Towards Women's Environmental Awareness

by Fayza Haq

A workshop dealing with women's awareness about environment was recently held at the Goethe Institut, in which were participating experts on women's affairs such as Dilara Begum, Ministry of Land, Bangladesh Secretariat, Prof Dr M Mufizur Rahman, Dept. of Microbiology and Hygiene, Agriculture University, Mymensingh; Monlul Hoq, GCC Task Force, and Akhter Sultana Asst. Prof. Dept of Mass Communication and Journalism.

Mrs Helen Lechner, Director of the Goethe Institut, speaking on the occasion, pointed out that the workshop developed from discussions that took place amidst women returnees who had been to Germany for their own training or studies or had been accompanying their husbands. In that country they had observed the high degree of awareness about environmental problems prevailing there. She said," Knowing that in their own country Bangladesh, the same problems were on the rise and being aware of the decisive role of the family here, they held a programme which dealt with such a situation. If the family was important and at the centre of the social life, then it was clear that the woman, being at the centre of the family, would play a key role in raising the level of awareness about the immediate environment: It is the mother who has the most influence on the children, and the housewife, who directs and supervises the household helpers, and it might be the wife who can make the men aware about the hazards that arise from an unclean environment. Children would thus grow up to be responsible adults and could carry the message into the working world."

Mrs Lechner admitted that her reasonings was abstract and idealistic; and that it did not consider the deeply rooted age-old habits.

Phases of the Project

While collecting the data for the project six fieldworkers visited approximately 10 to 15 families in each of the following categories in different occasions over a period of four weeks:

a) Unskilled labourers or housewives who are doing part-time or full-time jobs like brick-breaking, domestic help etc. and live in the slum areas.

b) Lower middle-class semi-literate women who may be housewives, or who are involved in semi-skilled jobs as in garment industries, or are working as third-class employees in different offices and who live in messes, hostels or government supplied "quarters".

c) Housewives and professional women of the upper echelons of society who live in independent houses or apartments.

In the second phase, after the report had been prepared based on the analyses of the collected data, a workshop was arranged and women from different walks of life were asked to participate in it. Efforts were made to seek concise and concrete suggestion which could guide the women of each class to tackle their environmental problems more decisively.

In the third and last phase, the same group was observed and it was tracked down if they were adhering to the suggestions made at the workshop, and if not, whether modifications were essential for a more interactive role of such environment awareness.

Practical training for some of the women of Group II was organised. However, this was not possible for Group I.

The projects involved a scientist, a statistician, a sociologist and six field workers, who had been chosen from the postgraduate students of DU.

Report on Target Group-I

In this group, data was collected from five slums, viz. Khilgaon Bagicha, Shahbagh, Mohakhali, Banani and Agargaon.

It was found that the housing conditions of the slums were on the poverty level. Normally, each family lives in a makeshift room constructed from bamboo. The roof has a polythene cover to beat the rain and cold. Khilgaon slum, which is found in and around a big sewerage drain, near the rail railway line, has similar situations on the Shahbagh slum which is also found in low land, near an enormous drain. Meanwhile, the other slums are situated on low-laying fallow land.

These slums lack proper water supply, drainage and sanitation facilities. Women tend to buy their drinking water from the close-at-hand WASA line for 50 paisa per pitcher. They fail to boil their water for drinking purposes. As for their requirement of water for other household needs, they are compelled to obtain it from the dirty ponds and ditches that are nearby. As for the garbage, they dump it in ditches or any other convenient place. If there is any dustbin in the proximity they use that too. Toilet facilities for bathing, urinating and defecation are virtually non-existent. The human waste is either heaped in drains or left to ferment in file fields.

Throwing of cough phlegm or spitting in any form is not recognised as unhygienic. Similarly, they appear to be complacent about emission of poisonous gas emitting from passing vehicles.

In the same manner, they appear to have a good notion of the need for family planning yet they do not practise what they know as their comprehension of the need to arrest the population boom remains hazy.

The recommendations for this group is that minimum facilities for proper drinking water and sanitation should be provided for and this suggestion received top priority from the experts working on this group.

