



## INFORMATION TECHNOLOGY FOR INTEGRATION OF ENVIRONMENTAL AWARENESS AND EDUCATION

**P.R. Kolhe<sup>1</sup>, M.H. Tharkar<sup>2</sup>, R.M. Dharaskar<sup>3</sup>, S. Joshi<sup>4</sup>**

### *Abstract*

*One must have heard childhood anecdote that there was a magician who could bring anything in the world to a piece of mirror, he held in this hand. This story has now become a true fact in the form of INTERNET. This "Allauddin Chirag" can be used to 'Save and Protect Environment'. Not only India but whole world is echoing 'kick out CO<sub>2</sub> and protect environment' on June 5, the 'World Environment Day'. According to Dr. MS Swaminathan, "New information and communication technologies offer the possibility of creating a level field for both the rich and the poor, provided we know how to use them with a commitment to gender and social equity". This paper primarily discusses how Information Technology plays a vital role in integrating environmental awareness and education; IT necessarily makes positive impact on community. Why do we need security awareness programme? Why and how to design it? The answer to these queries lies in necessity of motivation of people for ecological security- a prime motto and qualification, implementation of awareness and training material suitably and efficacious transfer of information through application of apposite technologies. We should introspect seriously on ecological security. Therefore everyone should invariably say "My promise to environment, to protect ecological system of environment". The process of awareness building should make the best of every related component. The best formula for awareness is Information Technology tool + People participations (ruler /tribal+ urban)+ NGO+ Government+ Management Support + Defined Roles + Budget + Good Program = Success!*

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**Keywords:** *Information technology, Internet, IT tool, Environmental Awareness and Education*

### **Introduction**

The United Nations instituted the World Environment Day in 1972 to mark the opening of the Stockholm Conference on Human Environment. Since then, 5th June has been celebrated as the 'World Environment Day'. The tradition of caring for the natural environment does not have a long history in mainstream society of almost any modern nation. It is only the second half of the twentieth century that people woke up to the fact that the development came at a cost, it could not be as fast as humans could produce or consume resources without exacting a neglect price.

Today the movement to protect our natural environment is gaining ground. But is it fast enough? That's what we can answer in the negative only to our detriment. Is

'environment' just a fancy word, a fashion statement? On the other hand, is it increasingly Determining the choices we have and shall continue to have in today's shrinking planet? The first National Environment Protection Measure, the National Pollutant Inventory (NPI), has been agreed to by the National Environment Protection Council. Measures are also being developed on ambient air quality, trans boundary movement of controlled wastes, guidelines for the assessment of site contamination and used packaging materials. Proposals are being made for possible measures on diesel emissions and ambient marine and estuarine water quality. The Environmental Protection and Awareness Club (EPAC) offers students who are concerned about the environment an organization that works to realize problems about the environment, pose solutions to those problems, and act in any way possible to combat these environmental problems. The club will also make students more aware of the beauty and intrigue of the environment and the wonders it has to offer through speakers, interaction with other environmental groups, involvement with community environmental projects, conduct of educational workshops, planning trips for ecological awareness and increased education of the environment. The EPAC hosts events that strive to make Fordham University more environmentally aware

### **How and where does IT help?**

We are convinced that IT helps us in mastering our very existence. For real goods – in which substantial progress has already been made by IT applications, and may certainly be expected in the future.

1. IT supports the production process, i. e. by generating information output from data input by means of models.
2. IT supports the procurement, i. e. the gathering of data as necessary model input.
3. IT supports the logistics / publicity, i. e. the transformation of data and information over space and time.

### **Environmental Awareness and Public Participation**

One of the basic prerequisites for the achievement of sustainable development is effective participation of the general public in the preparation and implementation of the environmental protection policy. All must become aware of the need to participate actively and assume their share of responsibility for the general social development coupled with the simultaneous protection of the environment. In order to achieve this, everybody must be involved during all the stages of the process: planning, implementation and control. This implies first of all, adequate informing and education.

The majority of the environment-related problems arise from the lack of knowledge about environmental issues, which is due to incorrect or insufficient information. In order to avoid that, there should be mechanisms for the exchange of information between decision-makers and the general public, among members of the general public and between the general public and other responsible partners. The increased awareness of environmental issues, the increased feeling of motivation and personal responsibility for the environment will result from providing the general public with access to information on the environment security, development and other environment-related activities, from taking the opinion of the general public into consideration and from the participation of formal and non-formal groups and individuals in the decision-making process.

### **Current Status**

Environmental issues coverage is usually taking a sensation-seeking approach. Systematic, timely and accurate information in daily press is still insufficient. Representation and interest in these issues is rather good in special editions and editions with regular columns. Daily papers must show sufficient level of interest in environmental issues, with exception of the times when important decisions are being made. General public should relatively be well informed about the environmental issues through the radio and television educational and documentary programs. Broadcasting slots have a significant impact on the number of listeners/viewers, specifically those of the environmental news programs.

