

# SVALBARD GLOBAL SEED VAULT

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*Annual Progress Report 2011*

*Submitted by NordGen in April*



Svalbard

**Global Seed Vault**

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## 2011 at a glance

- 113 364 new seed samples were stored in 2011 from 28 institutes. This increase holdings by 16% and the total holding by the end of the year was 716 523 samples.
- Chamber two is now filled to 68% of its current capacity.
- Ten novel depositors from Australia, Costa Rica, Ecuador, Greece, Indonesia, Italy, Myanmar, Nigeria, Peru and United States of America stored material during 2011.
- Nine new Institutes from Australia, Bangladesh, Ecuador, Greece, Indonesia, Italy, Myanmar, Nigeria and Tajikistan joined the project by signing the Standard Depositor Agreement.
- The International Advisory Council met in August 2011.
- 41 visits arranged and 113 inquiries were obtained within PR during 2011.

## Foreword

The year 2011 was a successful year for the activities at Svalbard Global Seed Vault. At the end of the year, 716 523 samples are stored in the vault's chamber, seeds from 225 countries. In 2011 we had 5 openings and stored seed from 10 new institutes.

The first years of operation some minor technical problems had to be solved, in connection with the construction. A new water trench drain and pumping system was installed in 2010 to improve the handling of water intrusions in the warm months and the desired temperature of -18°C was achieved late 2010 in the Vault 2 chamber. In 2011 we can confirm that the operation of the construction is functioning as expected thanks to energetic staff of Statsbygg.

There are increasing numbers of requests for visits, interviews and lectures in connected to The Global Seed Vault. During the year 113 inquiries from 25 countries from all over the world were obtained. The Seed Vault is functioning as an ambassador for the conserving plant genetic resources for food and agriculture. We at NordGen are proud to play a central role for the daily operation of the seed conservation operation.

The International Advisory Council (IAC) of Svalbard Global Seed Vault had its meeting in August in Rome, Italy. The daily routines were discussed, the Standard Deposit Agreement, storage of non-PGRFA and public awareness activities and visitation events and policies.

All NordGen's activities are done in cooperation with the partners, including in particular the Royal Norwegian Ministry of Food and Agriculture (LMD) and the Global Crop Diversity Trust (The Trust).

I would like to express my gratitude to our core partners and to Statsbygg. It is a pleasure to work in this partnership. I would also like to thank all our local partners in Oslo and Svalbard who are involved with the seed logistics and ensures a smooth operation in all respects.

Arni Bragason

Director NordGen



## Introduction

2011 was the fourth year of operation of the Svalbard Global Seed Vault (hereafter referred to as SGSV). Ten new depositor institutes deposited material and a total of 113 364 new seed samples were deposited. In terms of international recognition and publicity the SGSV project has kept the momentum from its inauguration in 2008. There is still a steadily increasing interest and there seems to be no decline in requests regarding the vault. During 2011 twenty-six visits were arranged for various media, mainly television and news papers. In addition, ten visits were arranged for politician and policymakers.

This annual progress report is prepared by The Nordic Genetic Resource Center (Hereafter referred to as NordGen), the institution responsible for the daily operation of the SGSV to give an overview of key events in the operation of the Vault in 2011. NordGen's operative responsibility is exercised according to an agreement with our partners in the funding, management and operation; the Royal Norwegian Ministry of Food and Agriculture (hereafter referred to as LMD) and the Global Crop Diversity Trust (hereafter referred to as the Trust). The Vault's construction was funded by the Norwegian government, and its operation costs are funded by the Trust and the Norwegian government in conjunction. Operations may be divided into two elements: (1) physical maintenance of the facility overseen by Statsbygg and (2) seed management overseen by NordGen. Thanks to the enthusiasm and cooperative spirit shown by all concerned, from depositors to the local partners at Svalbard, the SGSV has functioned according to its mission in all important respects also this year.



Figure 1. The year 2011 saw a significant increase of holdings.

## Physical maintenance

Since the inauguration in February 2008 the Seed Vault has been fully operational according to its purpose as a high-security seed storage. The seeds are stored in the vault's chamber number two (the middle chamber) and the 716 523 samples stored by the end of 2011 fills about 68% of the total storage capacity in this chamber alone with the current shelf system.

There have been some technical problems in connection with the construction and the temperature. These problems were addressed by Statsbygg and entrepreneurs in 2010 and in most important aspects they are now solved. The most notable problem was the damage of the entrance section, the Svalbard tube (summer 2008 and recurring during summer 2009) caused by settling of rock and dirt (due to the fact that the permafrost above was not reestablished prior to spring and thawing). The damage has now been repaired in such a way that the tunnel structure at the entrance is stronger and more secure than before. During 2010 and 2011, the new tunnel structure has been monitored by external consultants on a regular basis, finding little or no movement in the structure, and Statsbygg considers the situation satisfactory. Achieving the desired temperature of  $-18^{\circ}\text{C}$  took longer to achieve than expected. The target temperature was reached by the end of 2010 and has been stable throughout 2011. It is important to note that these problems have not jeopardized the security of the seeds stored inside chamber number two.

Statsbygg reports outcomes of the third party assessments and repair works directly to the LMD and in user meetings with all three partners present. Here we will give a brief summary of the activities undertaken with regard to physical maintenance, while we refer to technical reports available from The Ministry and Statsbygg for details.

- The container next to the entrance with the additional cooling system used to decrease the temperature to  $-18^{\circ}\text{C}$  and the temporary insulation wall inside the tunnel has now been removed as they were obsolete. The removed container has resulted in better aerodynamic properties of the entrance and less snow is currently accumulated in front of the entrance.
- The outer entrance door has been improved and slightly modified in order to withstand rain better.
- Door entrances to the office section have been modified to prevent damages due to recurring frost heaves.
- Continued improvements of the pump system with an additional pump sump and the diesel driven backup power supply. The process of installing the automated backup power supply will continue during 2012.
- Benches and racks have been installed for helmets and crampons next to the entrance, in accordance with safety regulations for industrial sites.
- The logotype on the exterior has been repaired.

## Seed Management

NordGen's role is stated in the Three Party Agreement between the LMD, the Trust and the NordGen providing for the long term funding, management and operation of SGSV. NordGen is responsible for managing and operating the Seed Vault. This responsibility spans from liaising with Plant Genetic Resources of Food and Agriculture (hereafter referred to as PGRFA) collection holders interested in depositing seed samples to operation of the databases and the storage process at Svalbard.

## NordGen's organisation of the work

The overall framework for the tasks to be carried out by NordGen is organized into four platforms, illustrated in Figure 2. A more detailed illustration of the tasks within each platform is described in the following text. A coordinator for the management and operation of the Seed Vault provides overall leadership and internal coordination of entering into deposit agreements, planning and preparing for seed shipments, and handling of the deposit openings on the site. A scientific expert works with public requests for information and visits to the site. All NordGen activities are done in cooperation with the partners, including in particular LMD and the Trust.

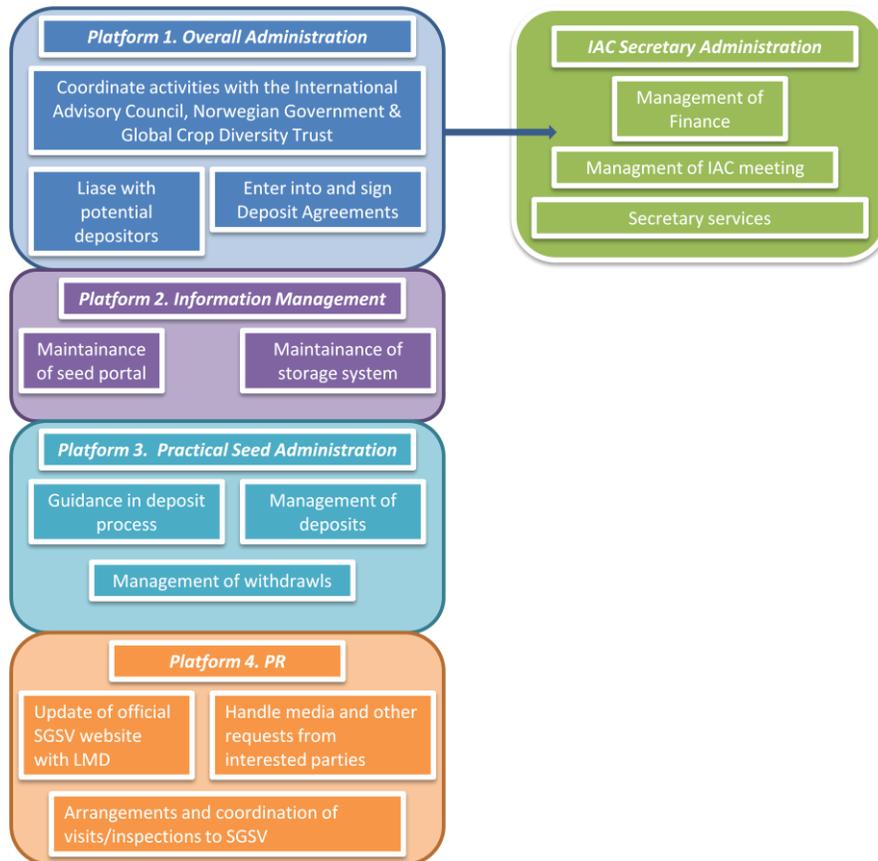


Figure 2. NordGen's organisation chart for the management and operation of SGSV.

