

Prague Conference on Soils, 26-29 August 2000

Motivations

In 1993, the Platform for a Responsible and United World, the fruit of collective consideration on the challenges of the 21st century, initiated by the Charles Léopold Mayer Foundation for the Progress of Humankind, underlined the need for a major action campaign on soils. The program is seen as follows:

"The program will involve promoting methods of tilling and working the soil that do minimum damage to its biological, nutritional, regulatory and hydraulic functions. Recent massive damage to the soil has led to a serious decrease in the fertility of environments and hence to desertification. The major merit of the program will be its worldwide application to trigger radical modification of agriculture production systems, mobilize human resources for appropriate actions, reduce food insecurity in the poorest countries, spur research into the diversified management of ecosystems, and combine large-scale programs with micro -initiatives".

The Soil Campaign was launched in 1995 and is part of a wider collective movement known as the *Alliance for a Responsible, Plural and United World* whose aim is to respond to the challenges of the next century.

Safeguarding soils to preserve life on Earth

Recent scientific knowledge has shown that soil provides numerous function whose importance is vital in different spheres: the atmosphere, biosphere, hydrosphere and lithosphere.

Soil permits the production of biomass, the foundation of life. Plant biomass in particular feeds animals and humans (roots, stems, leaves, flowers, fruits, seeds); it provides renewable energy, building materials, and raw materials for industries and crafts (wood, stems, leaves). Soil harbors biological diversity, from microscopic to macroscopic, both plant and animal, much of which remains undiscovered. Soil contributes to the balanced functioning and stability of food chains and of the water cycle. Thanks to its physical properties (porosity and permeability), its chemical properties (adsorption, exchange) and to its biological properties (transformations, catabolism metabolism), soil plays an important role in the replenishment of underground aquifers and in the regulation of hydrological systems. It also absorbs and transform atmospheric pollutants and those released by human activities. Soil stocks atmospheric carbon dioxide, a greenhouse gas, in the form of organic matter. It is the physical foundation of human infrastructures (housing, industries, transportation networks, waste dumps, and leisure and recreation facilities). It is a raw material which human societies use in their construction and craft activities and it contains mineral reserves. Soil even carries out a cultural function since it contains numerous archaeological treasures and is the record of human evolution. All this shows how important soil is for life on Earth.

When inventing agriculture, human societies started by exploiting the productive function of soil. As long as soils were producing, human societies multiplied and their demand for food increased. When the capacity of soil to produce no longer met the demand for food, solutions had to be found to avoid the disappearance of societies and the generation of conflict. This led to innovations. Examples of these are the adoption of ways of life and agriculture that respect the rhythms of renewal of soil fertility (nomad herds, fallow land), or which maintain it (organic manure of plant and then animal origin); the implementation of techniques to improve the productivity of soil (irrigation); and correcting certain defects i.e. liming of acid soils, or adapting crops to constraints (salinity).

With industrial and urban development, and the demographic expansion which followed, other functions were demanded, leading to a concentration of soil's productive function, due to competition for space on increasingly reduced land surfaces. This process continues today. Scientific and technological advances then brought new solutions to increase production: mechanization, mineral fertilizers, pesticides, crop selection, drainage, etc. But although agricultural intensification has not attained the results anticipated, it has generated globally negative effects on soils and on the environment.

All over the modern world, in both rich and poor countries, there are all too many examples of soils that have been seriously modified and damaged due to their misuse. Phenomena of erosion, surface compaction, salinization due to irrigation, organic matter impoverishment, pollution and so forth are increasingly frequent and affect forever wider land surfaces. In addition, the development of towns and shantytowns, industrial and commercial complexes, tourist areas, along with the spread of transport networks, the proliferation of airports, the construction of hydroelectric dams and the intensified exploitation of surface mineral resources, take each year tens of thousands of hectares of land, and thus soil cover, away from its biological, nutritional, exchange and filtering functions.

