



Dilip K. Biswas
Adviser

तार :
Telegram : PARYAVARAN,
NEW DELHI
दूरभाष :
Telephone : 361797
टेलिक्स :
Telex : W-66185 DOE IN

भारत सरकार
पर्यावरण एवं वन मंत्रालय
GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT & FORESTS
पर्यावरण भवन, सी. जी. भो. कॉम्प्लेक्स,
PARYAVARAN BHAWAN, C.G.O. COMPLEX
लोदी रोड, नई दिल्ली-110003
LODI ROAD, NEW DELHI-110003

D.O.No.Adv./Misc./89

July 6, 1989

Dear Dr. Nair,

Kindly refer to your letter asking me to review a Book entitled, "Biotechnology Revolution and the Third World - Challenges and Policy Options" published by the Research and Information System for the Non-Aligned and other Developing Countries (RIS).

2. As desired, I am sending herewith a Review on the Book.

With best regards,

Yours sincerely,

(Dilip K. Biswas)

Dr. N.K. Nair,
Editor,
National Productivity Council,
Utpadakta Bhawan,
Lodi Road,
New Delhi - 110 003.

Encl :as stated.

May kindly like to see.

D.K.B.
6/7/89

Dr. M. S. Sriramankan

BIOTECHNOLOGY REVOLUTION & THE THIRD WORLD

: CHALLENGE AND POLICY OPTIONS

A REVIEW

- D.K. Biswas

Biotechnology Revolution, as it has come to be known, is attributable to recent developments in genetics, molecular biology, immunology, biochemical engineering and such other multi-disciplinary areas. It offers promising possibilities in various sectors including agriculture, forestry, animal husbandry, health protection, energy, industry and environmental improvement. It has the potential of bringing about spectacular improvement in agricultural production, raising of cattle, aquaculture, afforestation, development of new vaccines and a number of useful industrial products.

2. The latest trends in biotechnology are of significant implications for the developing countries. On the one hand, it holds the promise of being the panacea for many of their pressing problems. On the other hand, it also poses newer set of threats because of potential losses in export market due to replacement of the natural commodities by the biotechnology based substitutes that are now being available in the developed countries.

3. Thus, the advances in biotechnology offer immense opportunities and at the same time pose a serious challenge to the Third World countries. Hence, it is necessary to have a critical analysis of the potential and problems vis-a-vis preparedness and policy imperatives for harnessing the benefits of biotechnology in the developing countries. The Research and Information System (RIS) for the Non-Aligned and the other developing countries has made a timely effort by bringing out a comprehensive volume on the subject. It is an excellent compilation of

selected papers along with an overview on the current status and trends vis-a-vis policy imperatives in the context of Third World countries.

4. While dealing with the potential of biotechnology in the developing countries, the possibilities relating to agriculture have been justifiably discussed in considerable details. In the contributions of noted scientists like Dr. M.S. Swaminathan, Dr. Ignacy Sachs, and others, the relevance and potential of biotechnology for improving agricultural productivity, reclamation of poor soils, introduction of non-polluting and cost-effective biological pesticides and a host of other products and processes have been clearly brought out. In essence, biotechnology integrated with conventional plant breeding can play a very important role in ensuring ecologically sustainable food security for the Third World.

5. Unfortunately, the global trends in biotechnological research and development are not geared to the needs of developing countries. A considerable amount of funding for biotechnological research in the developed countries is meant for industrial production of certain high value products such as flavours, fragrances, sugar and gum arabic which are presently imported from developing countries. It has been estimated that the Third World may lose about 10 billion U.S. dollars of its annual export earnings due to biotechnology based commodity substitutions. This could prove to be particularly disastrous for the African and Caribbean economies which are heavily dependent on export of these commodities. Instead of evolving stress resistant and low input requiring varieties that could be of great help to the developing countries, a number of transnational companies in the field of hybrid seed production are supporting research to develop seeds resistant to their proprietary pesticides. This will no doubt serve their commercial interest; but, it will make the exporting countries more dependent on such proprietary items. Unlike in the case

Green Revolution, the R & D work and large scale production of biotechnology based products have been primarily restricted to the private sectors. A few specialist venture - capital firms and trans-national corporations hold the monopoly position in this field through the protection provided by the patent laws and intellectual property rights. Even the Universities and public funded institutions in the developed countries are primarily serving the interest of commercial firms which are funding most of the biotechnology related research projects. Thus, growing privatisation of research and trade secrecy will prevent information exchange and interactions among scientists of the developed and developing countries. The increasing resort to plant patenting in the industrialised countries using genetic resources imported from the Third World also raises another issue of concern as it denies access to the technology and products which are essentially based on the raw materials provided by them. With the given trends, it is not unlikely that biotechnology will become a new instrument of technological domination of the industrialised countries over the poor countries in the Third World and consequent North-South conflict. The various issues of concern for the Third World arising from the emerging trends such as privatisation and domination of transnational corporations, substitution of commodity exports, implications for the agro-industrial production and specific aspects of North-South conflict augered by the given trends in biotechnology have been brought out in this volume.

6. In the context of aforesaid concerns, the need for initiatives on the part of the developing countries can hardly be overemphasized. Referring to the experiences of some of the developing countries which have embarked upon biotechnology programmes, the policy options for the Third World have been outlined in the publication. These include : creation of ambience and incentives to biotechnology entrepreneurship, setting up of organisational mechanism and infra-structural facilities, professional manpower development, information network and collective R & D initiatives.