## Platform 1: Overall Administration & IAC Secretary Administration

The overall administration includes coordination and liaising with all relevant stakeholders to SGSV including, but not restricted to, LMD, the Trust, Statsbygg, The Governor of Svalbard, and Depositors. This platform also includes the provision of secretariat services for the International Advisory Council (hereafter referred to as IAC) in accordance with the Three Party Agreement.

The financial administration covers annual financial statements to be presented to the Trust and LMD, bookkeeping's of records and original vouchers in accordance with Nordic Council of Ministries practice. Open book inspection service available for the Trust and the LMD. Further, annual progress reports (covering each year up to Dec 31) submitted by March 31 the following year, are provided by NordGen, see annex 3 for details. Preparation of an annual budget for each financial year (to be approved by the Trust and the LMD), and submitted by April 1, of the year prior to the onset of the budget periods.

The secretary administration tasks for IAC lies within (1) budgetary administration (2) planning, arrangements and follow up of IAC meetings and (3) general secretary services for IAC members.

By the end of 2011 NordGen had accepted deposits from 42 deposit institutes. Annex 2 provides a list of the deposit institutes and the number of samples in their respective deposits. The largest share of the current holdings in the SGSV (figure 3) is deposited by International Agricultural Research Institutes (hereafter referred to as IARCs), represented by several institutes belonging to the Consultative Group of International Agricultural Research Centers (hereafter referred to as CGIAR), the Asian Vegetable Research Centre (AVRDC) and the Tropical Agricultural Research and Higher Education Center (CATIE), all hold collections of PGRFA in trust for the UN Food and Agriculture Organisation (FAO). The composition of the current holding in the SGSV reflects the strategy for operation of the Seed Vault as endorsed by the IAC: An open invitation has been disseminated to all major genebanks and the public interfaces of the Seed Vault on the internet welcomes all genebanks that are able to meet the terms and conditions of the Standard Deposit Agreement. In addition to this general invitation to make use of the SGSV services the IARC collection holders have been given specific follow-up to ensure that the in-trust collections form the core of the SGSV collection. Figure 3 show the share of the current SGSV holdings of genebanks in the Seed Vault according to the categories IARCs, OECD country institute and non-OECD country institute. Nine new Institutes from Australia, Bangladesh, Ecuador, Greece, Indonesia, Italy, Myanmar, Nigeria and Tajikistan joined the project by signing the Standard Depositor Agreement during 2011\$, see Annex 1 for further information.

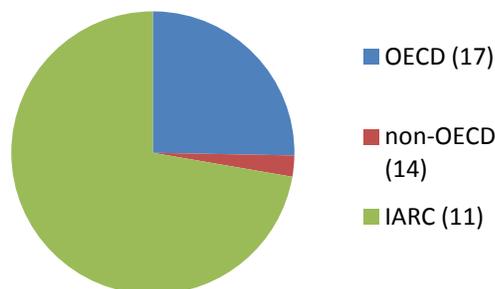


Figure 3. Holdings in SGSV in share of seed samples according to geographic mandate of the depositor institute. Number of institutes in each category in parenthesis.

In close collaboration with the chair of the IAC and the secretariat of the Trust, NordGen organised the third meeting of the IAC in Rome 29 August 2011. The agenda for the meeting included briefings on the current operation and status of the project as well as several discussion items brought forward for the IACs consideration. The minutes from the meeting are attached in annex 4. The IAC recommended a rewording of the Standard Deposit Agreement's article 7 on availability of material due to some misinterpretations of the current text. The IAC did not ask for policy changes on the following discussion items 1) the requirement that SGSV should be the second level safety duplication site, 2) the storage of non-PGRFA and 3) the prohibition of storage of transgenic seeds. The chair of the IAC summarised the discussions on future plans for building the collection by pointing out consensus by the members that: (a) the Vault has been extremely successful in its first three years of operation: (b) there is already a significant amount of diversity in the Vault: (c) some important collections are missing and some crops are underrepresented and it should be a continuous focus to address these gaps by improved communication with the holders of the collections in question. It was pointed out by several members that misunderstandings and concerns by some collection holders are best addressed by clear communication and transparency in all aspects of the SGSV operation. The next meeting shall be held at Svalbard in August 2012.

## Platform 2: Information management

This platform serves the development, technical service to depositors, and maintenance of the Seed Vault Data Portal, where information about the stored material is made publicly available through the Internet. The URL for the public data portal site is [www.nordgen.org/sgsv](http://www.nordgen.org/sgsv). There are links to this portal both from NordGen's homepage and the official webpage of the Seed Vault maintained by the LMD (<http://www.regjeringen.no/en/dep/lmd/campaign/svalbard-global-seed-vault.html>), as well as the website of the Trust (<http://www.croptrust.org>). The portal provides access to all the descriptors reported by depositors; in addition the site offers illustration of the data in the form of maps.

The data portal is an important tool in NordGen's interaction with partners, especially the Trust and the depositors. The data portal is also a standard reference for journalists searching for the latest statistics and biological and geographic descriptors of the material stored in SGSV.

The data portal has been developed and updated throughout 2011, including the guidelines for depositing seeds in the SGSV. The database is updated directly following every seed deposit event. The electronic inventories submitted by the depositors are still of varying quality, but an increasing proportion have been in such a condition that they could be uploaded to the database without any problems. All technical mistakes have been resolved in collaboration with the depositors. Since data quality is still a matter with potential for improvement NordGen will continue to update and improve guidelines and templates to ensure a smooth uploading process. Depositors are required to provide electronic inventories of the material they wish to deposit prior to shipment to Svalbard. The purpose of receiving the data prior to shipment is to allow NordGen to check if the data is of satisfactory quality, as well as to check for obvious duplications of material already stored in the vault. The storage system of SGSV is maintained on separate servers at NordGen headquarters in Sweden. So far NordGen has not detected obvious duplications of material and all deposits from SDA signatories have been accepted.

Data from the SGSV dataportal is included in the System-wide Information Network for Genetic Resources (SINGER) - the germplasm information exchange network of CGIAR and its partners.

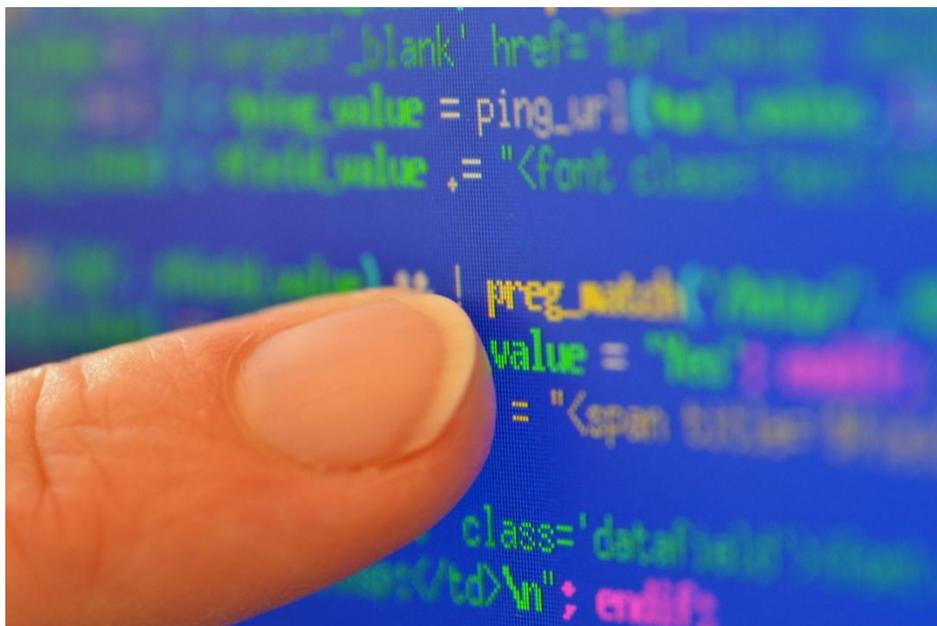


Figure 4. The IT department is constantly optimising the database.

