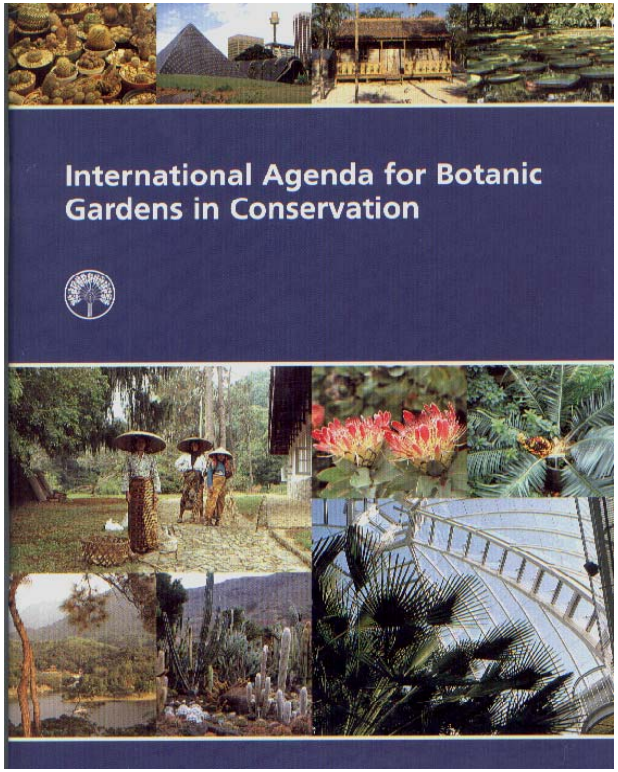
Target 14 of GSPC meeting (Russia):

Role of Education and Communication in Advancement of the GSPC



АПТЕКАРСКИЙ ОГОРОД 1706 БОТАНИЧЕСКИЙ САД МОСКОВСКОГО УНИВЕРСИТЕТА HORTUS BOTANICUS UNIVERSITATIS MOSQUENSIS

BGCI Plants for the Planet

HSBC

Investing in Nature

Target 14 meeting (Russia):

In June (29-30) 2006, a number of Russian botanic gardens, together with various secondary and higher educational organizations and NGO's were represented at the T14 Russia's meeting on

"The Role of Education and Communication in Advancement of the Global Strategy for Plant Conservation".

The event was held as a part of the XII International Conference on Environmental Education - «SUSTAINABLE WORLD: ON THE WAY TO AN ENVIRONMENTALLY SAFE CIVIL SOCIETY».

Target 14 meeting (Russia):

Running the meeting as part of a larger conference helped to boost attendance and draw wider attention to the issue amongst various organizations, politicians, teachers, scientists, media and young people.

Suzanne Sharrock *(BGCI) presented the Global Strategy for Plant Conservation and Target 14 на пленарной сессии конференции, где собралось более 200 участников.*

Audience of the 14 meeting:

The meeting was attended by 38 delegate, who debated the principal issues over 2 days.

The list of participants included:

- botanic garden representatives;
- representatives of the Ministry of Science and Education and the Ministry of Natural Resources;
- secondary and higher education teachers;
- methodology experts from extra-curricular education; establishments (Russian National Environmental Education Centre);
- editors and staff of various publications (educational and environmental);
- library staff;
- NGO representatives.

Reports on the status of plant based education

Several major analytical reports were presented at the meeting:

EDUCATIONAL AND SOCIAL PROGRAMMES IN BOTANIC GARDENS OF HIGHER EDUCATIONAL ESTABLISHMENTS UNDER THE RUSSIAN MINISTRY OF SCIENCE AND EDUCATION (*M.N.Ber,* Ministry of Science and Education of Russian Federation et al.)

