Communication-key to solution of environmental problems

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SUMMARY

In today's developing world management of environmental issues has become most difficult. Solutions are slower than one would like, the most critical reason being improper information. One way could be to generate employment by using skilled youth for these tasks. Encouragement of public participation on environmental issues at project stage is a fair process. Not to involve them can invite disaster. Meaningful communication between governmental agencies, public. media, industry, educational institutions is important. Compartmentalized approaches have failed. The off shoot is the environmental crises and response of public. There is a need to look into these areas of public response and participation through communication in the solution of environmental problems.

Today's world is one of rapid industrialization and use of high technology. The existing industry tries for technology upgradation and modernisation to achieve excellence. There is a need to keep pace with technological innovations. All major projects in the areas of communications, power, chemical, and petro-chemical industry, drugs and pharmaceuticals, machinery are needed for development. The result of the rapid of the development is the increase in standard of living of people. Unfortunately these are associated with increased environmental problems, ecological imbalances, increased depletion of natures wealth. All these threaten the very existence of mankind. Environmental and safety factors, need to recognised at the concept stage of a project. Schemes at formulation stage should give adequate weightage to the identified hazard factors. Effective information system and enhancement of flow of information through data banks can lead to integrated policy for development where safety and environmental protection get due consideration. These include emergency plans detailing action in case of a major hazard.

The role of technological upgradation and innovation is to develope environmentally compatible processes and products which generate its own resources or use renewable resources and does not create wastes. These operate under the principles of systems closure and resource recovery and recycle. Otherwise the depletion of limited natural resources and generation of large quantities of wastes and their disposal will become a night-mare where solutions will be hard to find.

Solution to environmental problem continue to be slower than one would like to see. The most critical reason relates to information. Often the feeling is that a solution lies in putting up what is known as "Add on end of the pipe line external treatment facility" to treat effluents generated in a mill. The investments for such facilities are generally considered heavy investments with no return. This philosophy alongwith short supply of information and skill make the small and medium sized units responsible for persistent environmental problems. At the same time the society is passing through a critical phase of high degree of unemployment/under-employment of youth particularly the educated and skilled youth. One can address to both environmental and employment issues simultaneously by deve-

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loping the skills needed in environmental problems tackling and placing them at the disposal of organisation facing manaegment problems. This approach with suitable technical and admintstrative support of the works will help in two ways. Firstly the bewildered time short executives fully occupied with production and related functions of sales will be spared. The skilled recruits either independently or through guidance start looking at environmental management problems systematically by surveying the existing information, and breaking deadlocks and creating a new awareness in companies to treat environmental management as a routine function alongwith other jobs. The unemployed skilled youth will start making detailed studies, identify alternatives and create an awareness. This in turn will be the corner stone for their regular absorption and to flow of solutions for unmet environmental needs. This targetted employment approach requires a three pronged strategy, where government, industry and academic/research institutions are partners. The unemployed youth require skill development which academic institutions will impart. The government catalyses the targetted employment approach through proper administrative and fiscal support. The industry becomes the main element to give a break to the youngster to get a feel of the problem to help the person look to solutions. organise brain storming to identify plausible solution, evaluate them and try implement them. This dynamic approach will lead to solutions and jobs.

Every developmental activity producing goods and services will cause certain degree of environmental impact. Encouraging public participation by allowing potentially affected members of the public to understand and comment of the proposal with achieve a 'Fair' process. Adequate notice, timely information and public participation with suitable procedures can lead to interesting results. To exclude public and not to communicate with them can lead to disaster. The anxiety and anger of the public that they are less powerful can lead, to difficulties later. Communicating strategies in systems plan stage with public involvement in crucial. There is a need to involve public through development of suitable procedures. Environmental planning should specifically address itself to side effects of development like mis management of resources, large scale destruction of flora and fauna including deforestation, discharge of Residues and wastes and handling of toxic compo-

nents. Industry is considered as one entity which is highly technical. Project implementations run into difficulty if the industry has only too-general information and lacks inspecifies. The real need is to develop sector specific case studies for comparative, objective evaluation of available equipments, processes and services. Decisions can be based on supplier/advertisement information. Product/Project specific advice rarely comes from governmental agencies on environmental matters. The result is neglect or in decision in environmental matters which eventually turn out to be very costly. There is a lack of meaningful commuication and consultation between various groups. Each of the players, namely the governmental agencies, public, media, industry, educational/research institutes and special interest groups happily work on a compartmentalized Individual approach not realising that the objectives and needs of each over lap and complement one another and do not oppose. The available information unfortunately does not flow across the barriers to the intended audience in factual and effective manner. Result is mistrust and less of faith. Effective and prompt communication and information flow will stimulate the industry, help identify the appropriate technology, choose people for work, motivate organisations to conserve environment in a cost effective manner and above all keep public informed. Result is trust and faith in one anothers approach and activities This calls for a reorientation in the thinking of each player.