### Platform 3: Practical Seed Administration

This platform serves the update and maintenance of guidelines and thus practical depositing and withdrawal of seeds from the Seed Vault. It is closely interlinked with Platform 2 (Information Management) on database management. Overall management of transport logistics and hence also exit arrangements for seeds deposited is also managed under this platform. The practical seed administration further covers assistance regarding security, customs, phytosanitary certificates and other relevant clearances. LMD is the primary responsible body for the Seed Vault surveillance and maintenance, however, NordGen work closely with Statsbygg who is the responsible institution for the surveillance and maintenance of the constructions of the Seed Vault. The work in this platform is primarily carried out by the coordinator of operations and management, but draws on expertise and assistance from the seed technicians at NordGen headquarters. The major part of this work takes place on site at Svalbard and the coordination of all practical aspects of the deposits relies on close cooperation with several local institutions and resource people in Oslo and at Svalbard: Logistics from Oslo to Longyearbyen is currently handled by the logistics company Jetpak; logistics at Svalbard is handled by the company Pole Position; screening and security at arrival Svalbard is handled by the security company Securitas as well as the airport management at Longyearbyen airport Svalbard; Statsbygg provides support with logistics and technical backstopping during deposit events.

The summer openings were once again resumed during 2011 and there were in total five deposit openings. Ten new depositors made their first deposit in 2011 and the total number of depositors was 42 by the end of 2011. The new depositors came from Australia, Costa Rica, Ecuador, Greece, Indonesia, Italy, Myanmar, Nigeria, Peru and United States of America. See figure 5, table 1 and annex 2 for further information

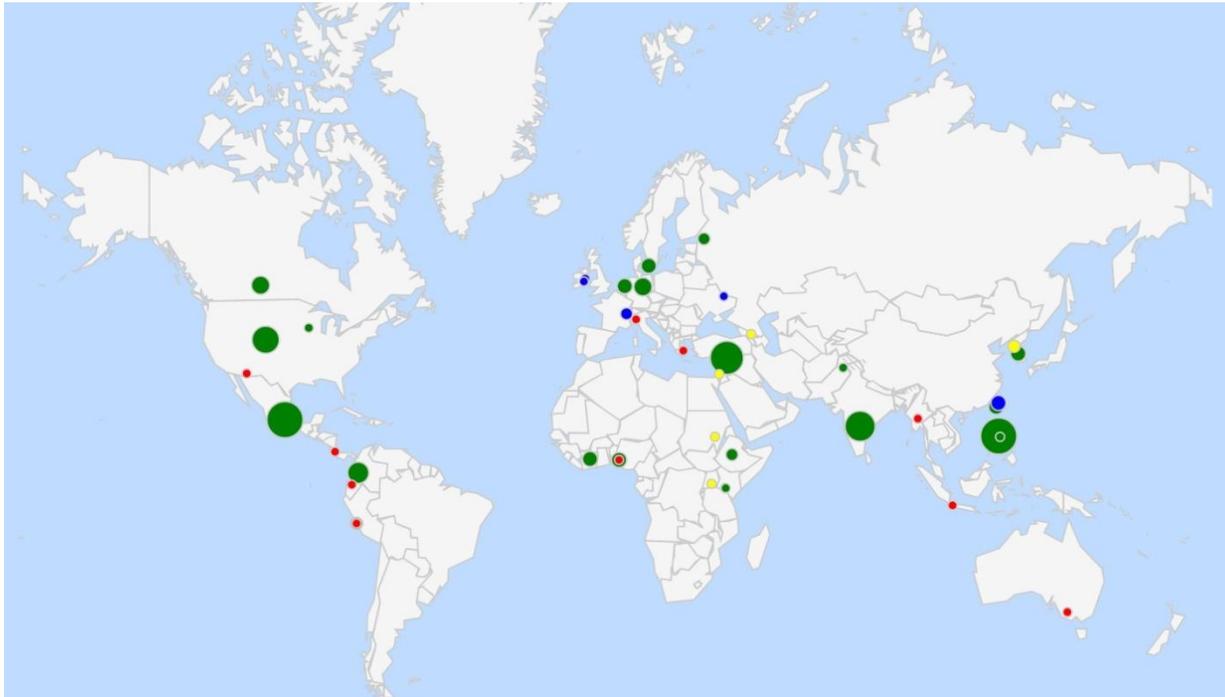


Figure 5. Amount of accessions deposited per institute and first year of deposit. Radius proportional to total number of accessions deposited. Colour of institute holdings corresponds to when the institute made its first deposit: 2008 – green, 2009 – blue, 2010 – yellow and 2011 - red.

Chamber two now stores 1964 boxes which corresponds to 68% of the current capacity. If additional shelves are installed (according to the original plan) there will be room for 3168 boxes instead of the current upper limit at 2880 boxes. (See figure 6 for further information). There will probably be fewer boxes deposited each year in the future as most major depositors have already deposited the majority of their material. Based on current data chamber two can store 1 050 000 or 1 155 000 samples once filled compared to the earlier estimate of 1 500 000 samples. The new estimate is largely explained by that the average number of accessions per box during 2011 alone decreased significantly to 241 compared to the average of 403 for the earlier years. This is mostly due to several small institutes joining the project in 2011 and their collection does not fill a full box while occupying a whole slot at the shelf system, e.g. DELEP, NAGREF, UNALM and LSB (see table 1). NordGen, in consultation with partners and depositors will do further analyses of the storage capacity in 2012 and consider the eventual need for cooling of an additional chamber.

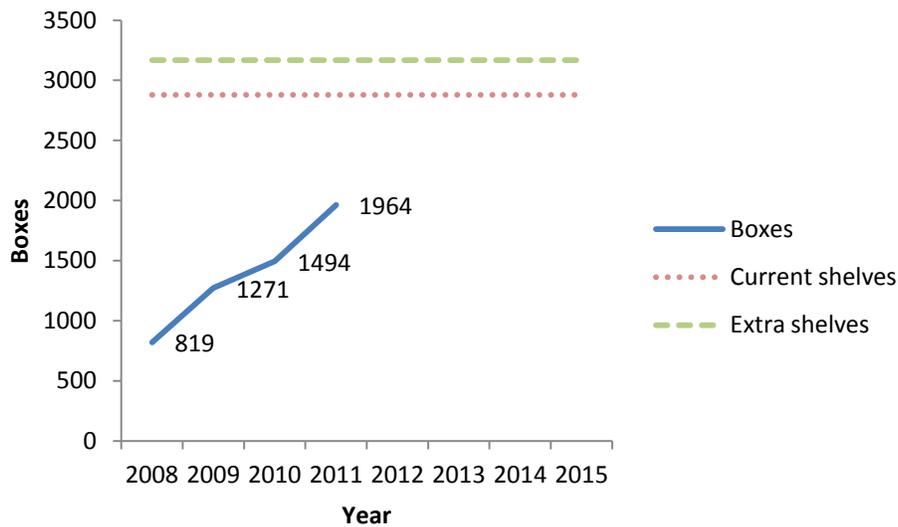


Figure 6. Storage capacity of chamber number two, displaying accumulative increase of boxes and maximum capacity with existing shelf system and additional shelves installed.

Table 1. Deposit openings in 2011

<b>2011-02-16</b>									
DATASET	INSTITUTE	BOXES	ACCESSIONS	SEEDS	COUNTRIES	GENUS	SPECIES	TAXA	
AUS039*	ATFCC	1	343	35438	6	2	2	2	
CAN004	PGRC	72	11752	11102710	84	41	78	98	
COL003	CIAT	9	3600	1878900	94	61	250	250	
ETH013	ILRI	2	1328	664000	68	66	258	259	
PER002*	UNALM	7	376	188000	1	1	1	1	
SYR002	ICARDA	21	7760	5075353	88	4	33	48	
USA971*	DELEP	1	74	22100	9	26	64	64	
USA996	NPGS	38	15116	7812681	144	107	384	441	
SUM		8	151	40349	29435682	160	200	909	1005
ACCUMULATED		35	1645	643508	431675587	223	748	3985	5703

<b>2011-04-26</b>									
DATASET	INSTITUTE	BOXES	ACCESSIONS	SEEDS	COUNTRIES	GENUS	SPECIES	TAXA	
MMR003*	MPGRPPD	3	718	21192	1	2	17	17	
PER002	UNALM	5	320	160000	1	1	1	1	
TWN006	TARI	11	3225	491000	1	10	13	13	
USA974	SSE	1	271	361081	27	10	18	18	
SUM		4	20	4534	1033273	30	17	45	46
ACCUMULATED		36	1665	648042	432708860	223	748	3998	5718