RARE PLANT SPECIES IN NEED OF CONSERVATION IN RUSSIAN BOTANIC GARDEN COLLECTIONS (*A.Prokhorov,* Commission for Application of Information Technologies, Council of Botanic Gardens of Russia; Botanic Garden of Petrozavodsk University, Petrozavodsk)

THE ROLE OF THE JOURNAL "BIOLOGY IN SCHOOL» IN COVERING BIODIVERSITY ISSUES (*S.V.Sumatokhin,* Editor-in-Chief, "Biology in School")

THE ENVIRONMENTAL ROLE OF URBAN BOTANIC GARDENS AND THEIR POTENTIAL IN EDUCATION FOR SUSTAINABLE DEVELOPMENT (A.*Rappoport,* Department of Nature Use and Environmental Protection, City of Moscow)

Best practice in education

Leading education programmes from botanic gardens around the country were presented:

- ***CENTRAL SIBERIAN BOTANIC GARDEN, SIBERIAN BRANCH, NOVOSIBIRSK***
- ***IRKUTSK STATE UNIVERSITY BOTANIC GARDEN***
- ***RUSSIAN NATIONAL SCIENTIFIC RESEARCH INSTITUTE OF MEDICAL AND AROMATIC PLANTS BOTANIC GARDEN, MOSCOW)***
- ***TVER STATE UNIVERSITY BOTANIC GARDEN***
- ***MOSCOW STATE UNIVERSITY BOTANIC GARDEN ("Aptekarskiy Ogorod")***

Plus an experimental programme for schools under trial in Moscow School No.1018 (experimental sites)

Suzanne Sharrock spoke about best international practice

Best practice in education

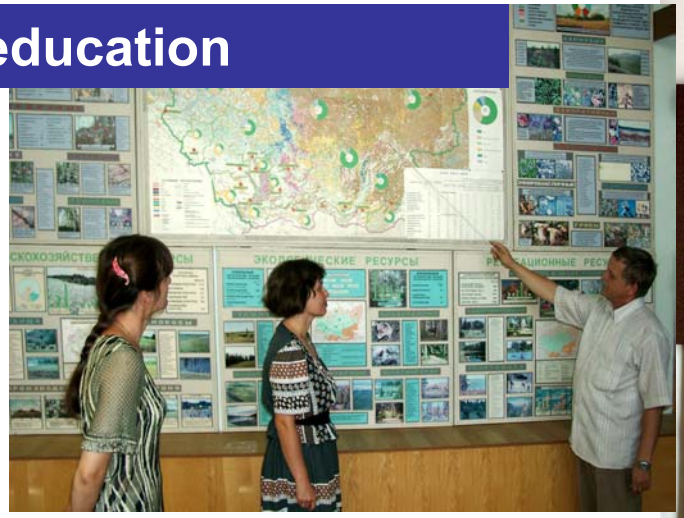
Participants highlighted a range of methods for working with young people, mainly in the area of informal education:

- *Excursions and lessons in botanic gardens with pupils and students (there is also experience of running excursions for pre-schoolers);*
- *Activities in eco-clubs and school clubs, such as gardening, plant collections etc.;*
- *Research projects;*
- *Educational and intellectual games.*

Best practice in education

- *Environmental camps where schoolchildren can learn about local plants;*
- *Urban environmental events;*
- *Training courses for teachers;*
- *Competitions and tournaments for pupils and students.*

Best practice in education



- *Creation of museums, open-air exhibitions and environmental trails, including in kindergartens;*
- *Excursions and activities with pre-schoolers (age 5-7);*
- *Production of new teaching aids for biodiversity courses*
- *Publication of newspapers and press articles;*
- *Creation of Internet resources and library resources.*

Discussion in groups:

- *status of plant based education*
- *gaps*
- *actions for taking forward T14 (identify the necessary conditions for success in implementing educational programmes* What worked well? What didn't work well?)
- *propose a series of indicators for measuring T14 progress and success*

Status of plant based education

Formal Education (School Education)

Some schools have gained valuable experience, but overall the situation can be descried as follows:

- ***Though they are formally incorporated in the school curriculum, very little time is devoted to biodiversity issues, and there is hardly any discussion of them in schools;***
- ***There is no ecology course in the national curriculum and the number of hours devoted to biology is being reduced;***
- ***Not all regions run programmes designed for study of local plant resources;***
- ***Where biodiversity is developing, it is as an optional subject led by creative and enthusiastic teachers.***

