

Environmental Impact Assessment in Planning and Project Appraisal

by Mishab Uddin Khan

Environmental Impact Assessment is necessary for overall estimation of cost/benefit of a project at the different stages of a project as it ensures environment friendly development. There should be a specific model where all the issues could be judged perfectly and evaluated monetarily.

ENVIRONMENT means the surroundings consisting of air, water, soil, food and shelter which can support and influence the growth of life of an individual or group of individuals, including all kinds of flora and fauna. Broadly, it is the physicochemical, biological and social surroundings of man and sustainable development which is a process of change in which the exploitation of resources, the direction of investments, and the orientation of technological development and institutional changes are all in harmony and enhance both current and future potential to meet human needs and aspirations. Sustainable development is the optimum utilisation of resources to get maximum benefits for the present generations and resources must be kept available for the future population through sustainable development. It ensures friendly environment.

According to The Environmental Pollution Control Ordinance, 1977, project means any activity initiated by the government or the board with a view to controlling, preventing and abating pollution of environment or gathering information and conducting researches for the said purposes. Board means Environmental Pollution Control Board consisting of senior government officials from different ministries and organisations. Environmental friendly project is the requirement for planning and project appraisal.

Environmental Impact Assessment (EIA) is a comprehensive assessment method of analysing environmental issues which are primarily or secondarily related with the planning, implementation, operation and maintenance stages of a project for sustainable development. Normally any project is evaluated economically; sometimes, social issues are also considered. EIA analyses the project from the environmental point of view.

EIA in Project Planning

EIA is a planning tool which is to be used together with the project feasibility study to ensure that the project plan is the optimal economic-cum-environmental plan, that is the plan which is environmentally sound as well as economically sound and thus represents the best approach to planning for development projects in order that

continuing development will be sustainable. A project plan which is optimal from both environmental and economic perspectives will have a higher benefit/cost ratio than a plan which is not responsive to environmental needs especially so when long term as well as short term effects are considered.

Objectives of EIA

It is an integral part of multiple resource development planning and feasibility study of a project. Its objectives are: (a) Assisting decision-makers and their constituents in making informed decisions on project development and resource allocation; (b) providing possible quantitative environmental information so that potential impacts can be avoided in project and project design; providing a basis of development of management measures to avoid or reduce negative impacts; and providing an Environmental Management Plan (EMP) for the project that will help promote sustainable development.

EIA is not intended to disrupt nor impede development but should enhance development by ensuring that projects are constructed and operated in an environmentally sound manner and do not negatively affect the functioning of essential environmental processes nor the long term sustainability of resource conservation and human well-being.

Methods of Analysing Environmental Impact

Environmental analysis is done both in the prefeasibility and feasibility stages of a project. Initial Environmental Examination (IEE) is used for prefeasibility and EIA for the feasibility stage.

IEE identifies all the related environmental issues at the planning, implementing, operation and maintenance stages of a project. It also measures impacts, whether positive or negative and grades them considering the priority in the project. Sometimes IEE is enough

for a project, otherwise, it recommends for EIA at the feasibility study. But for large project EIA with IEE is a must.

EIA is a detailed study of environmental issues. It measures impacts, whether positive or negative, monetarily (if possible) or quantify impacts. It also determines EMP for overall management of impacts effectively and recommends monitoring of environmental issues for future evaluation of the project.

Full-Scale EIA

It follows the procedures given below.

Description of the project: Parameters need to be considered are project type, location, area and layout of the project, climate, physiography, landform and soil type of the location.

Environmental baseline description: Following information is needed: Environmental baseline map, natural physical resources, natural biological resources, economic/development resources and socio-economic feature.

Scoping: Scoping may be obtained through published information, expert opinion, people's opinion and identification of environmental issues.

Bounding: Bounding of a project must be clear. They may be physical, political and administrative, social and ecological.