<b>2011-06-23</b>									
DATASET	INSTITUTE	BOXES	ACCESSIONS	SEEDS	COUNTRIES	GENUS	SPECIES	TAXA	
CRI001*	CATIE	3	249	12450	11	9	21	21	
DEU146	IPK	12	7611	3480568	98	230	566	1000	
GRC035*	NAGREF	1	25	23750	1	1	1	1	
IDN179*	ICABIOGRAD	5	1050	518635	1	2	2	2	
ISR003	ICCI	1	450	22500	1	2	2	2	
NGA057	IITA	7	2017	364633	55	3	4	4	
PER002	UNALM	1	91	45500	1	1	1	1	
PRK013	AAS	8	2843	1421500	1	2	2	2	
RUS001	VIR	31	2218	2056656	76	10	15	103	
UKR001	UAAS	6	826	11500	27	4	4	4	
SUM		10	75	17380	8359692	135	239	595	1122
ACCUMULATED		39	1740	665422	441068552	224	773	4132	6429

\* Novel depositor

**2011-10-04**

DATASET	INSTITUTE	BOXES	ACCESSIONS	SEEDS	COUNTRIES	GENUS	SPECIES	TAXA	
ECU076*	INIAP	3	168	42000	4	1	1	1	
IND002	ICRISAT	51	20600	24218471	110	10	11	11	
ITA411*	LSB	1	2	2000	1	1	1	1	
KEN023	ICRAF	2	269	134500	19	75	107	112	
MEX002	CIMMYT	153	27094	9479436	61	3	4	4	
NGA010*	NACGRAB	2	401	386531	1	3	3	3	
UGA031	NARO	2	515	4750599	2	4	13	13	
SUM		7	214	49049	39013537	124	92	136	142
ACCUMULATED		42	1954	714471	480082089	225	804	4191	6496

**2011-12-07**

DATASET	INSTITUTE	BOXES	ACCESSIONS	SEEDS	COUNTRIES	GENUS	SPECIES	TAXA	
RUS001	VIR	8	1021	908540	49	5	8	56	
SWE054	NORDGEN	2	1031	515500	15	51	69	78	
SUM		2	10	2052	1424040	53	53	75	132
ACCUMULATED		42	1964	716523	481506129	225	804	4203	6557

YEAR TOTALS	INSTITUTE	BOXES	ACCESSIONS	SEEDS	COUNTRIES	GENUS	SPECIES	TAXA	
2008		22	819	320553	219713731	210	638	3001	4106
2009		18	452	170505	100286409	193	311	1286	1985
2010		17	223	112101	82239765	183	237	742	877
2011		28	470	113364	79266224	182	434	1515	2276
SUM		42	1964	716523	481506129	225	804	4203	6557

\* Novel depositor

The year 2011 saw a substantial increase in the holdings in SGSV: 113 364 new seed samples were deposited from 28 institutes. This increased holdings by 16% and the total holding by the end of the year was 716 523 samples. The statistics from the data base (figure 7) shows that wheat and rice are still the crops best represented in terms of number of samples in the Seed Vault. The 19 largest genera are represented by only two families; Poaceae and Fabaceae.

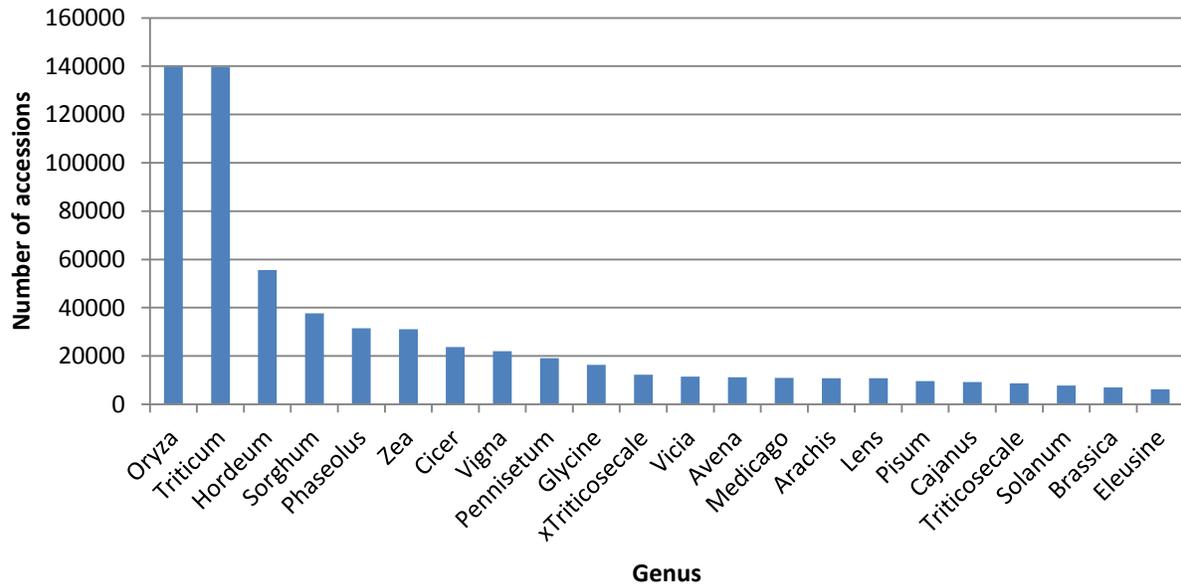


Figure 7. Statistics of holdings for genera with more than 5000 samples by the end of 2011.

## Platform 4: Public Relations

The development and maintenance of NordGen-SGSV website are carried out within this platform, together with media correspondence in general and arrangement and coordination of visits/requested inspections to SGSV.

There is still an increase of requests for visits, interviews, lectures or of answering particular questions connected to SGSV or more general comments of conservation and utilization of genetic resources. In 2011 113 inquiries from 25 countries from all over the world were obtained. Most requests came from Norway (30), United States of America (13), United Kingdom (11) and Sweden (7). Ninety requests dealt with the possibility to visit SGSV – for various reasons. The majority, 54 requests, came from different media. Altogether 41 visitors (groups or individuals) were allowed to visit SGSV in 2011. This has resulted in a number of media exposures of SGSV in TV, radio, newspapers and magazines. It is, however, difficult to get a feed back about publication and other media exposures why there is no complete overview of the results of the visits.

A large category of visitors (10) represents the political system or international policymakers. The interest for interviews and particular questions regarding plant genetic resources (PGR) in general and SGSV in particular increases. There seems also to be an increasing interest for lectures around PGR and SGSV. In connection with visits by larger groups it is desirable to give an introductory lecture about the conceptual ideas behind conservation and utilization of plant genetic resources prior to visiting SGSV.

Approximately 45 requests for visits were not accomplished depending either on the difficulty to find suitable dates for visits or the requests were rejected for other reasons. As earlier experienced it is still difficult to match all serious inquiries for visits since NordGen has no permanent staff stationed in Longyearbyen. NordGen, who is responsible for the seed management, makes a time planning for visits, for example, when new shipments are expected. The aim is to have the Vault accessible for visits 4-6 times per year at those occasions when NordGen staff or representatives for the Trust or LMD are present on Svalbard. The collaboration with the local office of Statsbygg, responsible for monitoring and daily operation of SGSV, runs very smoothly.



**Figure 8.** Handprints melted into the permafrost next to the entrance from children visiting the inauguration in 2008.

## Annex 1. Standard Depositor Agreements in chronologic order

NordGen - Kingdom of Sweden
WARDA - Republic of Benin
CIAT - Republic of Colombia
CIMMYT - United Mexican States
CIP - La Molina, Republic of Peru
ICARDA - Syrian Arab Republic
ICRISAT - Republic of India
IITA - Federal Republic of Nigeria
ILRI - Federal Democratic Republic of Ethiopia
IRRI, Manila - Republic of the Philippines
ICRAF, Nairobi - Republic of Kenya
AVRDC - Taiwan
CGN - Netherlands
Goldman, Seed Savers - United States of America
NARC - Islamic Republic of Pakistan
IPK - Federal Republic of Germany
KARI - Republic of Kenya
ITCC/RDA - Republic of Korea
Institute of Agriculture - Republic of Macedonia
Embrapa - Federative Republic of Brazil
Vavilov Institute - Russian Federation
Agroscope Changins - Swiss Confederation
Departement of Agriculture, Fisheries and Food - Republic of Ireland
Teagasc, Crop Research Centre, Carlow - Republic of Ireland
The National Bureau of Plant Genetic Resources - Republic of India
National Centre for Plant Genetic Resources - Ukraine
Taiwan Agriculture Research Institute - Taiwan
Canadian Genetic Resource Program, Saskatoon - Canada
I Lomouri Research Institute of Farming - Georgia
Pyongyang Crop Genetic Resources Institute - Democratic People's Republic of Korea
Ugandan Plant Genetic Resources Centre - Republic of Uganda
Univeridad Nacional Agraria, La Molina - Republic of Peru
Institute for Cereal Crops Improvement, Tel Aviv University - State of Israel
Arizona Board of Regents Univerisity of Arizona - United States of America
Centro Agronomico Tropical CATIE - Republic of Costa Rica
PGR Unit Agricultural Research Corporation - Sudan
SPGRC Plant Genteic Resource Centre - Republic of Zambia
<b>ICABIOGRAD - Republic of Indonesia *</b>
<b>Australian Temperate Field Crops Collection - Commonwealth of Australia *</b>
<b>NAGREF, National Agricultural Research Foundation - Hellenic Republic *</b>
<b>Biotechnology, Plant Genetic Resources - Republic of the Union of Myanmar *</b>
<b>INIAP - Republic of Ecuador *</b>
<b>PGRC BARI - People's Republic of Bangladesh *</b>
<b>Lombardy Seedbank - Republic of Italy *</b>
<b>NACGRAB National Centre for Genetic Resources and Biotechnology - Federal Republic of Nigeria *</b>
<b>National Republican Center of Genetic Resources - Republic of Tajikistan *</b>

\* Signed standard depositor agreement during 2011.

