

Prescription for a cleaner Dhaka

ALBEE HAQUE

A recent report in The Daily Star about water-logging problem in Jhigatola area in Dhaka city has motivated this article.

The time is appropriate for the government NGOs, and local communities and non-profit to collaborate more effectively and start working together towards a cleaner Dhaka, and to protect wetlands in and around Dhaka from the pressure of development to ensure biodiversity. This writer was quite alarmed during a recent phone conversation with a relative, who was visiting Boston. It was alarming because my relative told me that there were hardly any wetlands in Bangladesh that may be considered active.

Until recently, there was no Wetland Protection Act in Bangladesh. As a group, wetlands, bogs, vernal pools and salt marshes are all considered wastelands. Wetlands form a critical part of our ecosystem because of their diverse animal and plant life. Unfortunately, because of lack of environmental consciousness and public education or awareness, wetlands such as, haors, lakes, beels, marshes etc. are systematically being degraded/eliminated through residential/commercial real-estate development projects.

Wetlands carry out rather important functions, including flood protection. Their spongy soil composition allows quick absorption of rainwater and can naturally prevent water-logging, which is a man-made problem bigger than flooding nowadays in Dhaka, Chittagong and other major cities. Wasa Managing Director Raihanul Abedin said that water logging problem in Jhigatola area would be solved before the next monsoon as a new plan for the improvement of the sewerage system was being prepared.

Don't forget, infilling of wetlands to build or expand malls, shops/residential buildings in any city could be costly and severely detrimental to the long term environmental goals of the country. Local conservation commissions should be established in every township to enforce the recently (2002) promulgated Wetland Protection Act of the Dept. of Environment.

Wetlands ensure biodiversity and provide natural defence against flooding. Wetlands also naturally filter nutrients and toxicants in the polluted runoff from streets, parking lots, paved areas, building roofs and gutters or barnyards and farmland (in less urbanised districts) after rain passes through their special type of soil.

Overabundance of nutrients -- for example, nitrogen and phosphorus -- from human sources such as untreated sewage, commercial fertiliser, dairy or confined

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animal feeding operations etc., can choke local rivers and ponds with nuisance and unchecked algae growth.

Some algae certainly constitute an important part of the food chain in lakes, rivers or ponds. But algae proliferation can impose a demand for oxygen during nighttime respiration and lead to death of fish in warmer weather. Wetland attenuation of excess nutrients is a low-cost, natural way of keeping local water bodies suitable for swimming, fishing, and boating.

It is of utmost importance for the economy and environment to save the wetlands, marshes, and bogs in inland or coastal areas. Without growing public consciousness and compliance/enforcement of environmental regulations, Bangladesh could lose most of its critical wetland systems to unplanned urban development projects. Of particular concern are the Ashulia and Kaliakoir areas. There will be dire environmental consequences if important wetland areas such as the above are turned into commercial areas like Tejgaon.

The concept of Low Impact Development (LID) entails preserving natural landscape, minimum land disturbance to control erosion as well as soil amendment

by adding compost to improve its hydrologic function. An assessment of Model Development Principle application in Virginia (USA) by Centre for Watershed Protection (2001) noted that in comparison to conventional development, use of LID could save up to 49 percent in total infrastructure cost (incl. road, gutters, sidewalks, landscaping and storm water based management practices). Studies by the American Forest Association indicated up to 40 percent savings in energy bills for homes and businesses that retained trees.

Urbanization and impervious cover (IC) land induced changes in the natural water balance of streams have physical impacts that ultimately affect water quality and biological diversity. The trend of deviation from high water quality is almost inevitable at watersheds with IC level higher than 25 percent. There is ample scientific data on the indirect impact of urbanization on downstream receiving waters, exhibiting signs of degradation and presence of pollution-tolerant species in suburban watersheds (15-35% IC). However, the degradation of water quality and biodiversity is not to the extent of urban watersheds (50% IC). One retrofit LID for renovation projects

is disconnection of impervious areas such as, by use of porous pavements, removing curbs or plantings in traffic islands etc.

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According to Robert Zimmerman, of Charles River Watershed Association "Nature was heeded when 9500 acres of wetlands were protected in the Charles River Reservation Area". Because of this wetland conservation land area in the Charles River watershed, even when it rains frequently in the Boston area there is no flooding in the watershed. Thus daily activities do not suffer like it happens in the Peabody area of Massachusetts; businesses are not closed like in Jigatola, Dhaka. Therefore, adverse economic impact can be reversed by protection of remaining wetlands in Dhaka city.

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Is solar power answer to rural energy crisis?

NURUL HUDA

THIS piece is in response to a news item which appeared in The Daily Star on August 10 under the headline "1m solar household systems by 2012 to achieve target".