Field investigation: Following information are needed through field investigation: Survey, computation and analysis, risk assessment, climate, land use, soils, ground and surface water, natural biological resources, endangered species, agriculture, fisheries, forest and socio-economic condition.

concerned agency and comments from well informed persons/experts.

Steps in impact assessment: Prediction: Prediction of impacts can be done by modelling (physical, conceptual and mathematical models), correlation with key variables, trend analysis and comparison and projection.

Classification: Impacts are classified in the following ways: Short or long term impacts, frequency of impacts, reversible or irreversible impacts, cumulative or non-cumulative impacts, direct or indirect impacts, synergistic impacts and positive or negative impacts.

Evaluation: Evaluation is important to clarify impacts as it measures impacts as perfect as possible. It is done through economic terms where costing is possible and acceptably accurate, quantitative or numeric terms where costing is not feasible and descriptive term where neither of the above is feasible.

Presentation of Environmental Impact Assessment

Following procedures are used to represent EIA report: Description of impacts, checklist, numerical ratings to magnitude and importance of impacts and cost and benefits in monetary terms. Results can be represented in the matrix form.

They may be simple matrix, graded matrix, weighted matrix, environmental compatibility matrix and decision matrix. Figure 1 represents the overall procedures of EIA in a simplistic way.

Data Collection on the Project

Checklist of Environmental Issues

Magnitude and Grading of Impacts

IEE report

EIA report and alternate proposals considering environmental point of view EMP

Monitoring Environmental Auditing Figure 1: Stepwise Environmental Evaluation of Project Management Plan

It is used for overall management of impacts, mentioned in the EIA report, to enhance positive impacts and mitigate negative impacts and monitoring of environmental issues during implementation, operation and maintenance stages of the project. Institutional strengthening is required for effective management Strategies for EMP are shown below:

(a) Mitigation measures to reduce adverse impacts:

It may be adoption of protective measures, selection of alternatives, modifications of activities, changes in construction procedure/materials and adoption of supplementary programme.

(b) Compensation measures for irreversible and residual impacts

It may be resettlement of affected people, development of alternative resources, replacement of lost resources and replacement of lost production.

(c) Enhancement measures to maximise positive impacts: It may be specific environmental enhancement measures, replacement or upgrading of affected resources, technical support to increase production, training for effective management of resources and introducing community management practices.

(d) Environmental monitoring

(e) Disaster management

(f) Institution strengthening

Limitations

Main limitation is grading and magnitude of impacts may be varied from person to person and there is no such standard system of consideration of these values. It depends on judgement, experience, knowledge and people's participation. Costing of people, health effect, endangered species, wildlife etc are not possible. It is another limitation.

Conclusion

EIA is necessary for overall estimation of cost/benefit of a project at the different stages of a project as it ensures environment friendly development. There should be a specific model where all the issues could be judged perfectly and evaluated monetarily. The writer is Research Assistant IFCDR, BUET.

The Korean Conundrum

by Jeoung Chang-Soo

TWO directions of thinking about environmental problems are prominent in the wake of the International Monetary Fund (IMF) intervention in South Korea. On the one hand, the priority is to save the economy and, therefore, environmental issues should be put aside for the time being or treated as secondary. The other takes the environment into consideration. It points at the sharp decrease in road traffic, cleaner air and recycling of goods since the IMF measures have gone into effect. It asks whether there is any need to talk about the matter at all considering that the environment is already improving.

The first assertion fails to grasp the essence of the South Korean economic problem and the second misunderstands its environmental problems. The point that must be made with regard to the first assertion is that the chief element in the destruction of the Korean economy is at the same time the chief cause of the environmental destruction. Basically, this element is the high-cost, low-efficiency pattern that pervades the Korean society.

How has this situation come to be? There are many reasons but the main one is probably the supply-centred thinking and policy. When the Korean society, back in the 1960s, yielded to the desire for compressed growth, it likewise accepted the rational that whatever was in short supply must be replenished. And the government policy was focused in this direction.