Here it is important to note that local factors must guide environmental legislation. Copying laws and standards on environmental management from Western countries will become a sort of cultural imperialism. Environment issues in India are more rural than urban. The fundamental questions are better understanding of individual and institutional behaviour related to resource use, linkage of environmental law to economic planning and use of natural resources in national account to asses their price. Moulding public choice through legislation orfiscal measures can lead to prevention of pollution and protection of environment Thus the environmental should be based on the principles of efficacy, equity, prophylactic approach and participation. Efficacy refers to simple procedures and clear aim of regulation to reach decisions and get results. Law attempting to do too much will fail. Equity reference to substantiative and procedural equity. It is

not sufficient to compensate people for a land acquired to say construct a dam. It is more important to compensate for income support, new life development, training for new skills which have lasting impact on local populace. Prophylactic approach refers to laws which prevent environmental harm rather than be concerned with remedial measures once a harm is done. Today most law is concerned with this aspect only. Pollution control laws are necessary, but more important are the laws which stress on pollution prevention measures. Participative approach refers to replacement of present "top down approach" by bottom up approach". People should not be forced to practice procedures laid down by outsiders (foriegn experts). Instead experts should go to locations (Villages) study the usage pattern of natural resources and then come out with environmentally safe practices which can be easily adopted. Governmental agencies have a key role here.

Environmental assessment of projects at the time of selection and siting is a must. There must be clear and unambiguous guidelines for environmental analysis acceptable to all players. Faster and simpler methods of assessing environmental impacts is based on information sharing and public participation. Project must envisage environment safe grounds. With complex pollution control regulations the situation becomes more confusing The agencies responsible for cleaning development projects are not aware of the modalities to involve all players and find acceptaple solutions to environmental problems. Safety education, environmental management strategies and risk and hazard management issue should receive open discussion. A cooperative approach needs to be developed involving government, corporate bureacreacies. The rules of the game should be clearly defined. The decision makers, the government and public should be properly educated on the issues to avoid confusions and frustrations. The communication between proposers (industry) and public through government should be built on the strong foundations of faith and belief. Government is considered a protector and hence fully informed and knowledgeable. All this can happen only through efficient communication systems. The system plan communication strategy essentially involves public participation at each stage before finalising a project as shown in Fig. 1.

Otherwise environmental crisis is the off shoot. Public response to crisis often indicates a high degree of loss of faith. PCB and other chloro organic poisons build up in the body, toxic waste dumping, radiation hazards of chernobyl, Bhopal Gas tragedy, leakages of fumes and acids are just few of the head lines in recent times on waste management. We have similar instances on other developmental activities relating to siting of power plants, construction of dams, locntion of atomic power plants or incineration systems. Oil spills. People on the environmental communication side have watched with some degree of frustration, as seemingly endless series of incidents reached an unprepared public strengthening the already measurable concern about chemicals/projects in the environment. While ways and means are available to clean up and to protect the natural environment, the communication component needs to be far better developed, if necersary programmes to proceed. While we have or may have been able to physically manage an environmental crisis, have we paid enough attention to our responsibility to communicate our progress or lack of it during the crisis period ?

The environmental crisis or any crisis for that matter have the following five components.

* Trigger : An action or event which results in events moving beyond norms.

* Urgency : The event requires immediate action to control.

* Uncontrolled : The event must be beyond the control of any organisation for some period.

* Threatening : The event poses negative implications for any or all the people, property and organisation responsible.

* Requires action : An organisation must initiate action to resolve the consequencies of the event.

Crisis in public confidence can occur as opinion turns against an institution or organisation The players in the game and their role can be broadly put as under :

— The general public "Caught in the cross fire of tormenting message."