The report said that over 2.30 lakh rural households have been brought under the solar power system in the last five years by Infrastructure Development Company Ltd (IDCOL) as an alternative source of energy. The report quoted the Executive Director of IDCOL, M Ehsanul Haque, as saying that they have set a target to install one million Solar Household Systems' (SHSs) solar panels by 2012 so that the government can achieve its target of providing electricity to all by 2020.

It needs to be recalled here that cyclone Sidr had a devastating effect on the southern region of the country and the government asked the participating organizations of IDCOL like Grameen Shakti, BRAC Foundation and RSP to stop collection of the credit instalments.

As a result, collection efficiency of participating organizations working in that region declined significantly. According to IDCOL, the target of the project will suffer if the country faces natural calamities like floods and cyclones.

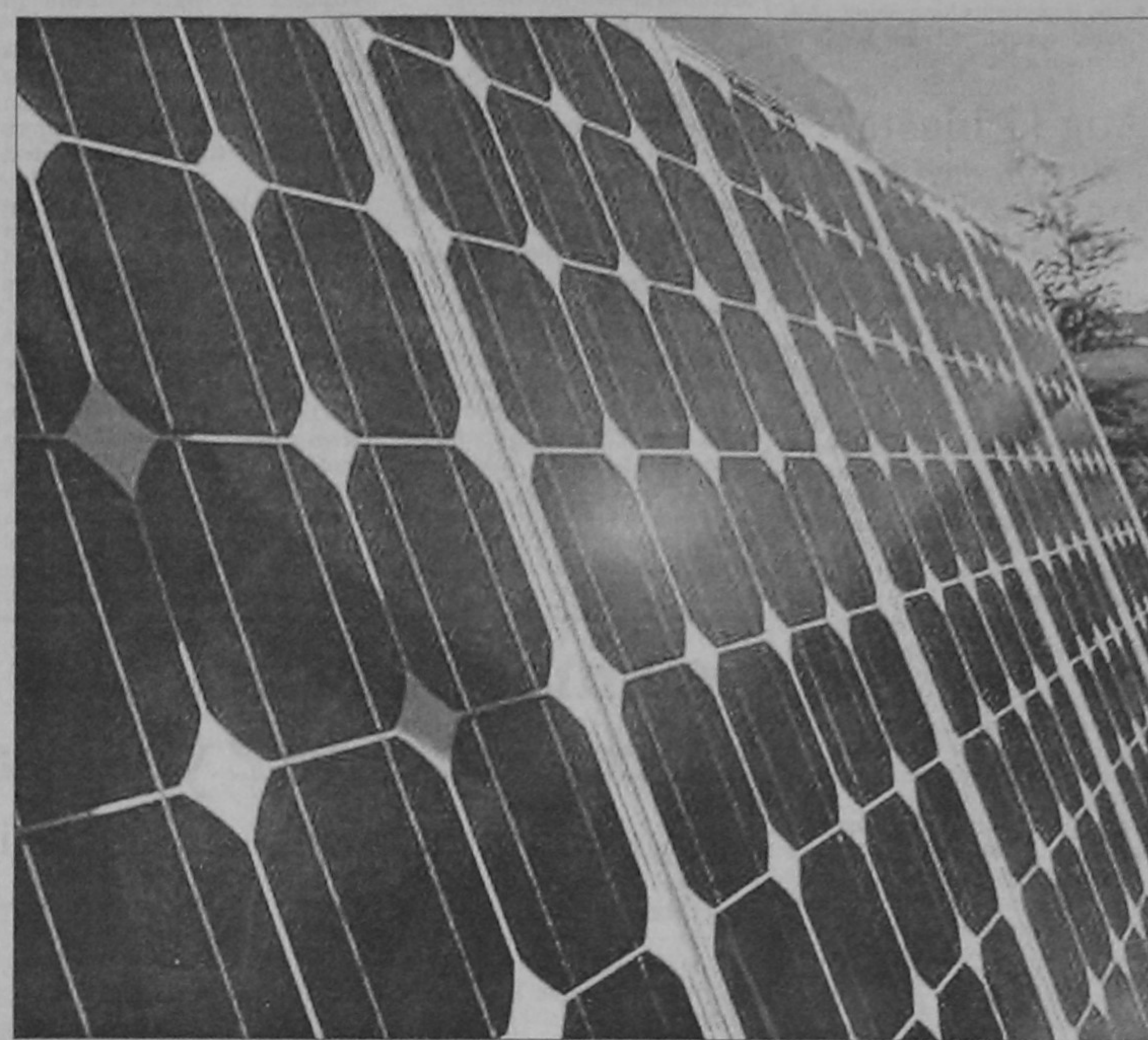
The ability of beneficiaries varies from season to season and there are some examples of irregularities in repayment of instalments. The overall recovery rate of micro financing of the project has, however, been described by IDCOL as "satisfactory". IDCOL has its own teams to monitor the performance of its participating organizations of SHSs project. If it receives report of difficulties in running the systems, IDCOL sends its own teams to solve the problems. IDCOL officials claim that they have so far almost no report of SHSs remaining completely out of order.

