

The case for an Earthcare Policy Institute in India

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Introduction

1. The Common Minimum Programme of the UPA Government has emphasized the twin objectives of economic growth and environmental conservation, with special programmes for dryland farming, watershed and wasteland development, water management in all its aspects and continued growth of agriculture, horticulture, aquaculture, afforestation, dairy-ing and agro-processing, along with a comprehensive medium-term strategy for food and nutrition security. In a broad perspective, it aims at a truly sustainable development process and implies the need for taking integrated and coordinated efforts to protect as well as achieve the rational use and management of our natural and environmental resources to halt the on-going destruction of Earth's capacity to support life, while at the same time putting the Indian economy at a higher pedestal.

2. The new century is the "Earthcare and Knowledge Century", and many national and global issues will come to a head during this period, calling for a reappraisal of our development priorities, as well as taking some bold initiatives in the policy and planning realms. All these would call for a deeply-held commitment to a new ethic, the ethic for Earthcare, sustainable development, sustainable consumption and Life Styles. How to translate these principles into practice by working through the systems already in place in the country, is our major dilemma. This paper is an attempt to outline a proposal to fulfill the development policy requirements of our government, within the framework of a strategy for caring for the Earth and achieving sustainable development. Its acceptance and implementation would go a long way in ushering in a new era of development without destruction.

Towards Earthcare Policy

3. Earthcare implies a development paradigm, wherein issues in environment and economics are circumscribed by the requirements of human development and ecological sustainability. It is an overarching concept. It includes besides conservation of earth's vitality and diversity, human actions to minimize the depletion of non-renewable resources, keeping development actions within the carrying capacity of the earth, providing a rational framework for integrating development and conservation, changing personal attitudes and practices to enable communities to care for their own environments and ensuring respect for the preservation and care of human culture and improving the quality of human life. The multitude of objectives inherent in this statement makes it amply clear that it is a multi-dimensional and multi-

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disciplinary concept, requiring an integrated and coordinated approach by governments, in which effective institutional mechanisms will have a crucial role. While there are institutions to take care of issues pertaining to human development, there are none to take a holistic and integrated view on the conservation and strengthening of earth's vitality, on which all life on planet depend. As most of the important issues to be addressed in this context are strongly interlinked, our actions must be mutually supportive, synergistic and aimed at the common goal.

The Present Imperatives

4. The state of natural resources in our country and the extent of degradation and depletion due to human interference are alarming, to say the least. Without going into the statistical dimensions, we may list a range of issues to be addressed to reverse the deterioration of the earth. They will include problems like: land degradation; deforestation; water scarcity; quality deterioration and pollution of water; air pollution; loss of non-renewable energy resources; over-pumping of aquifers leading to falling water tables, loss of biological diversity, degradation of the coastal ecosystems and wetlands etc.

5. Natural resource use and management in the country is at present a highly compartmentalized activity, with different departments, institutions and other stakeholders, operating in their restricted jurisdictions. The matter is further compounded by trade-offs among the conflicting goals of the biological, economic and social systems. This has often led to confusion, greater misuse of natural resources and overall resources depletion. As long as such confusions exist, sustainable development of natural resources will remain an elusive goal. There is an urgent need to look at Earth Systems (Comprising the lithosphere, hydrosphere, biosphere and the atmosphere) in their totality and comprehensiveness, and view the problems in an integrated and holistic manner. Only an "umbrella organization", at the National level, in the nature of a cross-sectoral mechanism, can handle this difficult task. Such an organization can make a substantial contribution to integrating sound natural resource management principles into all levels of policy-making in the country, leading to the establishment of appropriate institutions and extension systems at the regional and local levels. We need not labour more on the point that caring for the Earth and achieving sustainable development through a strategy of mutually reinforcing actions at individual, local, regional and national levels is a highly balancing act, and calls for creating a multi-layered integration of management systems, for which appropriate institutional arrangements are necessary. The compulsions of the new "Earthcare & Knowledge Century" and the present political scenario in the country demands such a comprehensive approach to ensure unified action to preserve the earth systems to achieve sustainable development, consumption and life styles. In this context, a National Policy Framework for resource-use and management would also be an essential instrument.