This poor management of soils, either willful or out of ignorance, which deteriorates the basic function of soils and can completely destroy them, seriously undermines environmental quality and biodiversity. It deregulates water cycles and purity. In many human societies, this leads to social and economic difficulties (food insecurity and shortages, debts, high costs associated with rehabilitating degraded and polluted soils, and fertilizers, etc.). The result is increased poverty, famine, malnutrition, migrations, and conflicts over access to land, to drinking water, and to a healthy environment, leading ultimately to political unrest. The rights of future generations are neglected.

The world population is currently close to six billion. According to estimates, it will double within half a century; however, the Earth's resources, in particular productive land, are limited. If the current relationships between societies and between human beings do not change, it is obvious that the demands made on soils will not decrease, even if the current obsession with productivity starts to decline and a new type of agriculture, less greedy for yields, returns to areas up to now considered as marginal, and even if biotechnology works miracles. On the contrary, they will be greater and potentially rich soils will be coveted still more.

Therefore it is necessary, without delay, to re-examine the attitude of human societies towards their soils and to re-examine the management of this fundamental, rare and not easily renewable natural resource.

The necessary change in the attitude of human societies to soil

Good soil management is possible. By relying on several basic principles of care, moderation and safeguarding, it is possible to optimize the various functions of soil, maintain them, enrich them and avoid irreversible modifications. However, this can only happen if a genuine change occurs in the attitude of human beings to soil. In order for this change to take place, it will be necessary for each citizen to understand what soil is and why it is necessary to preserve it.

The Soil Campaign aims to develop awareness and knowledge of soil for all citizens. To achieve this goal, the Campaign is committed to three priorities:

1-Changing mentalities: creating a new way of looking at soil

The idea is to do whatever is necessary to increase collective awareness of the existence of soils and their vital importance for the future of humankind. It is an educational approach intended for everyone, aimed at building a new perception of soils

2-Raising the "status" of soil

In parallel with the first, long-term, objective, decision-makers should have their attention drawn to the consequences of bad soil management and be brought to reconsider the status of soil by raising it to the rank of a hard-to-renew natural resource, the use of which should be subject to certain rules and explicit specifications. To this end, the Campaign proposes to think about the ways and means of leading the world's governments to better manage their soil resources in a sustainable way and the international community and international agencies to adopt a responsible attitude to soil.

3- Building the foundations of international collaboration against soil degradation

We realize that the struggle against soil deterioration is less likely to succeed without solidarity from the international community, which alone can help to decrease the pressure on land with declining fertility and where degradation and erosion are increasing.

It is becoming increasingly clear that if coherent and rational land use policies are implemented, it is possible to stop or reduce the deterioration of soils and the environment; on the other hand, under current conditions, many countries are economically unable to bear the cost of rehabilitating degraded soils. This is why we think that it is absolutely necessary to mobilize international solidarity around this question. This conviction has led us to think of a method of formulating, within the framework of the Alliance for a Responsible, Plural and United World, a strategy of world solidarity against soil degradation.

Why a conference on soils in CEECs-NIS-CACs-M?

The current condition of soils in Central and Eastern European Countries (CEECs), in Newly Independent States (NIS), in Central Asian Countries (CACs) and in Mongolia, such as has been reported in scientific literature and in different publications and reports, in particular the "Dobris assessment" (1 995) and "Environment in Europe: the Second Assessment" (1 998), is very worrying to say the least.

Soil degradation in these countries, even though varying in seriousness from one country to another,

remains significant and requires attention. The forms of degradation are numerous and certain areas are seriously affected.

Soil issues do not interest the governments in these countries, which are, in most cases, financially incapable of facing up to soil degradation phenomena. The policies currently pursued in some of these countries, such as government disengagement and the change of the legal status of land, accentuate soil and environmental degradation. In Russia, Belorussia and the Ukraine, methods of exploiting soils without management of soil fertility have appeared; the monitoring of soil erosion over five years in Ukraine has revealed very rapid changes. In Albania, the soil has been degraded by the recent increase of stockbreeding.