It was also suggested that the mushrooming of slums all over the Dhaka city should be confined and limited to certain areas where proper and adequate facilities could be provided for.

Similarly, it was decided upon that if jobs with suitable remuneration were provided for, the inhabitants of the slums would heed to the need to improve their environment.

Report on Target Group- II

As this group of women were exposed to the news media via the radio, TV, newspapers and journals, it is expected that they are more aware of the need for preservation of our environment. These women have access to brick buildings or houses made from corrugated sheets of iron. Most of them utilise the facilities provided by the WASA, but often fail to boil their water. In most cases they are compelled to share the same flat or house, apart from the toilet and bathing area. As a result, it is difficult for them to maintain good health or cleanliness. Even though many of these women are aware of the necessity for using chemicals in the toilets, for them the chemicals remain a luxury rather than a necessity. Throwing of household garbage from the window on to the pavement below is a common phenomenon among these people. They fail to collect the household rubbish at intermittent periods or dump them at proper places where they could be gathered by the city-cleaners.

The recommendations for this group, which is apathetic rather than ignorant, is that they should be induced to follow the well-known hygienic rules, and that they must be taught the facts about electrical radiation safety.

Report on Target Group- III

This group, consisting of professional women and housewives who had access to independent houses and flats are from the upperechelons of Dhaka society. This group was naturally using WASA-supplied water and not only sterilised their drinking water, but in some cases, even filtered it. In most of the cases this privileged class have the adequate sewerage connection and each flat or house have an average of one to two toilets and some even three. These families most often use gas cookers and, claim that they are aware of the necessity of a clean kitchen and a pantry. They are sometimes so conscious of the environmental pollution that they will control the obnoxious fumes of their cars, depose off their garbage regularly into the allotted dumping bins, so that they are routinely collected by the city garbage collectors, at the fixed times. However, they appear to be naive about the environmental risks of throwing away items such as plastic bags and bottles.

Such getting together and analysing women's intellectual and physical capacities as regards improving Dhaka's environment is surely commendable and a decisive stride toward's women's betterment.

Selina Rahman MP handing over 'sewing kits' to workshop participants from Dhaka slum areas.

DDT: The Untold Story

by Sarwar Ahmed

An inflamed public opinion fanned by sensational and out of context reports led to the demise of DDT. I am not advocating that DDT be used indiscriminately. The case of DDT shows how misinterpretation and misinformation can damage the advances of science which contributed more to the benefit of mankind than harming it.

DDT is believed to be a scourge on mankind. The outbreak of plague in India had aptly demonstrated that DDT is one of the major pesticides to contain an even more disastrous scourge! The possibility of cancer risks from DDT exposure through residues in the diet is a factor of 0.3 compared to a human medicine, phenobarbitol's 16,000, at a dose of 1 pill a day!

Pesticide is a much maligned word nowadays. It has become synonymous with all the environmental ills of this planet earth. DDT is especially singled out to be the culprit that has brought the world and its environment to a precipice. How very unfortunate! DDT, intact, has aided in saving countless human lives without leaving a major harmful impact on planet earth since its discovery.

Discovery

DDT — *dichloro diphenyl trichloroethane*, was discovered by Dr Paul Muller of Switzerland. Having joined the firm J R Geigy in 1925, he found insecticidal properties of the future DDT in 1939.

The first patents for the compound were taken out in 1943. Because of the tremendous impact of DDT on society, Dr Muller was awarded the Nobel Prize for Medicine and Physiology in 1948.

Muller was primarily concerned with the insecticidal effects of DDT on agricultural pests. Accordingly, DDT products were widely used in Switzerland during the Second World War. This ensured agricultural productivity at a time of food shortages.

In 1941-42, R Domenjoz, a Geigy staff, found that 0.01 per cent of DDT successfully eliminated the human louse *Pediculus humanus* from infested persons. As refugees poured into Switzerland during the war, they were carrying the louse that was spreading typhus. These refugees were treated with DDT which helped prevent epidemic outbreaks.

The most spectacular use of DDT and the most publicised was when it controlled the typhus epidemic in Naples, Italy, in 1944. In late 1943, typhus appeared among the civilian population of Naples which was then in Allied occupation.