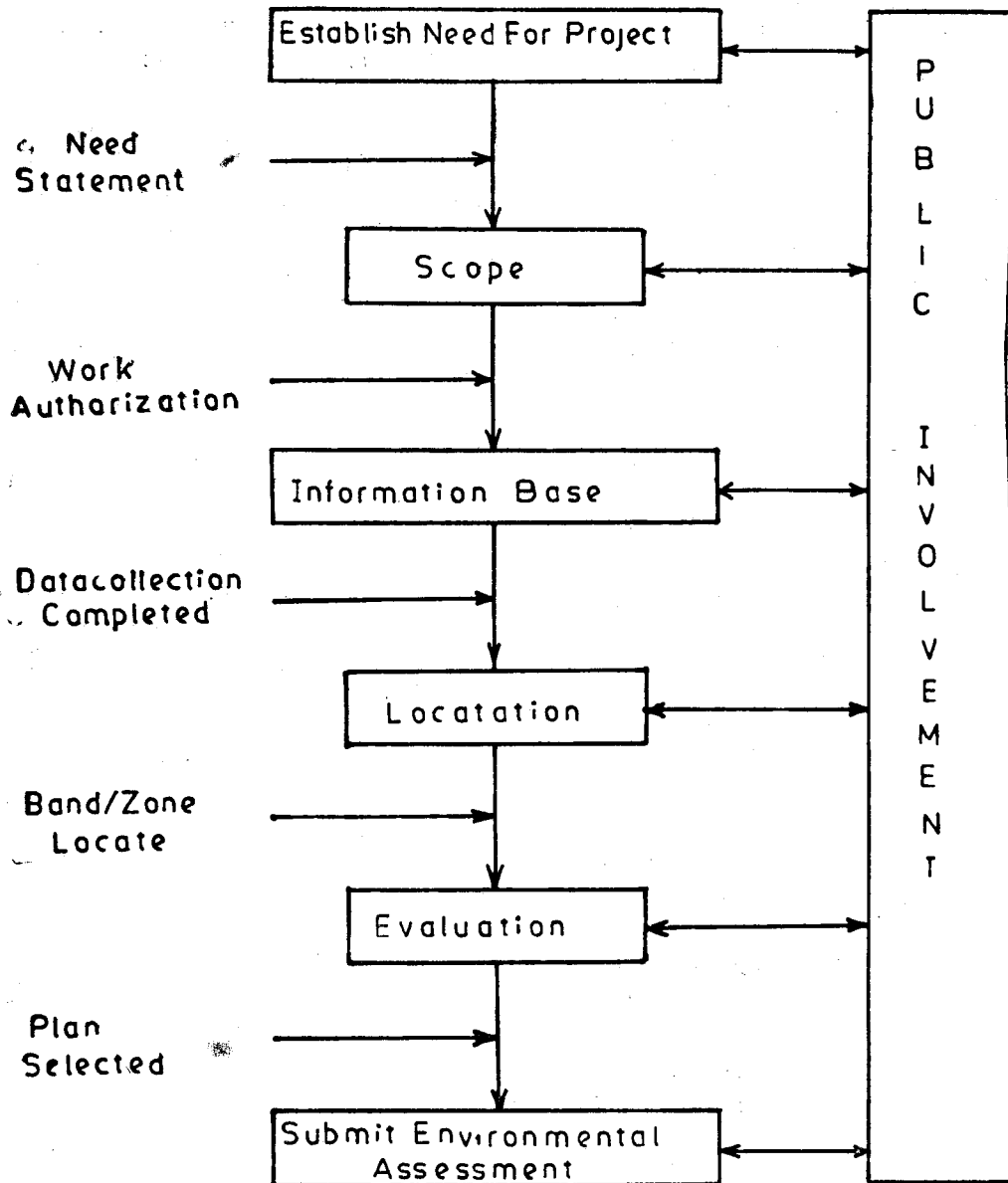— "The media" sensitive to special interests and needs events for news content.

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FIG.1 : SYSTEM PLAN STAGE STUDY PROCESS

— "Government", must monitor, enforce and develop new legislations subject to political necessity.

— "Special interest groups", the watch dogs over industrial/government complex-often highly thought of by the public.

— "Industry" inward looking, plant oriented, thinks cause effect fix, problem solved.