A Stock-taking of our Institutional Structures

6. Against the above background, let us now take a close look at our current national framework for integrating development and conservation. We have already a fair administrative and technical set up at the national and sub-national levels, embracing economic policies, national laws and regulations and a fairly good information base, which however needs to be improved in the light of the new developments in Information and Communication Technol-

ogy. The need for Decision Support Systems at the micro-level has now taken on a new meaning with the current overwhelming emphasis on micro-level planning. Sectoral data on natural resource endowments in the fields of Geology, Geomorphology, Land Use / Land Cover, Water Resources, Soil Resources, Waste land, Fisheries, Forestry etc., at the Village Level Resolution are now essential, for establishing a sound Development Planning and Decision-making system for sustainable development, extending from the national to the grassroots level.

7. Following the Brundtland Commission Report, the National Government has also established a Ministry of Environment at the Centre, along with similar action at sub-national levels. These institutional structures are sectoral bodies with limited mandates. They primarily deal with some environmental policies, which fall very much short of the more comprehensive and holistic Earthcare Policies that seek to keep our spaceship-earth-inhabitable. Their working has been generally reactive and programme-driven, responding to problems after they have surfaced and when they are more expensive to treat, than if they had been tackled much earlier. Their links with the numerous resource management agencies are often weak. The Planning Commission, without an independent policy analysis and research group to formulate and back up its plans and policies, has been mechanically assembling the policies emerging from these fragmented ministries and organizations. It is the sectoralism in this planning process, which has obscured a broader vision for shaping the wider policies concerning the earth.

The Organisational Vacuum

8. The basic dilemma at this juncture are two-fold:

I. Who will integrate and coordinate the splintered and fragmented policies, emerging from the Government Ministries and Departments?

II. Who will screen, filter and distill the research findings, emerging from the few earth sciences departments in universities and some independent research institutions, which are conducting limited fundamental and applied research, relating to earthcare?

9. The answer to the above questions is negative. As for integration of policy functions, the Planning Commission had earlier in the 1960s, a separate Division for natural resources, which was later abolished, when individual natural resources got separated in various independent ministries. At present, there is no policy research organisation in the country which can address itself to these issues. As a result, fragmented policies and plan programmes have continued to emerge, which do not relate to each other, sometimes overlap among themselves and perhaps even negate each other.

Issues in filling the “Organisational Vacuum”

10. In this paper, we are addressing the question of how to re-organise and strengthen the national institutional policy-making mechanism in the country, particularly in relation to Earth systems planning and sustainable development of natural resources, which are the crucial challenges for the first decade of this new century.

11. Any solution that we devise for filling the ‘organisational vacuum’ indicated above, must be by creating a mediating and empowered quality organisation, which can actively interface with the already existing pluralistic and sectorally-oriented policy-making structures in gov-

ernment and pave the way for the coordination and integration of policies in the Earth Sciences sector. It should be designed in a manner that it uses the best human resources, wherever available, through internal and external networks, partnerships and alliances.

12. Successful policy formulation in any sector of activity would rest on a shared knowledge from several “feeder institutions”. This implies systematic flow of (a) information from database systems, (b) of knowledge from fundamental and applied research institutions and (c) of people’s perceptions from area-specific studies and field observations at various levels. The research findings from various organizations, having different policy implications, need to be collated, verified, filtered and distilled into appropriate policy formulations. The proposed institution will keep abreast of the long-term policies, to position itself as a major contributor to the identification of issues and priorities as well as solutions. Its success will largely depend on close networking, cooperation, teamwork and shared knowledge with not only government organisations, but also with the various institutions performing fundamental and applied research in the country.