## Annex 2. Depositor holdings by the end of 2011

Name	Institute code	Accessions	Boxes	Genus	Species	Taxa	Countries
Australian Temperate Field Crops Collection	AUS039	343	1	2	2	2	6
Canadian Genetic Resources Program, Saskatoon Research Centre	CAN004	20985	144	61	190	205	97
Station Fédérale de Recherches en Production Végétale de Changins	CHE001	9665	23	6	7	7	61
Africa Rice Center	CIV039	12439	22	2	6	6	80
Centro Internacional de Agricultura Tropical	COL003	41548	123	96	563	564	133
Centro Agronómico Tropical de Investigación y Enseñanza	CRI001	249	3	9	21	21	11
Leibniz Institute of Plant Genetics and Crop Plant Research	DEU146	29961	49	464	1579	2911	123
Instituto Nacional Autónomo de Investigaciones Agropecuarias	ECU076	168	3	1	1	1	4
International Livestock Research Institute	ETH013	5336	9	118	563	572	101
I. Lamouri Research Institute of Farming	GEO001	305	3	7	19	81	1
National Agricultural Research Foundation Greece	GRC035	25	1	1	1	1	1
Indonesian Center for Agricultural Biotechnology and Genetic Resources Research and Biotechnology	IDN179	1050	5	2	2	2	1
International Crop Research Institute for the Semi-Arid Tropics	IND002	88603	244	10	12	12	130
Oak Park Research Centre	IRL001	577	1	6	7	7	1
Department of Agriculture, Food and Rural Development	IRL029	100	1	3	4	4	4
Institute of Creal Crop Improvement, Tel Aviv University	ISR003	900	2	3	4	4	2
Lombardy Seed Bank, Botanical Garden, University of Pavia	ITA411	2	1	1	1	1	1
National Genebank of Kenya	KEN015	1314	3	5	6	6	9
World Agroforestry Centre	KEN023	777	6	103	182	196	33
National Agrobiodiversity Center	KOR043	13185	48	26	32	36	1
Centro Internacional de Mejoramiento de Maíz y Trigo	MEX002	123057	371	6	9	14	66
Biotechnology, Plant Genetic Resources and Plant Protection Division	MMR003	718	3	2	17	17	1
Nigeria National Centre for Genetic Resources and Biotechnology	NGA010	401	2	3	3	3	1
International Institute of Tropical Agriculture	NGA057	13431	44	4	48	48	101
Centre for Genetic Resources	NLD037	18212	38	31	224	224	147
Plant Genetic Resources Institute, National Agricultural Research Centre	PAK001	1597	2	5	13	13	1
Centro Internacional de la Papa	PER001	6825	4	3	254	302	23

Name	Institute code	Accessions	Boxes	Genus	Species	Taxa	Countries
Universidad Nacional Agraria La Molina	PER002	787	13	1	1	1	1
International Rice Research Institute	PHL001	112807	167	8	50	62	129
National Plant Genetic Resources Laboratory	PHL005	500	1	3	4	4	16
Pyongyang AAS	PRK013	5700	17	2	2	2	1
N.I. Vavilov All-Russian Scientific Research Institute of Plant Industry	RUS001	4184	52	18	72	259	87
Agricultural Research Corporation, Wad Medani	SDN034	1195	2	3	4	4	1
Nordic Genetic Resource Center	SWE054	14397	32	124	279	344	77
International Centre for Agricultural Research in Dry Areas	SYR002	102114	273	31	350	602	125
The World Vegetable Center	TWN001	11027	33	21	92	121	100
Taiwan Agricultural Research Institute	TWN006	10503	25	12	15	15	1
National Agricultural Research Organization	UGA031	777	3	4	13	13	2
Institute of Plant Production n.a. V.Y. Yurjev of UAAS	UKR001	2519	16	5	9	39	47
Desert Legume Program	USA971	74	1	26	64	64	9
Seed Savers Exchange	USA974	1660	6	19	43	43	84
National Plant Germplasm System	USA996	56506	167	291	1212	1373	173

## Annex 3. Budget and Spendings

Activity	Cost Category	Items	Cost basis		Budget 2011	Actual spending
			SEK	Qty	SEK	SEK
709502: Coordinator	Personnel <sup>(a)</sup>	Coordinator	89 000	6,6	587 400	599 885
	Travel <sup>(b)</sup>	To Svalbard and other destinations	15 000	8	120 000	35 239
	Communication / supplies	Phone, computer, printer, mailing etc.	30 000	1	30 000	23 789
<b>Sub-total</b>					<b>737 400</b>	<b>658 913</b>
709503: Platform 1 Overall Administration	Personnel <sup>(a)</sup>	Director and Finance Director	155 000	1	155 000	160 364
	Communication / supplies	Phone, printer, mailing etc.	10 000	1	10 000	16 262
	Travel <sup>(b)</sup>	To Svalbard and other destinations		4	40 000	8 755
<b>Sub-total</b>					<b>205 000</b>	<b>185 381</b>
709504: Platform 2 Information Management	Personnel <sup>(a)</sup>	IT-manager	89 000	1,5	133 500	217 447
	Travel <sup>(b)</sup>	Trips to Svalbard	15 000	3	45 000	10 871
	IT System	Server, web	36 000	1	36 000	56 965
<b>Sub-total</b>					<b>214 500</b>	<b>285 283</b>
709505: Platform 3 Practical Seed Administration	Personnel	Seed Technician	89 000	0,5	44 500	58 235
	Travel <sup>(b)</sup>	1 trip to Svalbard	15 000	1	15 000	13 979
		Material for reinforcement and repacking	50 000	1	50 000	
		Vehicle hire, local supplies	10 000	1	10 000	62 600
<b>Sub-total</b>					<b>119 500</b>	<b>134 814</b>
709506: Platform 4 PR	Personnel <sup>(a)</sup>	Scientific information expert	130 000	3,60	468 000	474 516
		Other staff	89 000	0,3	22 250	24 169
	Travel <sup>(b)</sup>	To Svalbard and other destinations	15 000	8	120 000	71 212
	Materials for media	External filming, editing and multiplication	50 000	1	50 000	15 411
	Communication / supplies	Phone, printer, mailing etc.	20 000	1	20 000	11 972
<b>Sub-total</b>					<b>680 250</b>	<b>597 280</b>
709507: International Advisory Council Meeting in Rome	Personnel	Director	155 000	0,5	77 500	81 840
		Other staff	89 000	0,6	53 400	11 035
	Travel <sup>(b)</sup>	Meeting in Rome	15 000	12	180 000	96 456
	Communication/Supplies	Communication (phone, printer, mailing etc.)	10 000	1	10 000	784
	Expenditure	Meeting costs	35 000	1	35 000	4 590
<b>Sub-total</b>					<b>355 900</b>	<b>194 705</b>

Activity	Cost Category	Items	Cost basis		Budget 2011	Actual spending
			SEK	Qty	SEK	SEK
709508: SGSV Biannual Seminar 2011 - <i>planning</i>	Personnel	Director, Information, IT, Administration			0	
	Travel	2 trips to meetings - 5 persons*5000 SEK			0	
	Materials, Communication	Information material, phone, printer, mailing etc.			0	
<b>Sub-total</b>					<b>0</b>	<b>0</b>
Pilot Project - Long Term Storage project		Testing, Testing Materials, Procedures	100 000	1	100 000	11 015
<b>Sub-total</b>					<b>100 000</b>	<b>11 015</b>
<b>Total costs</b>					<b>2 412 550</b>	<b>2 067 391</b>
<b>Result 2011 SEK</b>						<b>345 159</b>
<b>TOTAL SEK</b>					<b>2 412 550</b>	<b>2 067 391</b>
<b>TOTAL US\$<sup>(c)</sup></b>						<b>\$299 474</b>

Note: A Working capital Fund was established in 2007.