When energy sources were insufficient, they were quickly restored through imports bought with foreign currency; when more water was needed, dams were constructed without delay; when land was needed, it was hastily dug up in large areas. All of this was justified in the name of rapid growth. But what happened was that, in the process, people did not use resources such as energy, water and land frugally or efficiently, and this attitude became a chronic pattern.

Laws and systems also were decided according to the supply-centred way of thinking. When a social problem emerged, new laws and systems were created

to solve it. During the 1990s, for example, about 20 environment-related laws were enacted. However, it failed to follow the wisdom of maintaining and developing existing laws and systems. It promoted distrust of the basic social order and gave rise to social chaos.

South Korea must wake up to the reality that demand management is more economical and environment-friendly. The focus should be on using energy and other natural resources frugally and efficiently rather than building nuclear power plants and dams. In other words, to change from high-cost, low-efficiency to low-cost, high-efficiency methods is the way to save both the economy and the environment. And the IMF era makes it all the more urgent to change over to a demand management, rational and policy emphasising frugal and efficient use of resources.

Now let us look at the second assertion. The assumption that since the Korean environment is improving following the IMF measures, there is no need for policy research or investment in environmental issues is truly a short-sighted view. It's true to say that the nation can't expect to develop as a sustainable society without environment-friendly social and economic structures.

It is true that since the beginning of the IMF regime the amount of traffic has decreased. So have traffic congestion and carbon emissions. Excessive consumption has been somewhat suppressed, and there is more popular interest in recycling. Nevertheless, it is doubtful whether these phenomena will continue.

It could be that when the IMF "cold wave" abates and the economy takes a turn for the better, traffic congestion and air pollution will once again become serious. Therefore, the important thing is constitutional reform to realise a completely environment-friendly economy and society.

The CCEJ (Center for Environment and Development), South Korea, has made a beginning and is carrying out three kinds of work: solving the trash problem, forest conservation programmes and pressing

for a change in the national policy.

The Citizen's Movement Council for Solution of the Trash Problem was formed in 1997, at the time when the government declared a "war on trash". The forum is a vehicle by which citizens can present alternatives to solve the trash problem. It now has 300 member organisations nationwide.

The CCEJ is also in the midst of organising a "forests for life" citizens' movement which will serve a dual purpose. Efficient promotion of South Korea's distinctive forests in the 65 per cent mountainous country. This will lead to progressive restoration of the natural environment through other kinds of environment-friendly development such as "green dams" for the supply of clean water.

Another very important purpose of the movement is to help Korean citizens survive the IMF era. Unemployed persons will be hired for tree-planting and transplanting work. About 100,000 workers per day will be needed for a period of about 10 years. Their main task will be to thin out areas where trees have previously been planted too closely together. And also trans-shifting about half the trees to new location where it will be grown as timber for economic purposes.

The CCEJ is also engaged in a movement demanding reconsideration of all aspects of national policy. Korea has promoted many kinds of unreasonable national policy projects in the course of national development. These projects are typical of the erroneous methods used in the process of economic development.

In particular, the CCEJ is demanding reconsideration and adjustment of the type of development represented by the construction of the Seoul-Pusan high-speed railway, the new airport, the Seoul-Incheon canal, the Saemangeum land reclamation project and Shihwa Lake. All these projects are only misusing the taxpayers' money and, in the process, destroying the environment. CSE/Down To Earth Features

Young People and HIV/AIDS in Bangladesh

by Shakeel A I Mahmood

MANKIND experienced many a pandemic in the past but the present HIV/AIDS pandemic is without any parallel.

Youths in any country constitute a very important group of population as they have been found to be extremely vulnerable to infection by this virus. This article, while briefly describing the present HIV/AIDS pandemic, emphasises the importance of taking all possible measures to save the youths from the infection.