13. In the area of Earth Sciences Research, we have a few Central Government Institutions, undertaking research related to natural resources and their management, like the ICAR, CSIR, Department of Science & Technology, Institute of Ocean Development, Centre for Meteorological Studies, Department of Space, etc. We have also an institution called the Centre for Earth Science Studies (CESS), set-up by the State Government of Kerala in Trivandrum, which is an earth science related research oriented organization. A comparative analysis of the functions and focus of some of the relevant institutions makes it amply clear that none of these really cover policy research issues concerning the holistic and systemic view of earthcare.

14. The above-mentioned institutions are either uni-disciplinary or problem-oriented research bodies. They do not specifically address themselves to formulation of integrated Earthcare Policies, which are National as well as global in scope. Among the new organizations, which have cropped-up in recent years, the Bhoovigyan Vikas Foundation (BVF) is one, which is aiming to be a policy-oriented research organization in the Earth Sciences sector. The BVF has been conceived as a Consortium of Earth Science Professionals and is just five years old. But it is fast moving towards, both in its mission, objectives, programs and activities, into a policy-oriented research organization, dealing with the wider issues of National and Global importance, related to Earthcare and Sustainable Development. By suitably enlarging its policy-research dimensions and building up its infrastructure, it can fill the organizational vacuum.

15. During the 5 years since its inception, it has established its credentials across the country, for its commitment to earthcare movement in India. It was launched with the celebration of the First Earth Day of this millennium and is a Member of the World Earth Day Network. It has successfully conducted two International Conferences, the first one on “Sustainable Development and Sustainable Life Styles” and the second one on “Sustainable Agriculture, Water Resources Development and Earth Care Policies”, besides one Colloquium and one training programme. It has brought out 5 publications, with three more on the pipeline. Further, it is engaged in research projects for the Department of Science and Technology and the Council for the Advancement of People’s Action and Rural Technology (CAPART).

Some of its research proposals with national and international agencies are on the pipeline. Among other activities, the BVF's advocacy for the establishment of 'Open Air Museums with Earth Care message', has led to the establishment of an open air museum of "Earth, Man and Environment" in Raipur (Chhattisgarh) over an extensive campus of 350 acres of land, which is being implemented. It has also assisted in preparing a Master Plan for this Museum.

16. The Foundation created a niche for itself among the scientific community by honouring luminaries in the Earth-related sciences like Dr. K. Kasturirangan, Dr. N.R. Narayana Murthy, Prof. R.P. Misra, Prof. Mohammad Shafi, Dr N.C.Gautam and Prof. G.S. Bhalla for their outstanding scientific contributions. During a short span of time, it has established its visibility and image at the national and international levels. It has 3 local chapters and one Overseas Chapter in Canada. It also won accreditation for participation in the Johannesburg Meet (World Summit on Sustainable Development) in 2002. It has also established collaborations with the United Nations Centre for Regional Development, Nagoya, Japan; Asian Institute of Technology, Bangkok, Thailand; and the Earth Policy Institute in Washington, U.S.A. With a minimal start-up grant and a recurring annual working grant, it can easily blossom into a leading Earth Policy Research Institute of National and International importance.

The Proposal for an Earthcare Policy Institute

17. It is in this context that we propose an "Earthcare Policy Institute (EPI)" to be established as a National Centre of excellence. As a policy research and analysis centre, the central activity of EPI will not only be research and policy formulation (RPF), but also other related scientific activities (RSA), such as scientific data collection, information services, policy feasibility analysis, and education support (training). Through its programmes, activities and other professional relationships with partners, including government, academia, industries and other stakeholders, this centre will function as a key institution, contributing to the formulation of innovative policies in the Earth Sciences sector.