7.- The challenge of imminent change presented by the emergence of biotechnology will have to be viewed necessarily in the perspective of the larger socio-economic interests of the developing world - that does not have the resources in terms of S & T facilities, infrastructure and large amounts of capital to invest in biotech R & D. As such, it will depend on the developing countries to determine the form and content of this emerging technology by building necessary infrastructural support through collective efforts where needed. The vast scope of biotech research and applications precludes the possibility of "spectator" countries.



Dilip K. Biswas
Adviser

तार :
Telegram : PARYAVARAN,
NEW DELHI
दूरभाष :
Telephone : 361797
टेलिक्स :
Telex : W-66185 DOE IN

भारत सरकार

पर्यावरण एवं वन मंत्रालय
GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT & FORESTS
पर्यावरण भवन, सी. जी. घो. कॉम्प्लेक्स,
PARYAVARAN BHAWAN, C.G.O. COMPLEX
लोदी रोड, नई दिल्ली-110003
LODI ROAD, NEW DELHI-110003

D.O.No.J-18038/3/88-IA

July 5, 1989

Dear Prof. Menon,

This has reference to your kind letter
of 24th May 1989.

2. I have since talked to Dr. M.S. Swaminathan,
To discuss the provisional outline for the National
Conservation Strategy and the suggestions thereto
that have so far been received, a meeting of the
Core Committee will be held on 27th July 1989 at
10.00 a.m. in the Conference Hall (Room No. 403,
Fourth Floor) of this Ministry.

3. We will be grateful if you could kindly
attend the meeting as your views will be of great
benefit to the deliberations of the Committee.

With regards,

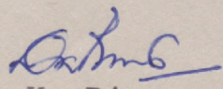
Yours sincerely,

(Dilip K. Biswas)

Prof. M.G.K. Menon,
Scientific Adviser to
Prime Minister and
Member, Planning Commission,
Yojna Bhawan,
New Delhi - 110001.

Copy for kind information to :

Dr. M.S. Swaminathan,
11 Rathna Nagar,
Teynampet,
Madras - 600 018.


(Dilip K. Biswas)
Adviser



Harjit Singh
Director (EI)

सत्यमेव जयते

D.O. No. 16/29/88-EI(E)

तार :
Telegram : PARYAVARAN,
NEW DELHI
दूरभाष : 362785
Telephone :
टेलिक्स :
Telex : W-66185 DOE IN

भारत सरकार
पर्यावरण एवं वन मंत्रालय
GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT & FORESTS
पर्यावरण भवन, सी. जी. ओ. कॉम्प्लेक्स,
PARYAVARAN BHAWAN, C.G.O. COMPLEX
लोदी रोड, नई दिल्ली-110003
LODI ROAD, NEW DELHI-110003

Dated the 23rd June, 1989

Dear Dr. Swaminathan,

I enclose herewith a copy of Office Memorandum constituting a Committee to advise Director, National Museum of Natural History on the contents, lay out and other details for the forthcoming Exhibition on Environment being organised at Pragati Maidan, New Delhi during November, 1989.

The first meeting of the Committee is being held on 10th July, 1989 at 3.00 PM in the Conference Room of the Ministry. You are requested to kindly make it convenient to attend the meeting.

With regards,

Yours sincerely,

(Harjit Singh)

Dr. M.S. Swaminathan,
Suit No. 715,
Vigyan Sadan,
Sector 10,
R.K. Puram,
New Delhi-22

No. 16/29/88-EI(E) (Pt)
Government of India
Ministry of Environment and Forests
(Deptt. of Environment, Forests and Wildlife)

Paryavaran Bhavan, CGO Complex,
Lodi Road, New Delhi-110003

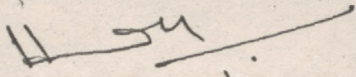
23rd June, 1989

OFFICE MEMORANDUM

The Following Committee is constituted to advise Director, National Museum of Natural History on the contents, lay out and other details for the forthcoming Exhibition on Environment being organised at Pragati Maidan, New Delhi during November, 1989:

1. Dr. M.S. Swaminathan,
President, WWF .. Chairman
2. Shri K.P. Geethakrishnan
Secretary (E&F) .. Member
3. Dr. M.K. Ranjitsinh,
Additional Secretary,
Ganga Project Directorate .. Member
4. Shri P.C. Tyagi,
Chairman,
Central Pollution Control
Board .. Member
5. Shri Kartikey V. Sarabhai,
Director, CEE, Ahmedabad .. Member
6. Dr. M.P. Nair,
Director, BSI, Calcutta .. Member
7. Director,
Wildlife Institute of India
Dehradun .. Member
8. Director,
Z.S.I. .. Member
9. Shri Ashish Kothari
Indian Institute of
Public Administration .. Member
10. Shri Krishan Kumar,
Director (P&I)
ICAR, New Delhi .. Member
11. Dr. Saroj Ghosh,
Director General,
National Council of Science
Museums, Calcutta .. Member
12. Director,
Forest Research Institute,
Dehradun or his nominee .. Member
13. Dr. S.M. Nair,
Director, NMNH .. Member Secretary

This issues with the approval of Secretary
(Environment and Forests).


(Harjit Singh)
Director(EI)

To All concerned