Status of plant based education

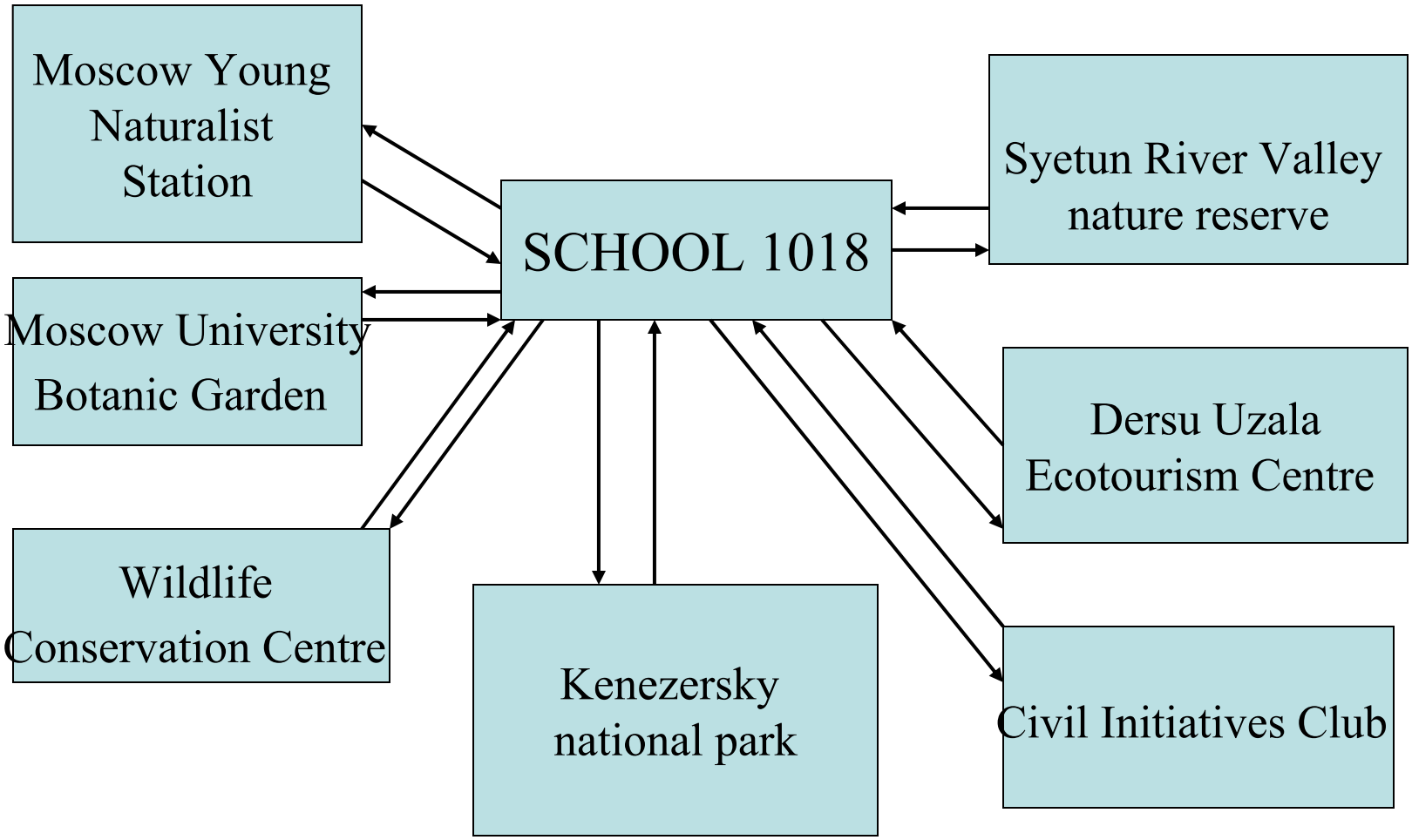
Experimental environmental education sites are being piloted in 10 Moscow schools:

1.Environmental Education in the Capital City: The Regional Component (leader A.N.Zakhlebny)

2.Environmental Education for Sustainable Development (leader G.A.Yagodin)

- *At the sites, pupils work on research projects based on environmental camps (where training is provided), environmental practical activities and nature hikes, and a programme of special courses has been developed;*
- *The schools work together closely with the city's environmental biology centre, the botanic garden, museums and nature reserves.*

COLLABORATION BETWEEN SCHOOL 1018 AND EXTERNAL ORGANIZATIONS ON ENVIRONMENTAL EDUCATION ISSUES



Status of plant based education

Formal Education (High School Education)

Biodiversity issues are primarily taught in vocation training curricula for biologists, environmentalists and agricultural science students.