<sup>(a)</sup> NordGen Personnel costed at avg SEK 94,000/month

<sup>(b)</sup> Travel costed at SEK 15,000/trip

<sup>(c)</sup> Based on exchange rate at December 2011: 1 US dollar = 6,9034 SEK

## **Annex 4. Minutes from IAC meeting in Rome**

### **Minutes**

**Meeting of the International Advisory Council of Svalbard Global Seed Vault (SGSV)**

**Date: 29 of August 2011**

**Location: Canada Room, FAO, Rome, Italy**

**The following members where present:**

**Cary Fowler, Global Crop Diversity Trust, (Chair)**

**Jean Hanson, ILRI (Vice-chair)**

**Javad Mozafari, International Treaty on Plant Genetic Resources for Food & Agriculture**

**Emile Frison, Bioversity International**

**Shivaji Pandey, FAO**

**Zachary Muthamia, Kenya National Genebank**

**Wilhelmina Pellegrina, SEARICE**

**Ruth Haug, Norwegian University of Life Sciences (UMB)**

**Arni Bragason, NordGen (Secretary)**

**Observers and resource persons attending the meeting:**

**Grethe Helene Evjen, LMD**

**Pål Vidar Sollie, LMD**

**Layla Daoud, Global Crop Diversity Trust**

**Amanda Dobson, Global Crop Diversity Trust**

**Roland von Bothmer, NordGen**

**Ola T. Westengen, NordGen**

The meeting was opened by the Chair who called on Pål Vidar Sollie of the Norwegian Ministry of Agriculture and Food to give the welcome address.

Mr. Pal-Vidar Sollie, Director of the Department of Forest and Natural Resource Policy, Norwegian Ministry of Agriculture and Food, welcomed participants, highlighting the role and importance of the International Advisory Council (IAC). He welcomed new members to the Council: Mr. Zachary Muthamia from the National Genebank of Kenya and Mr. Javad Mozafari, Chair of the Governing Body of the ITPGRFA and Head of the National Plant Genebank of Iran.

Cary Fowler, Chair, invited other members and observers to briefly introduce themselves.

The draft agenda was adopted with no modifications.

#### **Item 1.**

Cary Fowler presented agenda Item 1, the introduction to the Svalbard Global Seed Vault, its purpose, history, management plan/philosophy, and link with the Global System. He reminded the Council members that the IAC was formed quickly after the opening of the Vault and that it is expected that the Council composition will change over the years, highlighting a need to ensure that main depositors are represented on the Council. He reminded participants that the IAC is an advisory committee rather than a decision-making body, and noted that the role of the IAC is to provide advice to the Government of Norway. Finally, he called on IAC members to serve as ambassadors for the Vault to potential depositors, the general public and the media.

#### **Item 2.**

Ola Westengen introduced agenda Item 2, informing the Council of the current status of seed deposits, the composition of the deposits to date, the number of Vault openings and information on logistics and routines for deposit. Layla Daoud and Amanda Dobson presented information on the logistics and administrative role played by the Trust in the Trust-supported deposits. A discussion on this topic followed, with main highlights presented here:

Ruth Haug, Professor, Norwegian University of Life Sciences, congratulated the project for the large number of seed samples stored in the Seed Vault. She noted the large number of deposits from international collections compared to the number of accessions deposited by national collections. She asked whether the number of accessions deposited by national collections is expected to increase or if there are issues hampering this.

Cary Fowler responded that there will be increased deposits from other national collections in the future and in particular over the coming year. He pointed out that an effort was made to get the largest collections into the Vault as soon as possible and that the aim is to ensure that unique, threatened accessions are held there. The Vault is large, but we will need to be careful not to fill it with replicas of the same material coming from different genebanks. He reiterated, however, that over the coming year, the number of deposits from national collections will increase substantially.

Javad Mozafari, congratulated the Norwegian government, the Trust and NordGen on the impressive achievements so far. He reiterated Cary Fowler's request that Council members should act as ambassadors to Vault, pointing out its value as a public good to highlight its value to countries.

Zachary Muthamia expressed his personal experience with depositing and confirmed that the logistics chain is complex and requires smooth collaboration. He suggested looking into how many accessions of the international collections originated from national collections.

Wilhelmina Pellegrina noted from the list of SDA holders and depositors that there are some depositors for which no SDA is signed.

Ola Westengen explained that this situation stems back to three depositors shipping for the opening in 2008. At the time it was agreed that they could ship prior to signing of the SDA in order to make it in time for the opening. Since then it has not been possible to finalize the agreements due to non-responsiveness from the depositors side. It has been communicated to these depositors that the material in the Seed Vault is considered to have been deposited under the terms and conditions of the SDA.

### **Item 3**

Ola Westengen introduced Agenda Item 3, describing the status of the Svalbard facility, describing recent work to overcome issues with cooling as well as structural issues and the situation of water entering in the Vault tunnel during the summer snow melt. He described the work undertaken to date to counteract these issues.

Cary Fowler reported on his visit to the Seed Vault in June 2011 and provided photos taken then of the interior and exterior. He had been charged with the task of reporting on the physical condition to the rest of the IAC since the members did not at this time have the chance to inspect the facility themselves. Discussion on this item is recorded below.

Pål-Vidar Sollie, Norwegian Ministry of Agriculture and Food, confirmed that the issues that have arisen are taken seriously and being dealt with, explaining that Statsbygg (the Norwegian Directorate of Public Construction and Property) is the entity that is responsible for undertaking the maintenance and work to the facility. He stressed that the Ministry is following this work closely.

Ruth Haug asked whether any alternative, low-tech sources of energy have been looked into (with reference to use of the current diesel back-up generator for the water pump). She also asked the autonomy of the generator during any extended power outage.

Ola Westengen responded that generally the power outages are short and the generators can cope with this. Regarding alternative sources of energy, solar energy is unfortunately not an option due to the location (long, dark periods) and there are concerns also regarding use of wind energy.

Emile Frison, Director General, Bioversity International, noted that it was reassuring to see that the issue about the temperature inside the storage halls had been solved and that the facility now was delivering the long term temperature of -18 degrees Celsius. He asked what the running costs of the facility are compared to the costs predicted in the feasibility study.

Grethe-Helene Evjen, Norwegian Ministry of Agriculture and Food, confirmed that the costs have increased compared to those foreseen in the feasibility study and are estimated at approximately 100,000 Euro/year plus management and operation costs. Initial costs, when the Vault was being filled with deposits, were always foreseen as being higher than long-term average costs.

Roland von Bothmer indicated that there is a practical issue with the Vault regarding the front door and the difficulty to access the Vault at times when thick ice has formed around the door.

Zachary Muthamia asked about the long-term plan for the operations of the Vault and about the management costs, asking whether it would make sense to consider engaging other companies in Vault maintenance/repair.

Pål-Vidar Sollie explained that Statsbygg is the governmental agency charged with this responsibility and they, in turn, can engage specialized companies as needed. He indicated that the plan is that the Vault will function as planned, with no water leaks, operating at minus 18 deg. C and that it is the job of Statsbygg to do this. He explained that over time, the location of the Vault (in a frozen mountain) will help to reduce the cooling costs.

Javad Mozafari asked whether the presence of water in the entrance tunnel would raise the humidity levels in the rooms containing the seeds and whether there might be a need for a dehumidifying system.

Ola Westengen explained that the water is confined to the entrance tunnel and that it is not in the chambers. In addition he explained that the Vault has air-lock doors and is equipped with humidity detectors that constantly monitor the humidity levels in the Vault and that there have been no indications of problems of humidity.

Jean Hanson, former project leader for Forage Diversity at ILRI suggested that the issues that have arisen to date can serve as lessons for future potential problems that may occur in the face of climate change.

Cary Fowler noted that the feasibility study did take into account worst-case-scenario studies. He explained that there are temperature monitors at different stages in the mountain that allow detection of changes in temperatures decades before such changes would pose a problem to the Vault.

Grethe-Helene Evjen confirmed that expert advice was sought when designing the Vault and these issues were taken into account in its design.

In summarizing the discussions, Cary Fowler noted that participants agreed that there has already been significant progress, though some issues with the Vault have arisen and that these are being addressed and problems remedied. He noted that the Council recognized that the Vault is a 'living' facility and that despite the best planning it is not possible to control all eventual situations, but we are dealing with issues as they arise and learning along the way. It is recognized that this is the first time that such a structure has been built and that it has been a monumental effort. There is a need to monitor the facility constantly and especially in regards to the water situation in the tunnel and to find a robust and permanent solution to this issue.