Publishers and users show a low level of interest in professional, educational, popular and other books and publications pertaining to this area. Environmental protection issues are not sufficiently represented on the Croatian Internet, although there is an interest in such a form of information exchange. Informing and continuous education through lectures, seminars, symposia and similar types of educational and informative activities are not sufficient. The general public gets better access to the environmental issues information on the occasion of targeted activities, anniversaries or marking of eco-landmarks. Journalists occasionally gather the representatives of governmental bodies, NGO's, scientists and other stakeholders for concrete discussion on environmental protection issues. The general public has participated as partner in the decision-making processes since early eighties of the 20th century through the environmental impact assessment procedure. The interest is particularly high when it comes to issuing licences (licensing procedure for specific projects), and in the local and regional planning. Participation of the general public in the passing and

enforcement of regulations and development of environmental legislation is still not adequate, although it has formally been provided for.

### **Policy Framework**

A major step forward in enabling free information circulation within the EU was made in 1993, when the general public was given a right to access to the environmental information. Based on this guideline, the citizens may demand access to the environmental information from the institutions that possess it regardless of whether a person has direct interest in such an information. The UN/ECE Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in the Environmental Matters was signed in June 1998 in Aarhus, Denmark. It strengthens the right of individuals to the access to information and justice in the environmental matters and public participation in the decision-making process.

### **Problem Identification and Prioritisation**

The main problems in this area are as follows:

1. A lack of interest and representation of the general public in the issues due to the lack of systematic approach to the education of all groups of the population, organised into either formal or informal groups, as well as of individuals
2. Environmental protection has been pushed to the margins of social and political life due to the low purchasing power of the population and economic recession.
3. As a result of that, media have pushed environmental issues on the margins, and taken off the agenda of the general public
4. In society as a whole, and especially in politics, the role of individuals and formal and informal groups pertaining to other areas, has not been well established.
5. There is an especially noticeable lack of public and easily accessible information material, as well as public environmental databases.
6. There are no permanent communication channels for all the potential participants in the process of environmental protection.
7. There is an overall lack of funding, and there is also a shortage of funds for the activities of NGOs in the environmental field.

**Objectives and Measures:** The general public and interested organisations should be provided with a simple but complete means for accessing information, as well as the possibility to participate in the decision-making processes. Communication channels should

be set up with all the potential partners and social actors. Different forms of public awareness arising should be created. The interest of the general public should be raised by providing them with constant access to information and by setting up public environmental databases. There should be increase in the level of responsibility of the general public and NGOs for joint efforts geared towards environmental protection.

Strategic orientation:

- 1.A system of information and education of the general public should be set up with creation of the appropriate and generally accessible user friendly information and educational materials.
- 2.At the local level, especially at places of a higher risk and noticeable changes in the environment, information activities and participation of the general public by setting up information centres within the relevant local administrative and self- government bodies must be initiated.
- 3.The business community may be involved into the processes of informing and participation of the general public in environmental protection and development of all form of awareness by introducing joint programmes aimed at increasing interest and setting up communication channels with all the potential partners could be secured.
- 4.Easy and fast access be provided to all forms of the environmental information, dissemination and public participation in the environmental decision- making processes.

#### **Footnotes**

- 1.Provision of conditions for implementation of the principle of integration, i.e. co- ordination between sector strategies
- 2.State bodies and other participants (for example companies) must make sure that the relevant information is accessible to the general public in a strictly institutionalised way, and not only on the principle of voluntarism.
- 3.The process of informing and ensuring participation may necessarily not unilateral.
- 4.Journalists, as all the other partners, will have to invest additional effort into their own education. They will have to make sure that they have the necessary technical and material prerequisites, which will enable them to inform the public and motivate them for participation in the processes of decision-making and implementation of the environmental protection policy.

This awareness activity must carried out by all agency like Ministry of Labour, Ministry of Agriculture and Forestry, Ministry of Education and Sport etc. with the incorporation of

miscellaneous partners N)national, (NR) national-regional, (NRL) national-regional-local, (R) regional, (RL) regional-local, (L) local.

### **Measure**

1. Establishment of a clear system of regulations which will provide for procedural and institutional guarantees and formalisation of information circulation and public participation in the decision-making procedure
2. Regular environmental publications for general public and target groups
3. Setting up information terminals with data on the work of the ministries, as well as data on the environmental quality (e.g. inventory, register, records and the like)
4. Setting up information centre with library, reading room, access to the Internet to enable access to the environmental information (possibly within the EPIS)
5. Continuous direct communication with the general public through the public media
6. Education of journalists and their specialisation in environmental protection issues
7. Provision of institutional and material framework for participation of NGOs and general public as partners in implementing sustainable development principles and in the decision-making process
8. Promotion of good environmental practices in industry and enterprises
9. Provision for the raising the level of education and awareness through restructuring the curricula
10. Organisation of awareness raising campaigns in adult and target groups regarding the strategic issues of environmental protection in the state
11. To involve representatives of NGOs and other stake holders into the activities of the government by their timely involvement in the drafting of regulations and strategic documents, and by including them into the work of some official bodies (for example Council for Sustainable Development); empowerment NGOs and to ensure permanent sources of financing
12. Promotion of new environmentally sound forms of living and consumer habits aimed at long-term change in attitudes (waste reduction, recycling, energy conservation, use of renewable sources, natural resources conservation, promotion of environmentally Friendly label, and the like)