Each has its own perspective of the seriousness of event. All the players get an amalgam of view through the popular media. The inter relationships can be portrayed as in Fig 2. each group except the public has its own direct interaction with othe groups. The media acts as an amplifiers of the e relationships for public consumer. If society is to be successful in cleaning up and protecting the natural environment, then all the
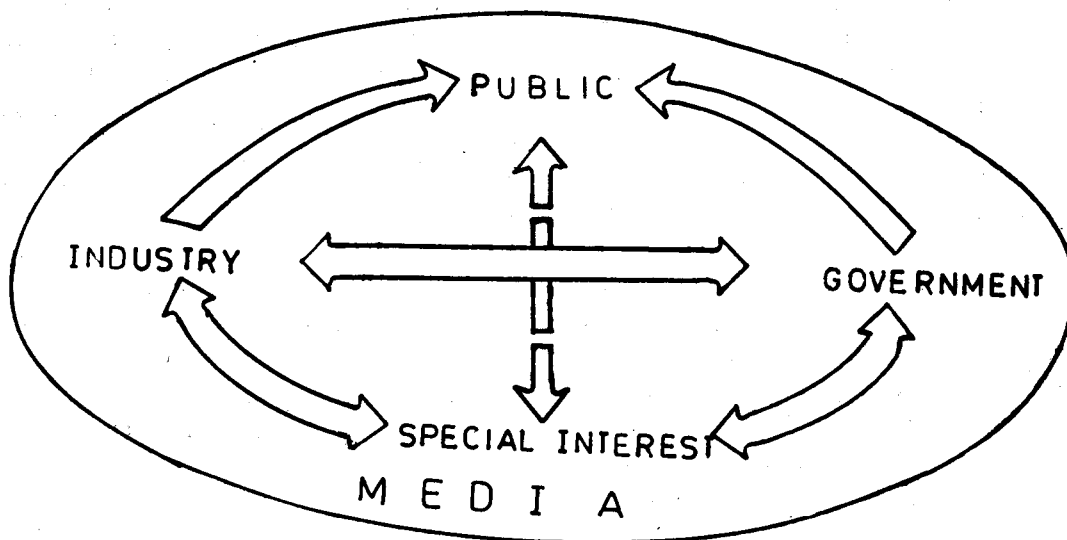
FIG. 2 PLAYERS RELATIONSHIPS

players must have a general understanding of the objective and the means of achieving them. To promote such an understanding, we require a comprehensive set of facts or information ; an agreement on the degree of environmental improvements required and willingness among the players to trust and work with one another i.e. good faith. Unfortunately deficiencies exist in all the three requirements to differing degrees.

Public get environmental information from four sources namely environment groups, government, media and private industry. In times of crisis the public is inundated by conflicting information and reportt of the degree of seriousness or danger inherent in the situation. The volumes of discussions is turned upto such levels that distortions of the message often occurs in the channels already over loaded with information. As the crisis subsides, it is reasonable to assume that the net gainers in the event for a time are likely to be the 'interest Groups' which have public good at heart and media which told every one of the facts The net losers will be industry which precipitated the event, because profits come ahead of the environment and safety and the government which does not do enough to protect the public.

The source of information in crisis are government spokeman, public interest groups. Outside experts or industry sources are often ignored in a crisis and scientific data sparingly used. The need for action, the risks and hazards find disproportionately high coverage.

More often than not, media has been called an imperfect mirror of the world and is accused of sensationalism fear mongering, scare head lines, misquotes, inacurate or in complete stories. Media often casts itself in a role of unofficial opposition critic of government and has a tradition of standing up for the under dogs in the conflict, namely public. Environment reporting is one of the complex areas of work due to uniformed coverages by writers and lack of technical understanding and historical backgrounds on issues. It is a field laced with uncertainities and half truths where it is easy to mislead without even trying. For a proper media coverage government and industry must give public some clearer answer to issues though there is going to be suspicion.

The industry players are doing the job of controlling a crisisactually cleaning up a spill or recalling productis not good enough. Sending accurate message, about what the job actually is and how it is being done is equally important, if the reality of a situation is to be portrayed and players' credibility entranced. This is equally valid for the government for their regulatory role during crisis and for the interest groups as watch dogs. To find ways of sensitizing industry operations and meet the information needs of the public , regulator media and special interest groups, an exercise is necessary from industry. Industry crisis managers must better the communication content to public and thus perceive consequences of their behaviour in crisis situation.

It is important to know the process of perceptual flow of a crisis as it unfolds. This can determine what corrective communication actions should have been taken during a crisis in order to more quickly respond to emerging external fear, misconception and hostility. This can help not only in reviewing but also in progressively monitoring during a crisis. Fig 3 shows pictorially the ' Critical Space" i.e. the two perceptions of reality, one of public and the other of the operating personnel, deviate. Critical space is the gap that is allowed to develop between levels of preceptions and in this area can and will emerge perceptual conflict which in turn leads to real conflict. This critical space separates that which operating people see as the reality of a crisis as against which external audience believe is happening.