#### **Item 4a**

Ola Westengen introduced agenda item 4a regarding the Standard Deposit Agreement's provision for first and second level duplication requirements. He explained that there has been a request from ECPGR requesting a blanket exemption from 1<sup>st</sup> level duplication and asked the Council to consider the issue of this policy in order to make a recommendation to the Norwegian government.

Javad Mozafari asked whether the reason for requesting such exemptions would be simply one of a financial nature or if there may be some other rationale for the requirement.

Cary Fowler explained that the decision to require 1<sup>st</sup> level duplication prior to the 2<sup>nd</sup> level duplication in Svalbard goes back to the feasibility study when there was consensus that each unique collection should be duplicated outside of the depositor country. If no other safety duplication were required other than Svalbard, then many genebanks, particularly those most poorly funded, would likely default to only depositing at Svalbard. He noted that the reality is that we recognize that there are many different types of genebanks – some which operate at a very high level and rarely need to request seed back, and others that are operating at very poor levels and need to request material back more often). Thus, the decision on this matter has potential cost implications for management of the Seed Vault.

Shivaji Pandey, Director of the Plant Production and Protection Division at FAO indicated that he considers the current policy fine and that it should not be changed. He suggested that the Council should recommend that the Norwegian government establish a more formal way of dealing with such requests, for example as a sub-committee of the Council, who could review and advise on specific situations. He noted that this would be a more transparent process for dealing with requests for exemptions.

Emile Frison recalled that the purpose of the Vault was envisaged as a 2<sup>nd</sup> level duplication site for safety. He suggested that going back on this would go against the original principles and would raise costs. He concurred with Shivaji that blanket exemption from the requirement for a 1<sup>st</sup> level deposit should not be given, pointing out that there would be a more frequent need to open the Vault.

Jean Hanson noted that management and cost issues are not worth considering for this panel, but is rather a question for the management to decide on. She pointed out that if the depositor were required to pay then they would only ask for return of seed when this is really necessary. Also the return of seed could be scheduled to coincide with scheduled Vault openings. She questioned whether perhaps it should be considered to make Svalbard the 1<sup>st</sup> level duplication site and ask that depositors sign an 'intent to deposit' to a managed international collection as well as a 2<sup>nd</sup> level deposit.

Zachary Muthamia stated that for genebanks the black-box arrangement is attractive. He concurred with Shivaji that a formal process for reviewing requests for exemption from the 1<sup>st</sup> level backup should be put in place, pointing out that this would also protect against possible criticism.

Emile Frison suggested that in cases where material cannot be duplicated to two locations, it could be possible to authorize a waiver as long as there is a declaration from the depositor that it intends to deposit to an international collection (as suggested by Jean).

Ruth Haug agreed with other Council members that the policy should not be changed but could consider giving waivers under specific conditions. She also agreed with the idea of a sub-committee of the Council that could be charged with analyzing such requests.

Pellegrina Wilhelmina, Executive Director, SEARICE, also agreed that the policy should not be changed. She pointed out that the political environment in which national genebanks are working needs to be taken into account. She noted that the vulnerability of a genebank is the product of its capacity and its exposure to hazards.

Cary Fowler summarized the discussions on this topic of discussion, noting that the Council agreed that the current policy, which allows NordGen to authorize waivers on an exceptional basis should not change. He noted that the Council agreed that NordGen should consult with members of the Advisory Council when faced with such requests and proposed that these be members who are most closely associated with genebanks. He also noted the consensus by the Council members that when making waivers for the 1<sup>st</sup> level duplication requirement, partners should declare that they intend to make a deposit also to the internationally managed collection.

#### **Item 4b**

Ola Westengen introduced the agenda item 4b regarding the storage of non-PGRFA (informing members of the several types such requests received and noting that the Vault already holds a box containing local Svalbard flora) and asked members to consider and advise on this issue. He noted that a number of requests had been received for the storage of biological samples and even for non-biological materials (e.g., digital archives).

Cary Fowler asked the members to consider whether a specific treatment should be given to collections of non-PGRFA from the Nordic countries since the Norwegian government provides this facility for the service of the world. He also noted that it can have cost implications if we accept quantities of non-PGRFA that entails cooling down a second Vault room earlier than otherwise necessary.

Emile Frison stated that the difficulty with such a decision is where to draw the line, noting that the Vault Committee has been set up to advise on *plant* genetic resources and therefore advising on other materials would be beyond this mandate. He suggested that if one were to draw the line, a very minimum would be at the level of biological materials.

Ruth Haug stated that in her opinion the Nordic countries should not have a preferential treatment, except for Svalbard itself. She also expressed the opinion that the Vault should be used for the original purpose for which it was established but agreed that if consideration is given to other materials, biological material could be the line at which a boundary is drawn. However she suggested that the main focus continue to be on food security, pointing out that allowing other material in the Vault will distract from this topic which would be a pity.

Javad Mozafari agreed with Ruth that the basic philosophy of the Vault needs to be preserved, pointing out that the word “seed” is even in the name of Vault. He stated that it would be important to retain this focus in order to raise confidence and encourage additional deposits.

Grethe-Helene Evjen drew attention to a paper from NordGen on safety backup of forestry genetic resources and asked for specific comments and feedback from the Council on this.

Arni Bragason, Director of NordGen informed the Council members that the request Grethe referred to is to store forest seeds for future research and that it would be conservation of seeds that are currently *in situ* (therefore Svalbard would be a 1<sup>st</sup> backup).

Cary Fowler summarized the discussion on this agenda item regarding allowing duplication of non-PGRFA in the Vault, indicating that the Council concurred that there is an issue regarding where to draw the line and that there is agreement that the line should be drawn at a minimum to biological materials. After this, it was agreed that it becomes more difficult to determine where to draw the line. NordGen currently has authority to analyze requests and authorize deposit and the Council's recommendation is that NordGen should, as it deems appropriate, contact individuals on the Council for advice, pointing out that there was a suggestion that one option is to allow materials to be deposited on a time-limited/experimental basis.

Roland von Bothmer, Professor and Head of Public Relations of the Vault, NordGen, suggested that there also should be a restriction limiting the possibility to non-commercial materials.

Zachary Muthamia reiterated that there will need to be a formal way for reviewing and responding to such requests.

Cary Fowler expressed agreement, noting consensus of other Council members, with Roland regarding restriction to non-commercial material and also noted the Council agreement with Zachary that the policy for reviewing such requests will evolve over time.

#### **Item 4c**

Ola Westengen introduced agenda item 4c regarding language in the Standard Deposit Agreement's (SDA's) Article 7 on availability of material. There has been some criticism of the SDA from some civil society organizations claiming that it's article 7 forces depositors to make PGRFA available to third parties.

Cary Fowler pointed out that this issue originates from a misinterpretation of Article 7 of the Deposit Agreement. It was not the intention of any of the three Parties to the Vault (Norway, NordGen, the Trust) to require adherence to the terms of the International Treaty and has not been an issue for depositors. He pointed out that the Vault is run in an open manner with integrity. Therefore, it is important to take these kinds of misinterpretations and concerns seriously and address them in order to avoid a climate of mistrust. He noted that if there is some language in the Deposit Agreement that can be misinterpreted this should be reviewed and possibly modified to remove any confusing language. He pointed out the paper on this agenda item that included some proposed rewording to the article. Cary Fowler reminded the group of their advisory role (rather than decision-making body) and that the Council should therefore consider this issue and make a recommendation for action to the Government of Norway.

Emile Frison agreed that since the article has been misinterpreted the Council should recommend a rewording, keeping the spirit of the original principle of the article and indicated that he supports the modified text as drafted in the meeting paper.

Jean Hanson suggested that in considering this, the group consider what the consequence would be regarding deleting the reference to the Treaty. She also suggested that it may be important to think of other ways to communicate clearly about deposit conditions and one way might be to be more explicit on the website.

Javad suggested that the wording should perhaps distinguish Annex 1 crops and suggested that the wording should not lose the focus, but should correct the language so as to avoid any misinterpretation.

Shivaji expressed his agreement with the revised wording as it appears in the meeting document.

Zachary argued that it would be important to put to rest any thoughts that material in Svalbard will be made available without consulting with the depositors, recalling that there was a discussion about this at the last Treaty meeting.

Pellegrina expressed agreement with the reworded text and indicated that she agreed that one may need to distinguish Annex 1 crops. She said it is important to make it explicit that providing access is entirely the responsibility of the depositor. While the SDA is clear about the ownership of the material she thinks it could benefit from a clearer wording on availability and access.

Grethe-Helene Evjen informed the group that when drafting the current text, they were intent on including language to ensure compliance with international regulations. She noted that the Ministry takes note of the issue with the current language and will come up with an alternative wording and present this to the Advisory Council.