Mission

18. The proposed EPI, is intended to promote an integrated and holistic view of Earth Systems management, as well as the conservation and development of natural resources and advocate appropriate policies for Earthcare and sustainable development of natural resources on a continuing basis. It is proposed to be developed as a Centre of Excellence, devoted to creating initiatives for policy-oriented and advanced multi-disciplinary research studies, bordering on the realms of various Earth Sciences and their frontier areas. With a deeply-held commitment to the ethic of earthcare, sustainable development and sustainable living, it will seek to translate its principles into practice. It would also seek to network, and interface with the world of academia and the world of public policy, by serving as a bridging "Think-tank", with an intensive advocacy role and interfacing with all policy-moulding institutions in the country, as well as in the developing and developed countries abroad. It will provide a forum for creative dialogue among policy-makers and representatives of earth-related research and economic and social development research organizations, as well as leading NGO's. It will act as the storing and clearing-house for the exchange and constant flow of information, ideas and activities, relevant to earthcare, and complementing the efforts of several government and non-government bodies in the country, with its shared perceptions. From the research and

scientific points of view, its dimensions of activities and linkages will be both national and international.

Role, Functions and Activity Components

19. The EPI is envisaged as an institution, functioning with flexibility and openness. Its broad areas of Focus will comprise of:

- (i) Advocacy and Awareness Building;
- (ii) Policy Analysis and Research, including Action Research;
- (iii) Training;
- (iv) Advisory/Consultative services, and
- (v) Networking and information exchange.

20. The EPI would also undertake some relevant fundamental and field-oriented Action Research, as well as process the numerous research contributions generated at other specialized research institutions. Visualized as a 'think-tank' and a 'change agent', the EPI has to build on the research inputs from the technical and professional academic institutions, working in the areas of emerging science and technology, and also on grassroots level experiences of Non-Governmental organizations. This implies active partnership and collaboration with all those concerned with our 'common future', in which each will gain from the interaction and will also contribute something to that interaction. Thus the contributions emerging from the EPI will be a combination of practice with scholarship, experience with vision, and pragmatism with policy directives. In all such activities, the Centre will play a catalytic role in bringing together, a wide range of actors linked by their common interests in earthcare, sustainable development of natural resources and related research issues.

21. The EPI, as a policy-oriented research institution will adopt a 'Systems Engineering Approach' to the solution of environmental and earthcare problems requiring an inter-disciplinary and multi-lateral approach involving both physical and social scientists and including studies on rural, urban, natural and human resource development problems. For this purpose, the National Centre will draw upon the intellectual resources available in Earth and Social Sciences Departments of Universities and Research Institutes, specializing in Earth-related and Planning-oriented studies. For this purpose, the EPI will have three major groups or divisions with their distinct responsibilities (See Figure-1):

- i) One Division will undertake selected "Thematic and Policy-oriented Studies" with four departments:
 - a) Natural Resources Management, Sustainable Development/Consumption/Life Styles.*
 - b) Geomatics applications and future studies
 - c) Surveys and Applied Research
 - d) Studies on Earth and Human Systems and Anthropogenic interventions.
- ii) A "Spatial Database and Management Division" of the Centre, which will be continuously documenting all relevant data and information about the status of health and well-being of the

* Studies on climate change, ocean development and energy, are currently being undertaken by some specialized institutions. EPI will not enter into their arena, but will draw upon their research findings for policy formulation.

Earth in its various eco-systems and will be assisting and facilitating all the research activities of the Centre.

iii) The third major division of EPI will be an “Outreach Division”, which will actively establish links with all academic and research institutions in the Country engaged in “Earth Science Studies and Research”. This Division will effectively network with these research institutions, screen, filter and distil their research findings and use them in planning and policy formulation. The “Outreach Division”, while performing its coordinating function will also perceive and identify the areas, where study and research activities are lagging, and seek to promote such research activities, either in one of the research divisions of EPI or by outsourcing such research to other institutions, which have the desired capability. For this purpose, the Outreach Division in EPI will operate a “Research Promotion and Coordination Budget” and will supervise this activity. This division will also establish links with the surrounding countries of the region and promote a South-South Cooperation. Conducting training programs for human resource development is another branch of its activities.