These countries have a large number of soil scientist who know their soils well. Unfortunately, their working conditions are poor and they do not take part, for institutional reasons, in consideration on a worldwide or even European scale. In brief, the situation is that many of these countries have become huge fields that suffer from rapid soil and environmental degradation. Their soil scientists are unable to react and their rural populations are growing poorer along with their soils and environment. What is more, their governments remain passive.

For all these reasons, and in accordance with the approach and objectives of the Soil Campaign, we organize a conference on soils in these countries.

Expectations of the conference on soils in CEECs-NIS-CACs-M

We are planning for a practical, pragmatic and concrete conference, giving the opportunity to gather soil scientists, policy makers, NCOs and other persons interested in soil issues in these countries, such as farmers, decision-makers, representatives of local authorities, etc. By taking an open, constructive and positive approach, they will be able to go beyond their specific interests, work together and think of the most efficient and tangible ways of combating the soil and environmental degradation affecting their countries, and propose the means necessary to attain this goal. It will also be an opportunity to bring together points of view and encourage soil scientists to take greater interest in land use issues and promote dialogue and cooperation between them.

Thus we want the conference to result in concrete proposals aimed at improving the condition of soils and that of the women and men in these countries. In particular, we want it to be the foundation for developing a major program for rehabilitating the region's degraded soils and, beyond this goal, to form the basis of genuine continental and world-wide solidarity in the fight against soil degradation.

Conference specifications

Rather than being strictly scientific, the conference covers a wide area of interests. Each country is represented by three participants: a soil scientist, a decision-maker, a representative from civil society - NGO.

- the soil scientist will be a personality known for his/her works and publications on soil issues;
- the policy maker will be a high ranking member (up to ministerial level) of the environment or agriculture ministries or belong to parliamentary committees concerned with agriculture or the environment;
- the representative from civil society-NGO will be an independent personality rather than a soil scientist, working on, and/or interested in, sustainable soil use issues, the combat against soil degradation, soil pollution, and soil erosion. This person could be a farmer, decision-maker, journalist, teacher, etc.

Contribution papers deal with following topics:

1 - the situation of soil degradation in the participant's country

- a short and precise presentation of various types of soil degradation and their manifestations;
- agricultural and environmental problems ascribable to these degradations;
- the risks which they present for the future if no adequate measures are taken.

2 - the current attitudes toward soil degradation in the country

- What are the country's approaches to the question of soil degradation, on:
- policy and institutional levels ?
- Scientific and technical levels ?
- the educational level ? (place of soil in educational and information systems)

- Civil organizational level ? (Is civil society aware of soil degradation problems ? Does it deal with these problems and, if so, how?)

3 - prospects as regards concrete action programs

- What does the country expect from regional or international solidarity to solve problems of soil deterioration ?
- For the country, what are the priority actions to be carried out against soil degradation, and for the rehabilitation of degraded soils ?

Countries concerned

Albania, Armenia, Azerbeidjan, Belorussia, Bulgaria, Bosnia Herzegovina, Croatia, Czech Republic, Estonia, Georgia, Germany, Hungary, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, FYR of Macedonia, Moldavia, Mongolia, Poland, Romania, Russia, Slovakia, Slovenia, Tadjikistan, Ukraine, Turkmenistan, Uzbekistan, Yugoslavia.

Working languages

Russian-English.