Lessons are held in botanic gardens and the natural environment during teaching expeditions and excursions, in field stations and nature reserves.

There is virtually no teaching of biodiversity issues I other higher education courses.

Status of plant based education

Informal Education

Developing strongly in major cities and some regions

- ***Run in schools, higher education, environmental and biology centres (young naturalist stations), botanic gardens, museums, nature reserves, plus experience of working with kindergartens. NGO's play a major role.***
- ***Programmes mainly designed for young people (senior pupils and students)***
- ***Many interesting programmes have been developed and various manuals published in the informal sector, mostly with a regional bias.***

Informal Education (continued)

- *Developing mainly with the help of international grants and sponsorship. Of particular importance are the SEPS and WWF programmes, which focus on supporting ESD and biodiversity projects.*

- *Inadequate government funding. At the same time, district and municipal budget support is provided in some regions and cities.*

Status of Plant-based Education

Non-Vocational Education for the General Public

Mainly run by botanic gardens, museums and nature reserves

Formats:

Courses, lectures, lessons in gardening, agronomy and landscape design.

Excursions upon request.

In the past 5 years there has been a dramatic increase in the number of publications on plants and in the public demand for such literature.

Also an increase in the number of TV programmes on plants.

Status of Plant-based Education

Non-vocational Education for the General Public

Workshop delegates noted that although the general public is clearly under-informed about plants, there is a high level of demand for such information. Decorative, medicinal and fruiting plants are topics of constant interest.

Reasons:

- Urbanization encourages people to turn to nature;
- Increasing pull towards aesthetics and decorating living space with plants;
- Rising living standards.

Gaps

- ***Lack of practical activities in schools, or "immersion in nature", especially in cities.***
- **Shortage of teaching methodologies for schools and kindergartens.**
- **Shortage of teaching aids on regional flora, such as videos, films and photographs in digital form. If they exist at all, they are hard to access.**
- **Shortage of qualified teachers and specialized teacher training courses.**

Gaps

- ***Biodiversity issues are not included in the curricula of other higher education establishments.***
- ***No children's TV programmes on plants and a shortage of children's literature, especially for young children.***
- ***Lack of coordination. People work within their own institutions and are often unaware of resources and functioning programmes developed by colleagues.***
- ***Plant studies not included in skills enhancement programmes for specialists at various levels.***

Target 14 meeting (Russia):

The meeting stressed that existing best practices need to be shared widely

and a set of educational modules developed for schoolteachers to use in garden settings.

Actions for Progressing T14

- *Need to develop national grant programmes for biodiversity*
- *Appeal to researchers and practitioners, NGO's (botany faculties, nature reserves, conservation organizations) on the need to promote GSPC.*
- *Facilitate the transformation of botanic gardens into education centres by developing their educational potential and resources (specialists, equipment, collections).*
- *Closer collaboration between botanic gardens, secondary and higher education, including teacher training colleges: involve trainee teachers in developing teaching methodologies working in the garden with the general public.*

Actions for Progressing T14

- *Promote accessibility and exchange of information (methodologies, successful projects, international experience);*
- *Develop Internet resources with links to relevant sites;*
- *Expand collaboration (botanic gardens, nature reserves and other conservation societies, schools, higher education, extra-curricular education, NGO's, government, state organizations, general public);*
- *Incorporate course modules in skills enhancement programmes for specialists at different levels, including government officials, to provide a basic awareness of plant resources. Devise modules and teaching manuals.*