The enormity of it was in 1981, that a new syndrome designated as "Acquired immunodeficiency syndrome (AIDS)" was first recognised among homosexual men in the US. Its etiological agent identified in 1983, was found to be a virus and was termed "human immunodeficiency virus (HIV)". By the mid-1980s it became clear that the virus had spread throughout the world and that its effects had reached truly global or "pandemic" proportions. In fact it has, by now, touched almost all the countries of the world.

The pattern: HIV/AIDS pandemic consists of a number of separate epidemics and in many instances, such events may happen even within a single country. Each epidemic has its own distinct origin, in terms of geography and specific populations affected, and involve different types and frequencies of risk behaviour and practices.

The alarming speed: While in 1996 more than 22 million people (men, women and children) that were infected by HIV world-wide in 1998 the figure now, according to the estimation of UNAIDS, is 33.4 million (UNAIDS, 1998). Developing countries (DCs) are the worst victims having about 90 per cent of these infections. The speed of the global spread of the

virus can be gauged from the tables and figures.

Impact of HIV/AIDS in DCs: The virus of AIDS/HIV is rightly called a money-seeking missile. It preferentially attacks the poor and gives rise to 'AIDS + Poverty' the vicious cycle.

It is obvious HIV is playing a disastrous role world-wide particularly among the poorer nations. While it is inflicting serious damages in sub-Saharan Africa the virus has now turned aggressively towards the Asian countries.

In fact the actual situation is worse than what is shown in the table. According to Indian Health Organisation (IHO), the India alone has got 6-10 million HIV positive cases. India is the country with largest number of HIV-infected people in the world. Our other neighbouring countries such as the condition in Myanmar, Nepal and Thailand are already grappling with the situation.

Situation in Bangladesh and its vulnerability: Although Bangladesh continues to be a low prevalence area, it is surrounded by high prevalence countries. We however must not adopt a complacent attitude in respect as our country has all the determinants for an explosive outbreak of HIV/AIDS epidemic.

Causes of poverty, illiteracy, ignorance, proximity of Bangladesh to the so-called "Golden Triangle" and high prevalence of STDs, make our country seriously vulnerable. In addition increased number of migrant workers, unsafe practice in health service, unsafe sex practice etc. further increases the susceptibility.

STDs in Bangladesh: A recent study among sex workers in Bangladesh showed that 95

per cent of them had contracted genital herpes, mostly from their clients while 60 per cent had syphilis.

According to WHO and UNICEF survey report, about 50 per cent of the married persons (study population) have had history of extra marital and pre-marital sex.

A study report on sexual behaviour by Bangladesh chapter of Population Council, a New York-based research organisation published on 26 July 1997, in the daily Observer indicates that the premarital sex among unmarried adolescent are very high. This is a vital point to be taken into consideration.

National survey on STDs indicates that almost 50 per cent of the cases prevailing in our country are among the students, who are under 25 yrs. of age.

Over 50 per cent of new infections with HIV, the virus that causes AIDS, are now occurring in young people in the 10-24 age group. Young people are particularly vulnerable to HIV infection and are being very seriously affected by the epidemic.

HIV—a threat to the world's young people

In 1998, World AIDS Campaign—"Young people: Force for change"—was prompted in part by the epidemic's threat to those under 25 years old. Young people are disproportionately affected by HIV and AIDS. Around half of new HIV infections are in people aged 15-24, the range in which most people start their sexual lives.

In 1998, nearly 3 million young people became infected with the virus, equivalent to more than five young men and women every minute of the day, everyday of the year. And as HIV rates rise in the general population, new infections are increasingly concentrated in

the younger age groups

But the Campaign also highlights the power of young people. The future of the HIV epidemic lies in their hands. The behaviours they adopt now and those they maintain throughout their sexual lives will determine the course of the epidemic for decades to come.