Mode of Action

DDT is first and foremost, a contact insecticide. It does not have any fumigant action. It can act as a stomach poison as it is absorbed from the alimentary canal when it has been taken in with food. The outstanding property of DDT is its effectiveness as a residual film. The DDT is picked up by the lower parts of an insect walking on it. After entering, it is transported throughout the insect's body into the internal organs.

When a pesticide is taken up by an insect, it may be involved in four different processes. It may be rapidly metabolised to a less toxic substance, and may do little damage. It may be rapidly excreted. It may be stored, mainly in fatty tissues. As long as it remains in the fat, it may do little harm. However, it may have its effect during a period of starvation when the fat is metabolised and the insecticide is released. Fourthly, it may reach the site of action and kill or injure the insect.

As long as DDT stays in the fat of insects, it may do no harm. However, as the fat is metabolised, DDT is released, poisoning the insect by affecting its nervous system. It is not properly understood what chemical processes makes DDT so lethal to insects.

DDT in the Environment

The great virtue of DDT is its persistence. It retains its toxicity for a long time, in fact, it may retain its chemical composition and its toxicity almost indefinitely. For instance, it may be effective for six months to control mosquitoes when sprayed on the inside walls of houses. This fact has given rise to concern of DDT as an environmental pollutant.

DDT metabolises into DDE, a much lesser toxic substance, and other substances, in living organisms or in contact with living bacteria. In the soil however, DDT hardly changes. In the atmosphere, DDT is adsorbed on to the surface of minute particles of dust. DDT degrades into carbon dioxide and hydrochloric acid under the influence of ultraviolet light.

In her book *Silent Spring*, Rachel Carson alerted the public on indiscriminate use and danger of pesticides as early as 1962. She highlighted the killing of the American robin by DDT used to control Dutch elm disease on trees. It was widely understood that robins had been completely exterminated over wide areas of the USA. In fact, the overall robin population actually increased during the period when DDT was most widely used.

Because of its efficacy, DDT controls a wide range of pests including beneficials. Hence, elimination of one pest can lead to a resurgence of another due to the killing of the predatory beneficial insects. This fact cannot be discounted. It only shows how important it is to use chemicals carefully so that pests are controlled without the elimination of their natural enemies. What DDT is blamed to do is similarly being done by even latest pyrethroid based products.

DDT Uses

Being odourless and comparatively non-toxic, DDT was widely used against vegetable pests. It has been used successfully against beetles in potatoes, weevils and caterpillars in alfalfa, borers in maize, bollworm in cotton, and in countless other crops.

DDT was widely used for public hygiene during the Second World War. Vast populations were deloused in Egypt, Korea, Japan to contain typhus. In 1951 a nationwide campaign was initiated in Mexico to eradicate the typhus louse. A dust containing 10 per cent DDT was used. No typhus was reported in Mexico after this campaign.

Malaria eradication programme by eliminating mosquitoes was undertaken in Italy after the war. This was successfully done with DDT. Similar success stories were reported from the Netherlands and Greece.

DDT has been widely used in our sub-continent to contain malaria. However, Sri Lanka is one country where the premature ending of control measures by DDT showed effects.

DDT helped the eradication of yellow fever from many South American countries.

If rational, scientific reason would prevail, DDT is still the most cost effective product of choice in controlling a wide variety of pests in agriculture and hygiene.

Resistance to DDT

Like all pesticides, several insect pests have developed resistance to DDT. However, majority of pests can still be controlled with it. With some species, resistance is a local problem. It very much depends on how DDT was used in each situation.

In 1984, 447 resistant species to all insecticides was quoted. The conditions conducive to development of resistance are:

a) frequency at which resistant genes happen to occur in the population, and their effectiveness;
b) intensity of selection, that is, the magnitude of the population exposed to the insecticide, and the proportion killed; and
c) number of generations per year.

Experience shows that intensity of selection is very important. Resistance has developed mainly in important pests which have been constantly attacked by insecticides over a wide area.