Program

Friday August 25 2000

- 01:00 pm Registration open at the Czech University of Agriculture (CUA) student hostel JIH
- 06:00 pm Official opening of the Conference at the main hall of the CUA
- Welcome on behalf the Soil Campaign: Prof. Rabah Lahmar;
- Welcome on behalf of the Czech University of Agriculture in Prague (CUA): Prof. Josef Kozák;
- Welcome on behalf of the Research Institute of Crop Production in Prague: Dr. Jan Lipavský ;
- Welcome on behalf of the Ministry of Agriculture: M. Antonin Kalina;
- Welcome on behalf the foundation Charles Léopold Mayer: Prof. Alain Ruellan;
- Welcome on behalf the European Soil Bureau: Dr. Luca Montanarella.
- 07:15 pm Get together buffet at the Benda restaurant CUA campus

Saturday August 26 2000

Chairman/Co-chairman: **Prof. Josef Kozak** (Czech Republic), **Dr. Jan Lipavský** (Czech Republic)

- 09:00 am Introductory lecture: **Soils in CEECs-NIS-CACs-M : Current state.**
Synthesis from all received papers by **Prof. Alain Ruellan** (The Soil Campaign)
- 09:30-11:00 am opening of the debate structured and animated by Prof. Alain Ruellan
- 11:00-11:30 am coffee break
- 11:30-01:00 pm conference discussions
- 01:00-02:30 pm lunch break
- 02:30-04:00 pm conference discussions
- 04:00-04:30 pm coffee break
- 04.30-06:00 pm conference discussions, end of the debate
- 06:30 pm dinner
- 08:00 pm cultural activity (guided walk on the road of the Czech kings)

**Sunday
August 27
2000**

Chairman/Co-chairman: **Prof. Tengiz Urushadze** (Georgia), **Dr. Jaromír Kubát** (Czech Republic)

09:00 am	Introductory lecture: Soils in CEECs-NIS-CACs-M : Current policies of fight against soil degradation.. Synthesis from all received papers by Prof. Mireille Dosso (The Soil Campaign)
09:30-11:00 am	opening of the debate structured and animated by Prof. Mireille Dosso
11:00-11:30 am	coffee break
11:30-01:00 pm	conference discussions
01:00-02:30 pm	lunch break
02:30-04:00 pm	conference discussions
04:00-04:30 pm	coffee break
04.30-06:00 pm	conference discussions, end of the debate
06:30 pm	dinner

**Monday
August 28
2000**

Chairman/Co-chairman: **Prof. Zdenek FILIP** (Germany), **Sanginboy Sanginov** (Tajikistan)

09:00 am	Introductory lecture: Soils in CEECs-NIS-CACs-M : Future prospects. Synthesis from all received papers by Prof. Rabah Lahmar (The Soil Campaign)
09:30- 11:00 am	opening of the debate structured and animated by Prof. Rabah Lahmar
11:00- 11:30 am	coffee break
11:30- 01:00 pm	conference discussions
01:00- 02:30 pm	lunch break
02:30- 04:00 pm	conference discussions
04:00- 04:30 pm	coffee break
04.30- 06:00 pm	dinner
07:30- 09:00 pm	Round table discussion on the proposed 'Tutzing proposal of a Soil Convention", animated by: Ian Hannam (Australia), Alain Ruellan (France), Mireille Dosso (France), Winfried Blum (Austria), Rabah Lahmar (Algeria/France), Luca Montanarella (Italy), Martin Held (Germany)

**Tuesday
August 29
2000**

Chairman/Co-chairman: **Dr. Luca Montanarella, Prof. Mireille Dosso, Prof. Alain Ruellan, Prof. Rabah Lahmar, Prof. Karel Vorísek**

09:00-11:00 am	discussion on the forms of expected active solidarity, the cooperative networking, the priorities for future actions
11:00-11:30 am	coffee break
11:30-12:00 am	conclusions of the conference
01:00	lunch and departure

Report

From 26 to 29 August 2000, was held at the Research Institute of Crop Production in Prague, Czech Republic, a conference one :

"Soils in Central and Eastern European Countries (CEEC), in the New Independent States (NIS), in Central Asian Countries (CAC) and in Mongolia (M). Current situation and future prospects."