"SHSs system, containing photo voltaic panel, battery, charge controller, solar lamp and switch, is a convenient mode of supplying power for small electrical loads such as lights, radio, cassette players and black and white TV," the report said.

The report also quoted the ED of IDCOL as giving a long list of benefits of SHSs, totally ignoring the challenges and difficulties IDCOL faces in the implementation process of the project. It also portrayed how the SHSs programme has brought about positive changes in the economy of the rural people following increase in working hours of small traders, weavers, tailors and hair dressers.

IDCOL is implementing the solar electrification programme in Bangladesh's remote areas far from

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the power grid since 2003 through 15 NGOs and Micro Finance Institutions (MFI) including Grameen Shakti, BRAC Foundation and RSP with financial support of different development partners.

According to IDCOL officials, the company has so far received US \$80 million out of the total commitment of US \$170 million from different funding agencies including World Bank, KfW (German Development Financing Bank) and Global Environmental Facility (GEF) through the government of Bangladesh (GOB).

Meanwhile, Asian Development Bank (ADB) and Islamic Development Bank (IDB) have reportedly shown interest to provide fund to IDCOL for infrastructure and renewable energy projects. World Bank and KfW are learnt to have expressed their interest in expanding their support to the GOB for expansion of SHSs.

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market demands due to upward trend in the prices of the solar panels.

Among the SHSs providing NGOs, Grameen Shakti holds the lion share of solar panels, being installed in off-grid rural areas.

Quoting Grameen Shakti the report said, so far they have installed 1.70 lakh solar panels with an average per month installation rate of 8,000 panels which is being increased at a fast pace.

The NGOs are providing a wide range of power generating capacity of Solar Photo Voltaic (PV) panels from 30 watts to 120 watts. For example, a 50 watt PV panel can run four LED lights and one black and white television, according to Grameen Shakti sources.

The price for the whole SHS system including PV, battery, wire and other accessories ranges between Taka 21,000 and Taka 70,000 and consumers can purchase a solar home system both in cash and credit.

Recently Grameen Shakti started distributing 10 watt panel at a cost of Taka 8,500 targeting the very poor families so that they can run two to three lights.

To enjoy the credit facility, a customer is required to pay a mini-

mum 10 to 15 percent of the total cost of a system as down payment, and rest of the amount can be paid in instalments within two to five years.

According to IDCOL ED Ehsanul Haque SHSs is the fastest growing mode of obtaining power in the world's renewable energy sector. Different African countries have been showing interest in the renewable energy sector as an answer to rural energy crisis.

Meanwhile, some top government officials from Ethiopia had been to Dhaka once last year and again early this year for familiarization with the IDCOL project model. The purpose of the visits was Ethiopian government's interest to replicate IDCOL SHSs. It remains to be seen how African countries including Ethiopia replicate IDCOL SHSs project.

Let us hope that IDCOL and its participating organizations would regularly monitor and address the problems of SHSs beneficiaries with promptness and seriousness so that the purpose of the project is fully achieved.

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Auguring urban forestry

NIAZ AHMED KHAN

IN the heels of the predatory nature of deforestation and environmental degradation, urban as well as rural afforestation programmes have assumed paramount significance in Bangladesh in line with the neighbouring South Asian nations. Although there has been a prolific growth of literature on environment in general and forestry in particular, research on urban forestry in Bangladesh has been strikingly limited.

The government has attached highest priority to forestry development in a vowed attempt to combat environmental degradation and to arrest the rate of deforestation. It is estimated that deforestation has occurred at an annual rate of 8,000 hectare. Community focussed participatory afforestation programmes have become the mainstay of public and private forestry activities in the country. In recent years, a number of urban forestry programmes have been launched along side similar rural afforestation initiatives. Examples include the city afforestation schemes organised and managed by various public and local government agencies such as the metropolitan (city) corporations, municipalities, the department of forests, the directorate of environment, educational institutions and other specialized and regimented organisations (e.g. the Bangladesh National Cadet Corps).

In following the widely used definition, Urban Forestry (UF), for the purpose of this research, connotes a specialised branch of forestry that has as its objective the

cultivation and management of trees for their present and potential contribution to the physiological, sociological and economic well-being of urban society. Inherent in this function is a comprehensive programme designed to educate the urban populace on the role of trees and related plants in the urban environment. In its broadest sense, urban forestry embraces a multi-managerial system that includes municipal watersheds, wildlife habitats, outdoor recreation opportunities, landscape design, recycling of municipal wastes, tree care in general, and the future production of wood fiber as raw material.

