

Opening Address by Dr. J. S. P. Yadav:

Dear DR. PÁL, DR. PANNONHALMI, DR. JUHÁSZ, DR. GÁTHY, MRS. SALGÓ, DR. VÁRALLYAY, DR. SZABOLCS, Fellow Scientists, Ladies and Gentlemen,

I consider it a great privilege to participate in the Hungaro-Indian Seminar in Budapest as leader of the Indian delegation. All the members of the Indian delegation including myself are grateful to the Government of India and the Government of Hungary for giving us an opportunity to visit this wonderful country and to have a fruitful exchange of scientific information on salt affected soils, which present a serious global problem for crop production.

As you all know, the Government of India and the Government of Hungary, under Item 34 of the Indo-Hungarian Cultural Exchange programme, agreed to share the experiences in the areas of research on salt affected soils. The first Seminar on "Management of Salt Affected Soils" involving these two countries was held at the Central Soil Salinity Research Institute (CSSRI), Karnal in February, 1977. A delegation of eminent scientists from Hungary, namely DR. VÁRALLYAY, DR. DARAB, DR. LATKOVICS, DR. RÉDLY led by DR. SZABOLCS, and numerous scientists from India presented valuable papers which covered a wide range of topics related to the management of salt affected soils and provided a good background for detailed discussion. The proceedings of this Seminar including the papers and the recommendations have already been published by the CSSRI, Karnal.

As a sequel to the recommendations of the first seminar, the Hungarian Government agreed to host the present Seminar. I am sure that this Seminar will help in further developing the collaborative programmes between these two friendly countries.

Besides the organization of these two Seminars by the Indian and Hungarian Governments, the CSSRI, Karnal and the Research Institute for Soil Science and Agricultural Chemistry of the Hungarian Academy of Sciences, Budapest are having collaboration in the exchange of the scientists for somewhat longer period. Two scientists from Hungary, namely DR. E. MOLNÁR and MR. A. LUKÁCS and one scientist from India, DR. G. P. BHARGAVA, have already undergone training at these two places. I am happy to say that another scientist, DR. I. K. GIRDHAR, from CSSRI, Karnal, is now in Hungary under this exchange programme.

In fact, the CSSRI has had a close link with Hungarian scientists from its very inception. DR. SZABOLCS visited it soon after it had been founded, and during his subsequent visits he expressed his great appreciation of our results achieved in the amelioration of barren alkali lands through technology developed at the CSSRI.

One of the adverse factors limiting crop production in many parts of the world is the serious problem of saline and alkali soils. With the introduction of irrigation many more areas are being afflicted by this problem due to the rising water table. According to the Food and Agriculture Organization of the United Nations, the agricultural situation in the world stands in two extremes. On the one hand, the producing capacity of the land is about three times the requirement of the population, but on the other hand, the actual production is much less than the demand. In order to bridge this gap, there is an immediate need of expansion of the cultivated area by several hundred million hectares to feed an additional two billion people by the end of this century. As it is well known, the geographical area cannot be expanded. However, it is paradoxical that despite such a heavy pressure on land, many millions of hectares are lying barren all over the world because their soils have certain problems. One of the estimates shows that in India nearly 7 million hectares of land are affected by soil salinity, while in Hungary 1271.6 thousand hectares are solonchic soils. No country can afford to leave such vast expanse of these problem soils unutilized when the demand of the escalating population for food and other items is increasing at a fast rate.

Many eminent scientists in Hungary, like DR. 'SIGMOND, have made outstanding contributions towards a better understanding of the problem of the salt affected soils and their management. DR. 'SIGMOND published a book on "Hungarian Alkali Soils and their Reclamation" in 1923; a "Handbook of Soil Science" in 1934 and "The Principles of Soil Science" in 1938. These publications have stood the test of time for their accuracy and still provide an excellent account of the theoretical concepts on the subject. The active role played by DR. 'SIGMOND in promoting the activities of the International Society of Soil Science is highly commendable, largely in his capacity as President, of both Commission II (Soil Chemistry) and the Alkali Sub-Commission. His dedicated efforts helped in recognizing Soil Science as an independent science. Lately, the intensive studies conducted by DR. SZABOLCS, DR. VÁRALLYAY, DR. DARAB, DR. RÉDLY and other scientists have provided in-depth information on the characteristics of these soils and have realized their practical amelioration in the field. Proper solution to the problem of soil salinity has been a challenge to the agricultural scientists in India. I am happy to say that the scientists in India took up the challenge and have achieved results of considerable practical value regarding the kind, quantity and method of application of amendments, screening of tolerant crops and their varieties, agronomic and cultural methods for growing crops, drainage methods, water management practices etc. It is, therefore, most appropriate that these two countries, whose problems in reclamation and management of salt affected soils are of serious nature, intensify their scientific efforts so as to develop multifacet research and developmental strategies to overcome the menace of the salt affected soils. I, therefore, feel that such joint ventures are timely steps in the right direction.

The CSSRI, Karnal organized an International Symposium on "Principles and Practices for the Reclamation and Management of Salt Affected Soils", in February, 1980 under the aegis of the Sub-Commission on Salt Affected Soils of the International Society of Soil Science. I take this opportunity to thank DR. I. SZABOLCS, Chairman of the Sub-Commission on Salt Affected Soils, who played a vital role in selecting Karnal as the venue for this Symposium. A delegation of eminent scientists from Hungary besides many reputed scientists from

nearly 26 countries of the world, who attended this Symposium at Karnal, saw for themselves the research work and its field application, being carried out in India for raising its agricultural production vis-a-vis amelioration of salt affected soils.

While as scientists we feel proud of our achievements in several aspects of salt affected soils, yet there is no time for complacency in the scientific pursuit. I hope that this distinguished gathering of the scientific community would devote its time to discussing some of the questions and find suitable solutions to this global menace of salt affected soils.

1. Are the figures given for the area covered by salt affected soils in different countries of the world based on systematic survey? If not, what joint efforts can be made by different affected countries to survey and map these areas?
2. Do we have a clear understanding of the cause-effect relationship in the origin of these soils and their response to plant behaviour in different areas?
3. Have we well-defined criteria for categorizing various reclaimability classes of these soils, which can be made use of in formulating and executing reclamation projects and in assigning priorities to different areas? Do we have a package of practically feasible technology of reclamation suitable for all the situations and different kinds of these soils?
4. Do we have well organized national or international monitoring agencies for assessing the changes in the extent and nature of the soils under different land uses?
5. Have we enough data to identify the various administrative and socio-economic constrains which restrict the reclamation and utilization of salt affected soils in different countries of the world?
6. Many countries having this problem have carried out basic and applied research including developmental activities. Do we have well organized information retrieval system at the global level to disseminate information amongst the countries?

These are a few questions and many more can be added to this list.

In the end, on behalf of the Indian Government, the Indian Council of Agricultural Research and the members of the delegation, I once again thank the Hungarian Government for hosting the Hungaro-Indian Seminar in Budapest. I also wish to congratulate DR. VÁRALYAY, DR. SZABOLCS and other scientists of the Research Institute for Soil Science and Agricultural Chemistry, Budapest for taking considerable pains in organizing the Seminar and making the stay of the Indian delegates quite comfortable. I do hope that with the continued generous support of the Governments of the two friendly countries, the Indian and Hungarian scientists will be able to develop suitable techniques for realizing the productivity potential of the salt affected lands, thereby helping in maintaining the economy of their respective countries at a higher level. Finally, I wish the Research Institute for Soil Science and Agricultural Chemistry a very prosperous and rewarding future.

Thank you.