### **International Environment Protection and Programme: International Development**

**Cooperation:** The Commonwealth is providing \$300,000 each year over four years from 1998–99 for the International Environment Protection Programme to assist in the growth of

Australia's environmental goods and services industries and to support environment protection in our region. The programme provides for joint public-private sector initiatives aimed at accessing new, and improving existing, export markets for Australian environmental goods and services. Typical activities include capacity-building programmes, commercially based technology transfer, staff exchanges, business development strategies and business missions. The Australian aid programme assists a range of countries in the Asia-Pacific region in environment management. Assistance has been focused on establishing effective institutional frameworks, with a focus on capacity building. These activities have concentrated on institutional strengthening of key national environment protection agencies. The value of current major bilateral projects related to environment protection is estimated at \$70 million and is assisting countries including Pakistan, India, Indonesia, Philippines and Papua New Guinea. Some typical activities include developing environmental protection legislation, improving environmental impact assessment, transferring cleaner production technologies, and increasing community awareness and training.

The application of technologies to Environmental information transfer explores:

- The role of distribution of information
- The factors of the nature of the information
- The format of the information
- The transmission, speed, medium, and distance
- The modulation technique and the error (noise)

### **Educational technology**

Educational technology encompasses both the form and the technology aspects by addressing

1. The organization of knowledge for learners; and
2. The use of materials and machine to aid in the learning process discusses the variable of the teacher and technology in terms of integration

### **Need more resource**

To explore further the initiatives for integrating technology and information already in place further, we can search the databases of Educational Resources Information Centre/ Clearinghouse for Science, Mathematics and Environmental Education (ERIC/CSMEE) and Eisenhower National Clearinghouse (ENC), we can implement an Effective Environmental Awareness Program through Social movement, by arraigning live demonstration at the public place in ruler and urban area through video film, poster, SMS, street play, dindi, mela

and by implementing an Effective Environmental Awareness Program Education and training Specially student i.e. education system having vital role to bring awareness between people to protect environmental. Student power is a future for this country and world.

### **Necessity of qualification for environmental**

An employee to be designated to implement and maintain the program who:

- is a good communicator
- is charismatic and a natural leader
- likes challenges
- sees the good in people
- is very organized
- has a passion for security

### **Why do we need Environmental Awareness Program?**

- To protect the integrity, availability, and confidentiality of agency data.
- To safeguard information resources
- To identify processes and techniques to promote security communications and the protection of information

### **Design of environmental Awareness and Training Program**

- Build a strategy
- Gain support from others in your department
- Determine your agency's needs
- Conduct a needs assessment
- Incorporate results of program reviews
- Develop a plan
- Identify audiences, scope needs, establish priorities, set the bar, get management buy-in!

### **How to Develop Environmental Awareness and Training Material?**

- Identify existing policy and guidelines
- Develop awareness material
- Personal use and gain issues
- E-mail advisories
- Newsletter



- Online IT security daily news websites
- Periodicals
- Posters

### **How to Implement Environmental Awareness and Training Material?**

- Messages on trinkets
- Posters
- Do and Don't lists
- Screensavers, warning banners/messages
- Newsletters
- Department-wise e-mail messages
- Rewards programs – plaques, mugs, letters of appreciation, etc.
- Computer-based sessions
- Teleconferencing sessions
- In-person, instructor-led sessions

### **Maintain Your Awareness and Training Program**

- Monitor success – Use of evaluation and feedback
- Evaluation forms
- Web and computer-based evaluations
- Feedback from management and users
- Manage change
- Technological
- Departmental
- Keep raising the bar

### **Formula for a Successful environmental awareness Program**

- People's participations (rural /tribal+ urban i.e all) + NGOs + Government + Management Support + Defined Roles + Budget + Good Program = Success!

### **Cornerstones for Success**

- Establish policy, standards, and guidelines
- Obtain management support and commitment
- Define roles and responsibilities
- Involve other critical offices in your plan
- Make it fun!

## **Summery**

Information Technology plays a vital role as a channel to institute and integrate environmental awareness and training. Substantial development programme have always witnessed assistance of IT. We have to establish a new tradition for caring ecology and security, it can help ensure public participation, especially the student power, in environmental awareness programmes by making an assured scope for qualification, appropriate policy framework by setting objectives, designing and developing effective environmental and training material, defining roles and responsibilities of participants for their support and commitment. Institution of IT based environmental programmes then definitely embark on the new era in the history of man where ecological security would become a keyword.

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