22. Thus the major activity components of EPI will include the following:

Figure. 1
Proposed Organisational Structure of EPI

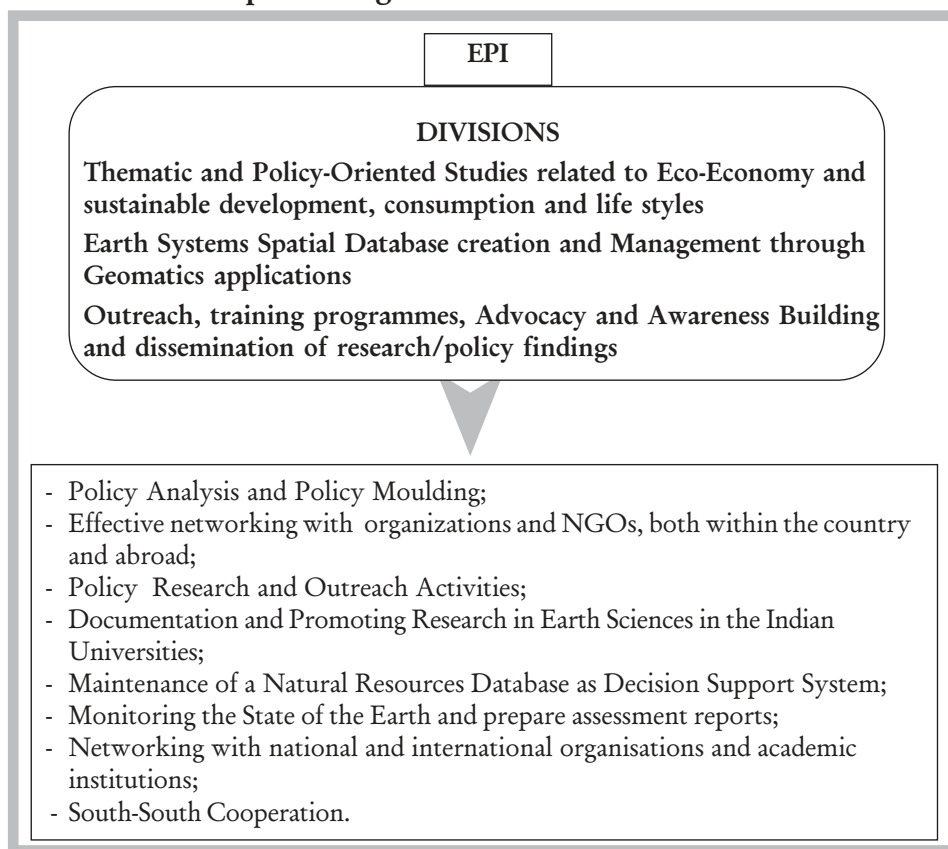


Figure-2
Networking Functions of EPI



- I. Networking with not only governments, academia, and relevant NGO's in the country, but also with international institutions abroad and initiating South-South Cooperation.
- II. Advocacy and Awareness Building through print media and celebrations like the Earth Day and Promoting Earthcare by People's Groups;
- III. Conducting Participatory Action Research to enhance the understanding of various critical and emerging issues through case studies and development cooperation/collaboration with governments and NGO's working in specialized areas;
- IV. Creating spatial data base systems (GIS) in an electronic network for information exchange and dissemination of research results;
- V. Training on various subjects related to natural resources development, management and conservation, Land use, Sustainable development of rural & urban areas, Human Development etc.

23. In this context, networking, coordination and constant interaction will constitute the major planks of its activities. It will actively liaison with the United Nations and its agencies, interface with the Ministries of the Government of India and all State Governments, and collaborate and network with the leading International and National NGOs on the relevant issues. The networking functions in detail may be seen in Figure 2.

With its activity components, as proposed above, the EPI will have the potential to emerge as a "High Performing Knowledge Institution", establishing in due course, linkages with surrounding countries and emerging as the Regional Centre for South-South Cooperation. Thus it will help evolve a new era of 'Ecological Diplomacy'.