"Hall window"—concept is used for measuring the severity of a crisis. Fig. 4 shows the Hall window which uses an ordinal level of measurement to describe a crisis. The lower left quadrant belongs to incidents which are controlled and minor, the upper left quadrant is for uncontrolled minor incidents. Moving to the night, the lower right quadrant is an area where increased magnitude and risk of an incident makes it still controlled, but now major in scope. And the final quadrant at the upper right, is for an uncontrolled, major incident. By over laying some situations say a wild cat strike can start as a controlled minor incident and blossom into a major, uncontrolled event. An on site spill can be a minor controlled incident, or, if too many things go wrong, it can expand into a major uncontrolled incident. Conversely an explosion can start off as an uncontrolled minor incident, but has the potential to escalate into a major uncontrolled incident. A similar situation can develop by an inadvertent gaseous release. However, a bomb threat must begin as an uncontrolled major incident, stay there if real, or quickly move into controlled quadrant. The "Hall window" allows to look at any incident and chart its scope,, thus yielding a description of its severity. If objectively done, a quick picture of the current and potential extent of an incident emerges.
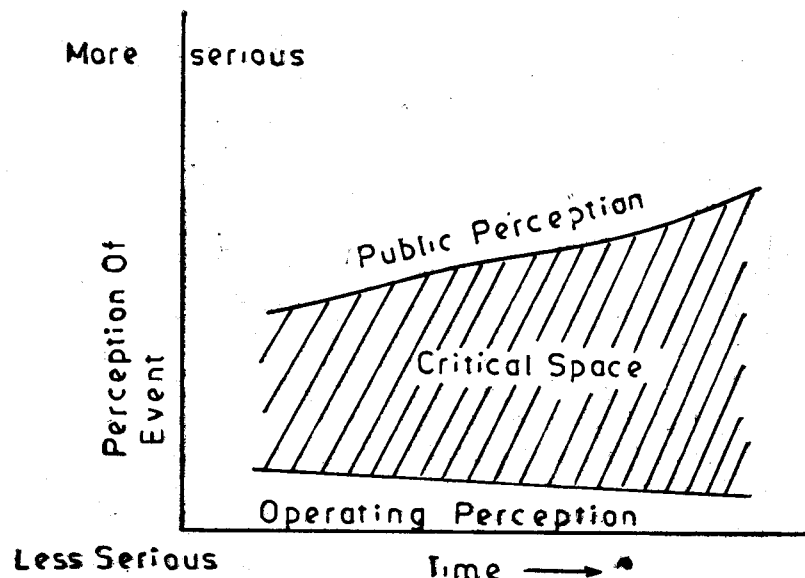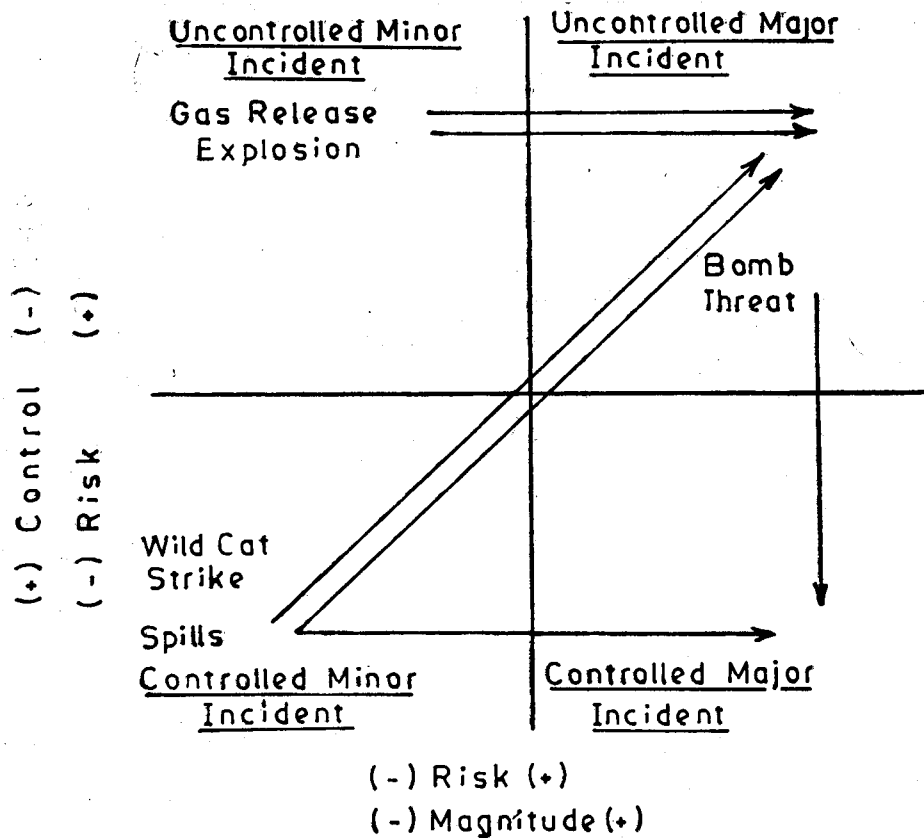
FIG. 3 CRITICAL SPACE