Actions for Progressing T14

- *Produce teaching aids for lessons aimed at various age groups;*
- *Apply existing experience more widely in botanic gardens;*
- *Set up an eco-club network in botanic gardens;*
- *Hold regular meetings for exchanges of experience between specialists.*

Actions for Progressing T14

- *Issue recommendations, propose to the Ministry of Education and Science that a biodiversity module (multi-media set of 5-7 lessons) be incorporated in geography, biology and ecology courses);*

- *Develop and introduce specialized courses for front-line workers: secondary and higher education teachers, tour guides and journalists;*

- *Expand education programmes in botanic gardens (vocational and non-vocational), including training students to teach young children.*

Actions for Progressing T14

- Make more active use of different means of communication to promote public awareness:
  - Internet
  - Newspapers and magazines
  - Television
  - Videos
  - Popular science books and teaching aids
  - Specialized literature

- Create interactive teaching resources, including teaching software and games.

Indicators (**Qualitative Indicators**)

(Expert assessment or questionnaires)

- Assessment of extent to which education programmes in botanic gardens, schools and other educational establishments and NGO's are aligned with the goals of GSPC T14 (modify content in line with objectives of T14)
- What is happening at the regional level?
- How mature / varied are regional education programmes?
- Awareness of the issue amongst teachers
- Level of training of teachers and educators
- Existing methodological base
- Accessibility of methodologies and other teaching resources
- Understanding of the issue in the media and urban milieu (stands, posters etc.)

*Indicators (*Quantitative Indicators):

- How has the structure of funding for development and implementation of biodiversity programmes changed (in the sate sector, at the regional level)? Bigger / smaller budget?
- Implementation of special programmes and projects
- Growth in audience (by target groups) of training programmes
- Increase in number of teachers and schools trained
- Increase in number of visitors to botanic gardens
- Number of training courses held for different groups, including skills enhancement courses

Indicators (Quantitative Indicators):

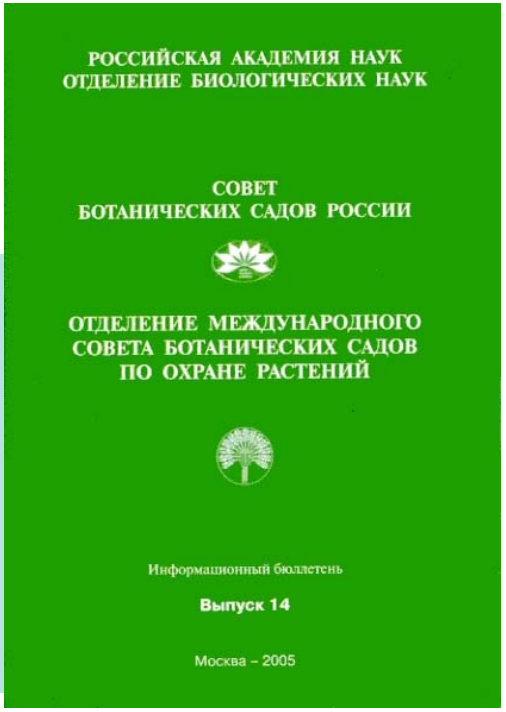
- Increase in number of teaching aids (guides etc.) and other resources, including interactive teaching resources
- Increase in number of plant conservation competitions (at different levels)
- Media references to biodiversity
- Quotation index on biodiversity
- Participation in competitions, student projects (increase in number of projects devoted to plant conservation)
- Discussion of the issue at conferences and seminars at various levels (number, increase in level of activity)

Assessment of Effectiveness of Individual Projects (What Has Changed?):

- **Change in public attitudes towards plant conservation (amongst different groups)**
- **Changes in municipal, regional and state policies**
- **Changes in awareness of biodiversity issues amongst various sectors of the general public**
- **Changes in people's behaviour (number of violations)**
- **Creation of new channels of communication**

Target 14 meeting (Russia):

In this context it was agreed that a series of articles would be published by the schoolteachers' journal "Biology in Schools" showcasing the education programmes and methodologies practised in different botanic gardens.



The Council of Botanic Gardens decided to compile a collection of articles on "Building Awareness of Education for Sustainable Development in Russia's Botanic Gardens", which will be published later this year