Fear of DDT Effects

Since DDT is a persistent long lasting insecticide, it may remain in the soil and kill insects and other organisms long after its original application. It might get into water and can get concentrated in the bodies of fish. It can be passed from a herbivore to a carnivore and passed along the food chain.

DDT has found its way into the human milk. The highest levels in breast milk were found in Guatemala in 1971 where DDT was being excessively used in an attempt to control cotton pests. Levels reached as high as 12 mg per litre. This was similar to the dose of 35 mg DDT per day given to volunteers by Hayes. In spite of this concentration no adverse effects have been found on the health of babies or their mothers.

An inflamed public opinion fanned by sensational and out of context reports led to the demise of DDT. I am not advocating that DDT be used indiscriminately. The case of DDT shows how misinterpretation and misinformation can damage the advances of science which contributed more to the benefit of mankind than harming it.

A rational use programme of any chemical — pesticide, fertilizer, growth regulators are contributing to the global self sufficiency of food production, alleviating hunger from the world.

Death Stalks Villages 'Unfit for Human Habitation'

by A J Singh from India

For thousands of villagers who live near uranium mines in eastern India life is a veritable hell. Doctors say 70,000 people living within 10-kilometre radius of the mines are suffering from radiation-related diseases. Yet, the management of the government-owned mines claims that the problem does not exist.

THOUSANDS of Indians are eating, drinking and breathing uranium daily in about 50 villages around uranium mines at Jaduguda in east Singhbhum district of Bihar state.

The mines run by the government-owned Uranium Corporation of India Limited (UCIL) produce the so-called yellow cake (magnesium diuranate) for the country's nuclear reactors.

For victims of radioactive contamination from the mines, life is a veritable hell. Cancer stalks the area. Miner Azim Khan (not his real name) complains of severe stomach pain, forcing him to remain hospitalised 20 days a month. His wife and two children are also suffering from pain in the chest and waist.

Most residents of Talaitand village, two kilometres away from Jaduguda, are in constant pain. In the last five years, says a UCIL employee, at least 60 people have died from severe pain in the village. Recently five more became victims of radiation, including a nine-month-old girl, who had developed boils all over the body, due to radioactive contamination.

Doctors at the main hospital at Jamshedpur city estimate that more than 70,000 people living within 10 kilometre radius of Jaduguda are suffering from radiation-related diseases.

"Most villagers spend six months in a year in the hospital," said Prema Chandra Patra, a resident of Dumaridih village.

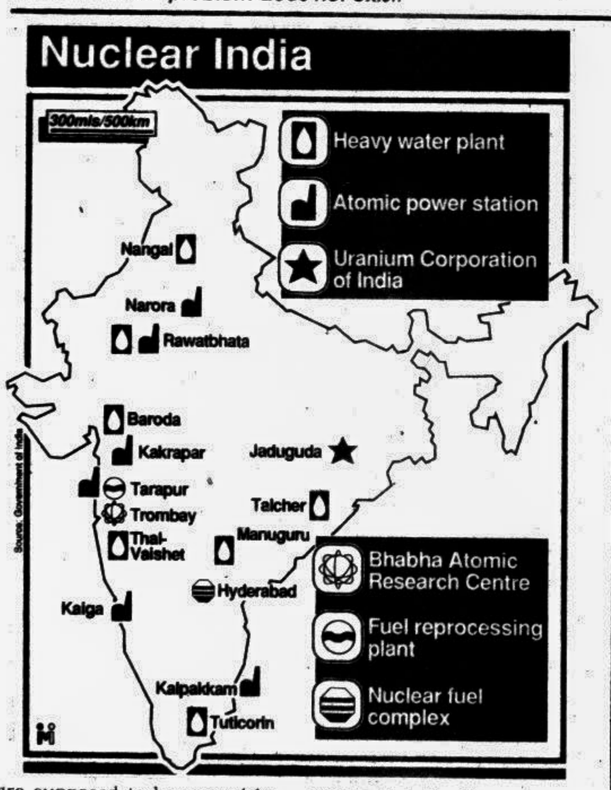
A team of three journalists who surveyed the area wrote: "The brutal reality is that the entire area has become unfit for human habitation."