Young people will continue to learn from one another, but their behaviour will depend largely on the information, skills and services that the current generation of adults choose to equip their children with. Research shows that young people adopt safer sexual behaviour provided they have the information, skills and means to do so

Young people in Bangladesh: The young people are most vulnerable. Over 50 per cent of the new infection with HIV, the virus that causes AIDS, are now occurring in young people in the 10-24 age group. Young people are particularly vulnerable to HIV infections and are being very seriously affected by the epidemic. Even with the low prevalence rate of HIV infection in Bangladesh all most 31 per cent are of 16-30 years of age group.

The theme of 1998 world AIDS Day: The theme that was selected for the year 1998 'Force for Change: World AIDS Campaign with Young People', is very much meaningful. This is a great opportunity to set-up and strengthen the process for involving youth groups to change the course of the disease.

Recommendations: The young people should be encouraged largely to participate in the HIV/AIDS prevention activity through ensuring their access to information and education. It is clear that making information and services available to young people is in-

creasingly important to arresting the spread of the virus.

Although adults in authority sometimes have difficulty admitting the fact, there is no shortage of evidence that teenagers are a highly sexually active group. Every opportunity must be used—beginning with high school to help them learn the information and practical skills which are needed to negotiate a safer path through life in the HIV/AIDS era.

Young people need access to prevention tools and health friendly services where they can get counselling and reproductive health care, including treatment for STDs. The more protection countries ensure for the rights of young people including their right to life saving information and services, the less vulnerable young people will be to HIV. Young group should be encouraged to participate jointly with the government and non-government organisation in sharing of resources.

Conclusion: It is clear from our experience that for all social reform and change young people played very vital role. If we can use this force properly the course of HIV epidemic can be changed.

Bangladesh is a developing country with a population of nearly 125 million. An epidemic has already started in this country. It however continues to be 'low prevalence but a high risk area'. High risk area, because it has all the determinants for an outbreak of a serious epidemic (Meeting the challenge of AIDS/HIV in Bangladesh: Choudhury et al, 1997). Therefore there is no room for any complacency.

The writer is Senior Administrative Officer, ORP, ICDDR,B and Member, Youth Wing of National AIDS Committee, Bangladesh.

Year	No. HIV Infected	Reference
1993	13X10 ⁶	Berlin Conference
1994	16X10 ⁶	Yokohama Conference
1995	20X10 ⁶	Chiang Mai Conference
1996	22X10 ⁶	Vancouver Conference
1997	30.6X10 ⁶	UNAIDS, 1997
1998	33.4X10 ⁶	UNAIDS, 1998

People newly infected with HIV in 1998	Total Adults	5.8 million
Women	2.1 million	
Children <15 years	590,000	
No. of people living with HIV/AIDS	Total	33.4 million
	Adults	32.8 million
	Women	13.8 million
	Children <15 years	1.2 million
AIDS deaths in 1998	Total	2.5 million
	Adults	2.0 million
	Women	900,000
	Children <15 years	510,000
Total no. of AIDS deaths since the beginning of the epidemic	Total	13.9 million
	Adults	10.7 million
	Women	4.7 million
	Children <15 years	3.2 million

Region	Epidemic started	Adults & children living with HIV/AIDS
SUB-SAHARAN AFRICA	late 070s-early 080s	20.8 million
North Africa & Middle East	late 080s	210,000
South & South-East Asia	late 080s	6.0 million
East Asia & Pacific	late 080s	440,000
Latin America	late 080s	1.3 million
Caribbean	late 070s early 080s	310,000
Eastern Europe & Central Asia	early 090s	150,000
Western Europe	late 070s early 080s	530,000
North America	late 070s early 080s	860,000
Australia & Zealand	late 070s early 080s	120,000
Total		30.6 million

Country	Estimated HIV	Reported AIDS Cases
Bangladesh	< 20,000	10
India	4,000,000	4,980
Myanmar	350,000	1,822
Nepal	15,000	87
Thailand	800,000	59,782
Total	5,185,000	66,681