FIG·4: THE HALL WINDOW

(CRISIS EXAMPLE)

By adding two elements-time and how incident is perceived by two levels (operational personnel and public), one can track a crisis. It captures two levels of reality as they emerge. To appreciate this process, there are few pre-requisites as under :

— Operational staff in crisis is justifiably busy with bringing the crisis under control.

— Operational people work from a position of knowledge and expertise and hence even in a difficult crisis, will perceive less danger from the event then external audiences and public.

— External audiences and public on the contrary will perceive more danger and threat from the same crisis because of their own lack of knowledge and their sense of imminent danger.

— External audiences will be more critical of any emergency action as they will assume that the crisis should have been avoided and that they are not privy to all information which therefor mean the crisis is likely to be more dangerous than they are being told.

When placed into a common equation, the four statements invariably lead to conflict in perception of reality. While operational people are busy working to contain a crisis and neutralize it external audiences, when not properly, fully and constantly informed, will develop their own view, more often than not, in conflit with the actual events. It is possible to track these conflicting perceptions of realty and track the crisis space that defines the separation of conflicting realities by expanding the Hall window.

In order to build a meaningful risk/perception plot it is vital that both operating management and public perceptions be registered realitically. If there is intensive give and take process, then group can develop a much broader and more enlightened undertanding of each others real options and constraints which apply during a crisis. It is the recognition and management of these options and constraints which directly leads to the size of the critical space. Initially, operating managements view and that of public are closely parallel. Operating personnel, by the understanding of the incident rapidly perceived the crisis to be over and considered a fairly major event to deflate quickly to a minor incident. But the key point is that the external audiences do not share that comfort level and their own concern continued to rise and reinforced by a second incident. Clearly absence of information compounded by the presence of continuing concern created awide critical space. The gap is precisely what leads to public confusion, diminishing operational creditbility and increasing external hostility.

Looking at the issues globally, the size of any critical space is not necessarily an indication of the operating managements insensitivity. Responsible operating management will effectively manage the physical manifestations of crisis with their expertise. But their level of practical knowledge relating to communications may not be as developed as is now desirable to satisfy public expectations. The public also is reacting predictably, having been further sensitized in this post Bhopal-Chernobyl era to believe their fears. If we are to reach an understanding of the degree to which we all must protect the environment, then there are obviously some steps that need to be taken to develop mutual trust among all players involved in a sustained dialogue and particularly in a period of crisis. One key step is to raise the awareness of those in control of crisis, so they appreciate the need for cleaner communication with public. Another key step would be to begin a long term process of public education as to what is really known about the effects of a given environmental crisis.

Developing countries like India can gain a lot from the experiences of contries like Canada and Sweden which have long recognised the need of public participation in projects from the stage of perception, siting, construction, environmental problems and crisis management. The various procedures developed,

methodologies followed and rules and regulations enacted and enforced can form the basis of looking at greater environmental issues in India where large scale developmental activities are envisaged at great speed and where resources contraints are going to be major bottle necks.

Development of suitable communication systems and involvement of public at large in major developmental activities not only will initiate a fair process of development, but will enhance the faith of public on industry, government and other players of the game. The communication flow will be an on going process initially to select and site a project, then to create the manpower to tackle the environmental issues, help in management of crisis. Thus communications will lead to more convergent approach to solve environmental problems and make public a contented partners the developmental projects.

SUGGESTED READINGS :

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