Jean Hanson agreed that it is important to ensure appropriate wording in order avoid discouraging people from depositing. She also noted that this issue might be more of a public awareness issue than anything else and that publishing a statement about this on the websites of the Vault might be equally important as changing the wording.

Cary Fowler noted that the present wording poses no conditions on depositors and it may be necessary to ensure that this is clearly understood.

Javad Mozafari agreed that it would be good to ensure that the language makes clear what the conditions are for each party. He noted the importance of making it clear that the SDA does not impose terms and conditions on access that are going further than ITPGRFA or other national and international law. He said it was important to formulate the text as granting access as a right held by the depositor rather than an obligation.

Cary Fowler summarized the discussions on this agenda item noting that there is agreement that the current wording of Article 7 of the Standard Deposit Agreement could be confusing and that the Council recommends that the Norwegian government consider a rewording of the text, following their in-house legal advice, along the lines of the draft offered in the paper for the meeting. He stressed that the alleged problem with Article 7 is largely a hypothetical scenario envisioned by certain groups and that this Article had not been a real or practical problem in a single case. He noted that the Council agreed that in redrafting this Article, the spirit of using the Seed Vault as a safety backup for collections that are available from the depositor, which is the spirit of the original Article, should be maintained.

Pal-Vidar Sollie thanked the Council members for the discussion and assured the group that they would take it up with the lawyers. He also acknowledged Jean's suggestion that conditions could be more explicit on the website in order to be more transparent and avoid misunderstandings.

#### **Item 4d**

Regarding conservation of samples of genetically modified seed.

Cary Fowler pointed out that there have been no deposits of such seed and no requests to deposit such seed, and no proposal for changing current policy and for this reason there is no meeting paper on this agenda item. He informed the group that current Norwegian laws are restrictive on this topic to such a degree that deposit of such seed in the Seed Vault would not legally be possible. If there is any sentiment that such deposits should be considered for the Vault in the future it would require changes to Norwegian laws.

Emile Frison and Ruth Haug both suggested that the Council should not recommend any change to the current policy and that this is important to preserve the public's regard for the Vault.

Ruth suggested that – in keeping with the intention to be transparent - the Council's meeting minutes and papers should be available on the website and that, in this regard, it is unfortunate that a paper was not presented on this agenda item. She suggests that in the future the Council meetings agenda, minutes and papers be placed on the website.

Javad Mozafari said that although storage of transgenic organisms is not a priority at the current stage, the Vault should not permanently close the door to further discussions on this topic if/when such material might become an important part of PGRFA collections.

Cary Fowler summarized the discussions on this topic highlighting that there was no paper before the Council on this agenda item because at present there have not been any requests for deposit of GMOs. He noted that there was consensus from the Council that there be no change in the current policy but that the Council, of course, reserved the right to revisit the topic if it so desired.

#### **Item 5**

Ola Westengen introduced agenda item 5 regarding the future plans and strategy for building the collection.

Cary Fowler emphasized the Vault's future objective to attract and safely duplicate the most diverse and important accessions genetically that are not already being duplicated there. He explained the consultative process of making the crop conservation strategies commissioned by the Global Crop Diversity Trust. These conservation strategies are the basis for the Trust's rescue and regeneration project with 86 institutes in 76 countries. The practical implication of this project for the Seed Vault is the provision in the contract with these collection holders about duplicating the material at Svalbard. He indicated that the Trust has had extensive discussions with and visits to countries holding important collections such as Japan, Ethiopia and China but that these countries are still considering the depositing of materials.

Zachary Muthamia suggested that one of the reasons that some countries may not be depositing could be due to the issue of 2<sup>nd</sup> level duplication and recognized that there could also be political and bureaucratic issues hampering their ability to deposit. He said it is important to invite on an open basis and present the project in forums where questions can be posed, allowing for an open dialog and avoiding false rumors.

Ruth Haug suggested that it may be necessary to conduct an analysis.

Shivaji argued that actually the Vault already holds a lot of material and that we should aim for additional unique material, avoiding storing duplicates of material that may already be held in the Vault.

Cary Fowler suggested that it could be possible to organize a series of side events at the next Treaty meeting targeting each of the regional groups.

Javad agreed that there is a need to communicate more regarding Svalbard and that there is a need to raise confidence of the public on the Svalbard initiative. He recognized that this might be through the website or through organization of side events. He stated that it is important to make things very clear/transparent regarding the obligations and rights of depositors in order to build their confidence. He indicated that factors hampering deposits might be policy issues, technical issues or just misunderstandings. For this reason, he stressed that where any ambiguities exist it is important to remove these. It should be clear that Svalbard is not going to replace the national genetic resources conservation work – that it is complementary and not in substitution. He also noted that many countries are still having internal discussions on how to handle ABS issues etc. He reiterated the need to communicate clearly that the Seed Vault is operating fully in line with existing international laws on PGRFA conservation and management, that it is a complimentary component in the global conservation system. He said that it is necessary to address the ambiguity towards the project from certain countries by clearly communicating that the project is not imposing obligations beyond the national and international law, and the ITPGRFA in particular.

Zachary Muthamia suggested having a dialogue with stakeholders, for example by putting in place a questionnaire.

Jean Hanson raised the issue of whether minor crops important for food security should be considered and Pellegrina Wilhelmina suggested that community seed banks should also be targeted. She said that it should be considered how community seed banks in developing countries can be involved in the Seed Vault.

Grethe-Helene Evjen recalled that the focus must be on the unique accessions, and while it is not necessary to house all accessions from all genebanks around the world, it is useful to have a broad base of depositors/users. She suggested that at the next meeting it could be useful to have some draft strategies for the members to consider.

Shivaji Pandey stated that the challenge will be how to open up the Svalbard initiative. He noted that people are more confident in something in which they have a say, so involving others (for example through a survey) may be a good approach.

Cary Fowler summarized the discussions pointing out consensus by the members that: (a) the Vault has been extremely successful in its first three years of operation; (b) there is already a significant amount of diversity in Svalbard; (c) some important country collections (important and unique collections) are missing and some crops are underrepresented. In considering how to build the collection it is important to consider why some countries have not used the facility. He noted that all current depositors have had extensive contact with the Trust and been involved in extensive communications. He noted discussion by the group that it may be necessary to send another letter and to organize some side events at the next Treaty meeting. He further pointed out that as we get closer to a conclusion of the current Trust regeneration project, it must be recognized that the Trust may not have the capacity to provide extensive additional support for deposits. It was agreed that this item should be on the agenda for the next meeting.

## **Item 6**

Roland von Bothmer introduced agenda item 6 providing an update on public awareness activities and visitation events and policies.

Ruth Haug suggested that it is important to make an outreach effort to bring Svalbard to the people.

Emile Frison argued that Svalbard is a great opportunity to talk about the wider issues.

Pål-Vidar Sollie suggested that it is important to prioritize visits and would give priority to media and policy-makers. In response to Ruth's suggestion, he noted that one way of bringing Svalbard to the people would be to organize more lectures and show photographs. He asked that the Council have this as a standing item on the agenda.

Cary Fowler summarized the discussions pointing out that depositors themselves can benefit by organizing local public awareness opportunities concerning their deposits. He noted that the visitor's policy recommended by the Council at the last meeting was adopted by the Government. He noted the member's consensus that there great appreciation for the role that the Vault is playing in raising the profile of the importance of crop diversity and thanked the Government of Norway for this opportunity. He noted the group's consensus that the priority for future visits should be given to the media and to policy makers (VIP's being included in this group).

## **Item 7.**

Venue and agenda of the next meeting.

Regarding next meeting and agenda, the group agreed that it would be important for future Advisory Council meetings to be held annually, and agreed that every other year they could consider holding the meeting at a location other than Svalbard. It was agreed that the next meeting be held at Svalbard and the proposed date is 29 August 2012 (arrival 28 August, meeting Wednesday 29 August, visit to Seed Vault 30 August and departure on Friday 1 September). It was agreed that the agenda for the next meeting would include:

- Status of seed deposits
- Status of the physical facility (with visit to the Vault)
- Future strategy for deposits
- Update on public awareness
- Review of any outcome regarding wording to Article 7 of the Deposit Agreement (stemming from discussions at this meeting)
- Any other business

The IAC expressed thanks to the Norwegian Ministry of Agriculture and Food for constructing the Seed Vault and ensuring its operation. Thanks were also expressed to NordGen for managing the facility.

The IAC thanked the organizers of the meeting, the Global Crop Diversity Trust and the secretariat at NordGen. Finally the IAC expressed thanks to the Ministry for its international outlook and openness to advice on the operation of the Seed Vault as expressed in establishing the IAC and organizing its meetings.

The meeting was closed.