In addition to the contamination of food and water, animals and plants have been affected. A laboratory in Bombay discovered traces of uranium in the carcass of a tortoise caught in Jaduguda. Even vegetables grown in the area have been found to have uranium contamination.

Said former Bihar minister M R Tadu: "The people in 10 villages have been drinking water from Gadura river. Now it is dangerous even to eat the fish from the river."

And yet the villagers have no choice but to stay in the area and use contaminated water for bathing and washing. With no tap water they have to drink dirty water from shallow wells.

"Every day I treat at least 20 patients having diseases that are supposed to be caused by the radioactivity of uranium," Dr Krishna Mohan Verma, Chief Medical Officer at Dhabanki hospital told journalists.



Mined since 1962 at Jaduguda, the uranium-rich stones are dug out 100 to 800 feet deep. Brought to surface, they are pounded into fine powder in a mill. The power is chemically processed to produce yellow cake. It is packed in polythene bags and sent to Nuclear Fuel Complex (NFC) in Hyderabad for further processing.

The contamination spreads through the uranium waste and the dust created when the stones are pounded into fine powder. From both of these, the uranium finds its way into the villager's stomachs directly as well as through the water and soil contamination.

The miners who are expected to wear protective plastic uniforms at work, are given only cotton clothes by the UCIL, and they are allowed to take their clothes home, which directly spreads radiation to their families.

A team of anti-nuclear activists who toured villages around Jaduguda saw radioactive tailings (small ore pieces from which the yellow cake has been extracted) strewn everywhere. Strong summer winds disperse these tailings from Jaduguda to surrounding villages. The rain water carries them to village ponds and rivulets.

Jaduguda also receives radioactive waste from the processed yellow cake from NFC.

Vyas Tiwari, general secretary of Indian Federation of Trade Unions told the press recently: "The Company (UCIL) had decided to dump the waste in Jaduguda because it knew that the poor, illiterate and politically unconscious people would not oppose it."

Observers says that the waste that NFC returns to Jaduguda is more radioactive than the yellow cake produced there.

One source said at least 25 people in the worker's colony at Jaduguda have died of cancer in the last five years. Nearly 90 per cent residents suffer from arthritis.

Although the health unit of the Bhaba Atomic Research Centre (BARC) at Jaduguda conducts monthly medical examinations of UCIL employees, its findings are kept secret.

These reports do not seem to worry the management of UCIL. Its chairman JL Bhasin dismisses them, saying: "Some people are raising a non-issue because they want jobs."

Asked why the medical reports by the BARC are not made available to the employees, he says. "We do not give them the report but we know of the diseases and take suitable steps."

The Jaduguda-type tragedy could be repeated at Domiasiat in the Ghasi Hills in Meghalaya state in north-east India, where the government is planning to set up open-cast mines to process 10,000 tonnes of high grade uranium. As the reports about radioactive contamination hit the headlines, a campaign has begun to oppose the Domiasiat project.

As for people in 50 villages around Jaduguda life is a continuing nightmare. Nagarajan, a villager, sums up their anguish: "No one cares."

— Gemini News

Impact of Polluting Industries in Dhaka City

by Jamal Khan

These polluting industries grew up at random across the whole city since the liberation in 1971. City planning authorities and the city corporation have formulated many laws, restricting such uncontrolled and unplanned growth of industries in the non-prescribed areas, especially in residential part of the city. However, this survey has identified more than one thousand polluting industries present in the residential areas of the city.

THE increasing growth and development of polluting industries within the residential zones of Dhaka City are causing gradual degradation of public health and sanitation. A large number of inhabitants living in close proximity to these deadly plants, have been suffering from various chest disease, e.g. bronchitis, aestama, tuberculosis etc as well as water-borne diseases like chronic dysentery, diarrhoea and various types of skin diseases.

Mohammad Iqbal, an eminent Geographer and environment researcher, recently conducted a comprehensive survey under the financial assistance of USP, to demonstrate the gradual expansion of polluting industries within the residential zones of the city, their geographical distribution pattern as well as location aspects and impact on residential environment, especially the nature of the impact by these polluting industries on the surrounding housing areas, specifically, vulnerability to the public health and sanitation of the inhabitants living close to these polluting industries.