This Conference was organized by the **Soil Campaign of the Alliance for a Responsible, Plural and United World**, with the support of the Charles Leopold Mayer Foundation, the European Commission (European Soil Bureau and TACIS Programme), the Czech University of Agriculture and the Research Institute of Crop Production of the Czech Republic.

The participants in the Conference (about 60 people) were :

- delegations from 25 countries out of the 29 countries considered (Albania, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Estonia, Georgia, Germany, Hungary, Kazakhstan, Latvia, Lithuania, FYR of Macedonia, Moldavia, Mongolia, Poland, Romania, Russia, Tajikistan, Ukraine, Uzbekistan, Yugoslavia);
- The General Secretary of the International Union of Soil Science;
- The Secretary of the European Soil Bureau;
- Participants from western countries (Germany, Australia, Canada)
- The 3 facilitators of the Soil Campaign.

The official languages of the Conference were English and Russian, with simultaneous translation.

The main originality of the Conference was the diversity of participants' responsibilities: scientists (in various fields: soils, environment, agronomy, economy, law, anthropology), **political leaders** (government members, parliament members , senior civil servants, heads of administrations), **members of the civil society** (NGO, journalists, managers). Even though scientists were more numerous than others in the Conference, **discussions were, as wished by the organizers, mainly political in nature:** (political, social and economic; local, regional and global) causes and solutions of soil deterioration and its consequences were addressed, in view of better managing soil resources.

The Conference drew from texts sent by the participants to the Soil Campaign, on its demand, at the beginning of 2000. On the basis of these contributions (distributed to all participants at their arrival), the facilitators of the Soil Campaign prepared 3 reports, opening the debates of the Conference itself :

1 — Review of the current state of the soils in the CEEC-NIS-CAC-M : degradations (and improvements) of soils, what they are, what is known about them, their causes and consequences. This first report was the subject of discussions on the first day of the Conference, (Saturday 26 August).

2 — Review of the current policies, regulations, actions implemented (whether of scientific, technical, educational, economic, social, or legal nature), in every country, to compensate, foresee and prevent soil deterioration. Respective roles of actors: Governments, Parliaments, NGOs, soil users; local, regional, international ones. Ongoing collaborations and partnerships. This second report was the subject of the debates of the second day of the Conference, on Sunday 27 August.

3 - Future prospects: what are the urgent needs; the priorities for regional and international solidarity. This third report was the subject of discussions of the third part of the Conference, on Monday 28, and Tuesday morning 29, August.

From this Conference, very fruitful in discussions and concrete proposals, we learnt the following main conclusions and recommendations:

A - All participants recognized the quality of the approach adopted for this conference: diversity of participants and summary reports prepared by the organizers. The participants recommended that similar meetings, associating scientists and politicians, governmental and non-governmental entities, take place in every country and at the regional level. They also recommended to spread the results of the Conference. The dialogue has started: it will continue within the networks that are going to be built.

B - All participants agreed that soils deterioration is mainly the result of local and global economic systems: poverty and productivism (either linked to a liberal economy or to a planned economy) are the two main reasons for soil deterioration. As a result, one doesn't prevent soil deterioration through merely technical approaches: it is primordial to refine this argument and to publicise it; international solidarity must act in this sense. The problems raised, in turn, by the constitution of big collective properties and later by the splitting up of these properties, are significant ones.

C - Participants highlighted that regulation, about the protection and management of soil resources and of their functions, is for sure indispensable, but provided that it is rooted in popular awareness and demand. Existing regulations are not effective on the field (neither implemented nor respected). Every country must therefore pursue its legislative efforts (development and implementation), while an international framework is necessary (Convention on Soils): international solidarity must contribute to this.

D - Education and communication, about soils, are therefore indispensable. It is necessary to make soil, its functions, and the necessity of its good management, a popular, attractive and preoccupying issue. Education to soil must be developed from early age. Here again, international collaborations and partnerships are indispensable.