UF is essentially concerned with the management of tree plantation in and around the city or town areas. A wide variety of locations and sites within the urban setting, such as parks, streets, residential places, industrial and commercial zones, parking lots, community centres, educational and business premises, religious seminaries and worship places can be utilized for UF development.

The role, significance and prospective advantages of UF have now been well established. UF may offer numerous benefits to urban dwellers and the urban environment by maintaining and sustaining the natural processes (e.g. the water, gaseous, nutrient cycles); supporting the local flora and fauna; providing economic return; augmenting aesthetic and social values; and curbing climatic pollution.

The recent governmental macro policies and strategies have emphasised tree planting in all prospective (and currently

The significance and prospect of UF can hardly be overemphasized. However, the present activities, as carried out by varied public agencies under the banner of UF, have serious limitations including the lack of effective functional coordination; bureaucratic and centralized pattern of administration; lack of adequate citizen involvement; ineffective monitoring of the following up mechanism; and the transient and temporary nature of operation.



unutilized or underutilised) lands (including urban locations). The Forest Policy 1994, for example, suggests and encourages tree planting on the courtyards of varied institutions such as local government offices, schools, eidgh (open prayer ground), mosques and seminaries, temples, clubs and orphanages. It also commits that the government will provide all necessary support and technical guidance to the members of the public for this purpose.

Drawing on an empirical research on selected UF activities of the four major public institutions in Chittagong (the Chittagong City Corporation; the Chittagong Flotilla of the Bangladesh National Cadet Corps; the Bangladesh Railway, Chittagong; and the Chittagong Forest Division)

together with a review of the relevant literature, one can identify the following dominant features and characteristic trends of the UF management in Bangladesh:

- The UF programmes in the public sector are carried out in a generally piecemeal and disintegrated basis. There is a serious lack of effective functional coordination among the concerned agencies and institu-

- tions.
- The management of UF activities is overtly bureaucratic, inflexible and top-down.
- With the exception of the Forest Department, there is a general dearth of technically qualified personnel among the staff involved in UF. This largely makes the planning, design and implementation of UF plantations difficult and technically unsound.
- The special features and characteristics of UF do not seem to have been adequately considered and addressed to. Some of these features include limited availability of land and planting materials in the urban locations; aesthetic valuation of urban plantations; heterogeneity of urban dwellers; a relatively harsh environmental situation (which renders a stressful habitat for trees); and the difficulty in administering the required public motivation and extension programmes in the urban areas. The case studies of this research suggest that the concerned institutions have hardly taken any exclusive or specialised measure(s) to respond to these distinctive features and challenges of UF.
- In most cases, there is no written or legal document as to the distribution of benefits arising out of UF activities.
- Most funds for the UF

programmes are provided by internal sources. This constitutes a distinctive feature of UF in view of the fact that most other components of Social Forestry activities in the country are heavily dependent on foreign (external) sources. By relying mainly on internal (government) sources, the UF programmes typically suffer from inadequate fund and logistic support.

The level and extent of public involvement in the UF programmes are clearly marginal, inadequate and of essentially cosmetic nature. Most of these programmes are planned, designed and implemented by the public staff concerned. The limited public participation is found in the form of some involvement in the nursery raising and planting as waged labourers. Besides, UF activities in selected public places, for example in the parks, play grounds and educational premises, may offer some indirect and occasional benefits to the members of public in such forms as fruits, fodder, shade and aesthetic nourishment.

There is hardly any systematic and organised effort to periodically maintain, monitor and evaluate the effect, outcome and performance of the UF. This also leads to the general scarcity of relevant information and record.

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serious limitations including the lack of effective functional coordination; bureaucratic and centralized pattern of administration; lack of adequate citizen involvement; ineffective monitoring of the following up mechanism; and the transient and temporary nature of operation.

The present UF activities, albeit the limitations, are a promising enterprise, and thus, deserve to be sustained through appropriate institutions. Sustaining the UF programmes will require careful planning and concerted effort with reference to a particular biophysical situation and socio-economic setting. Such a planning and subsequent action will require, inter alia, functional coordination among the concerned institutions; a reasonable degree of citizen participation in all four phases of project cycle, i.e., in the planning, implementation, benefits and monitoring; relative flexibility and devolution of activities in the field offices; the programmes' ability to adopt and respond to local demands and situational peculiarities; and the establishment of a regular maintenance, monitoring and impact assessment mechanism. Without some of these serious efforts towards sustenance and institutionalization, the development of UF is unlikely to pass beyond the current rhetorical state, and transform into a practical, community focussed development strategy.

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