a timely manner is problematic given that the Program is essentially demand driven. Now that the fund is becoming better known, and given the fact that Going Global will be more pro-actively promoted within available resources (see Response to Recommendation 3), it should become easier to fully disburse funds. One perpetual problem faced is that funding requests are often greater than final expenditures by a factor of some 25%. This reality is now being taken into account when proposals are received.

RECOMMENDATION 3

It is recommended that :

a) the success of the GG program in creating and fostering R&D partnerships be further strengthened through better promotion within DFAIT (via staff meetings, newsletters, web page, etc.);

b)TBR establish a mechanism to promote greater dissemination of the program's activities and results. This could take the form of a subsection in the Web site where current GG initiatives would be briefly described; and,

c)TBR capitalize on current S&T initiatives and successes to increase the awareness of the GG program, particularly among groups eligible for support.

MANAGEMENT RESPONSE:

a) Staff meetings, newsletters and web-sites for DFAIT personnel will only take the promotion process so far and so while the merits of such an approach are worthy and will be utilized, a more pro-active approach is also being explored. This involves engaging the new Innovation Officers at the International Trade Centres across Canada, given that the very nature of their work includes liaison with the research community. We will also be encouraging officers abroad with S&T responsibilities to pro-actively promote the Program to Canadian researchers (please also note that general Program details are available for HQ and at Missions on DFAIT's "Funding Matrix 2003" site as well as on the Divisional website).

b) Officers at Missions abroad handling S&T Files will be apprized on a monthly basis of the status of the Going Global Program writ large, including projects approved that month – and for the year, plus an outline of the nature of the projects including their value, destination, and end date. Because of confidentiality issues in the early stage of projects, it would not be appropriate to include current initiatives underway in a sub-section on the web-site. Results in due course will be shown on the "Success Stories" portion of the website (see below).

c) Promotional material will be prepared, including a business card-sized promotional piece for use at events. TBR officers will continue to systematically promote the Going Global program at presentations made to the S&T community across Canada, and S&T officers abroad will be asked to be more pro-active in promoting the Program. Continued use of the website for "Success Stories" will be an additional feature of our promotional efforts (successes are uncovered by way of six and twelve month surveys). Currently, two success stories have been posted.

RECOMMENDATION 4

It is recommended that:

a) an online application process be developed, promoted and made available to applicants for possible corrections after initial transmission to the GG S&T administrator;

b) information that is often requested by telephone or email be presented on the Web site in point form structure (i.e., Frequently Asked Questions).

MANAGEMENT RESPONSE:

a) An on-line application system is being explored – a consultant has been retained to evaluate an existing system for adaption for our purposes.

b) A FAQ section on our website is currently being developed and should be ready by early October.

RECOMMENDATION 5

It is recommended that TBR establishes a procedure of automatic acknowledgement of receipt of applications and introduces timelines to be adhered to at all levels of the selection process re: pre-screening, sector prime assessment and approval by deputy-directors.

MANAGEMENT RESPONSE:

A procedure to automatically acknowledge applications is being reviewed as a component of the evaluation noted above. In the meantime, the GG Administrator is now sending e-mail acknowledgments to applicants. Time lines for all levels of the selection process are being reviewed, for implementation during the fall.

RECOMMENDATION 6

It is recommended that a standard financial template be developed to guide recipients in the submission of expenses. This measure is expected to reduce time delays due to improprer reporting.

MANAGEMENT RESPONSE:

A standard financial template is being developed and will be implemented this F/Y in conjunction with the on-line application.