Polluting industries may be the industry which in the running state does deteriorate or degrade its surrounding physical environment, i.e ground, surface air, water, vegetational cover, general health condition of the people. The pollution processes are stimulated by the industrial emissions of smoke, poisonous gas, noise and sound generated by the running machines and the workers engaged in it, dumping of industrial waste and the flow of liquid wastes mixed with water. The study has identified more than one thousand polluting industries present in the residential areas of the city. It is evident form these study that some high density areas as Lalbagh, Mirpur, Sutrapur and Kotwali have also got higher numbers of polluting industries.

Out of 1042 identified polluting industries, around 75 per cent are concentrated in the three populous areas of the city viz. Lalbagh, Sutrapur and Mirpur. The study has also categorised polluting industries, mainly based on the types of raw materials being used in the concerned industries and anticipating the factor that the resultant pollution is mainly generated by the nature and types of raw materials being used in the industries. The polluting industries in the city are broadly categorised as the iron and steel, metal, welding and vulcanizing, textile (garments knitting) dying (fabric), saw mill, leather, plastic and poly venylchloride (pvc), chemicals, paper and board, pharmaceutical, tobacco grinding, food and beverage, match, glass and rubber industries. Out of the total, textile topped the list, followed by welding and metal dying, tannery, fabric dying and plastic products, these industries are contributing significantly to the deterioration of residential environment of the city. The severely affected area is the Lalbagh with the highest concentration of tannery, chemical and plastic industries. These types of industries are noted as the major sourees of water, air and noise pollution.

Concerning industrial waste, it is evident that out of the total, industries, about 60 per cent produces solid and 52 per cent liquid waste. Some types of industries emit gaseous particles to the air and cause serious air pollution. About 73 per cent of the surveyed industries dispose off their wastes within the residential areas. Environmental pollution, to a certain extent, is due to these industrial wastes. Only a few industries claimed that no such wastes are produced in their plants.

In the early years, industries used to dump their solid wastes here and there. But with the growing awareness among the people, now, many industries has installed dumping sites within or near their premises.

Around 200 tanneries give off huge volume of liquid wastes, finally drained to the river Buriganga. The liquid wastes contain soluble acids, salt, oxides and hydroxide etc. This is causing water pollution in the city. Residents of the urban areas are some times compelled to use the polluted water, therefore, various water-borne diseases are very common in some areas of Sutrapur, Lalbagh, etc. Moreover, open industrial wastes or garbage do emit bad smell. So far, improved and modernised techniques pertaining to industrial waste treatment in our industries are yet to be introduced. Most of the entrepreneurs are ignorant about the environment, although they run their plants in residential areas, posing great danger to the human lives.

The unauthorized setting up of polluting industries in some areas of Dhaka city, have beyond doubt proved to be harmful to the city environment — various types of pollutions are generated by these industries, e.g noise and sound, poisonous gases, smoke or vapur ect. In fact, these polluting industries are acting as silent killers, claiming scores of lives without leaving any visual trace on them. For example, sparking light is detrimental to eye sight; the presence of poisonous gases in the air causes various diseases of the lungs, heart, throat and eye. But very little has been done to control the raising level of pollution especially in the residential areas. These polluting industries grew up at random across the whole city since the liberation in 1971. City planning authorities and the city corporation have formulated many laws, restricting such uncontrolled and unplanned growth of industries in the non-prescribed areas, especially in residential part of the city.

However, this survey has identified more than one thousand polluting industries present in the residential areas of the city. Therefore, the existenee of such industrial laws and acts have been proved to be only as paper laws, without having any control over the real situation.

To preserve the urban residential environment and public health as well as to the coexistence of people and industry, Mr Iqbal advocated for positive measures which could be achieved successively by reducing pollution level in the concerned industries through industrial waste management and treatment programme, providing basic education and training to the workers to keep their plant a pollution-free zone, gradual transfer of polluting industries to the prescribed sites, improvement involving in industrial safety, provision of assistance to appropriate eases and above all, to grow awareness among the people about the importance of a balanced and ideal urban physical environment where the safety of life is assured.