

URBAN AGRICULTURE

An alternative way of livelihood and environmental protection

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AGRICULTURE is traditionally associated with the purposeful production of food and fibre commodities in rural areas. Agriculture in the 21st century, however, is actually much broader than this -- it also includes such diverse items as environmental horticulture, planning the use of green space, control of insect and rodent pests, wildlife management, and even food production by city dwellers. Urban agriculture is a broad term to describe agricultural activities and livelihoods in an urban setting. It means more than maintaining farms or gardens in an urban environment. It also includes livestock raising, water management and organic waste management. After all, it includes small- and large-scale activities in horticulture, livestock, fodder and milk production, aquaculture, and forestry -- where several activities may be carried out within one enterprise.

Agriculture practiced in urban areas distinguishes itself from rural agricultural activities in several ways. Agricultural production, processing and distribution activities within and around cities and towns, whose main motivation is personal consumption and/or income generation, and which compete for scarce urban resources of land, water, energy, and labour that are in demand for other urban activities. Many are of the opinion that urban agriculture is a hindrance to urbanisation. However, agriculture in cities exists in many developed and developing countries and has been so for long periods of time. Ancient civilisations and cultures often incorporated urban agriculture into their social and political centres as a way of life. Today, up to 30 percent of agricultural production in the United States originates from within metropolitan areas, and up to 15 percent on a global scale.

The absolute and relative growth in urban poverty and mal-

nutrition raises two important issues. First, there is a clear link with food insecurity among urban populations. Studies have shown a link between the growth in underweight children in urban families and the inability of their families to purchase food. Second, there is evidence that instability in the urban labour market and its vulnerability to economic shocks directly impact on poverty. Urban agriculture has the potential to make an important positive contribution to both urban food security as well as urban employment.

Recently collected qualitative and quantitative data shows that increasing numbers of the urban poor are engaged in urban and peri-urban agriculture as a poverty alleviation strategy. Already as many as 800 million people are employed in urban and peri-urban farming and related enterprises, and this number is likely to expand in the future. There is evidence that households engaged in urban agriculture have better nutritional levels, especially those households where women are conducting this activity. At the same time, however, the use of urban wastewater for irrigated farming presents health risks. City gardens mitigate storm water runoff, rejuvenate toxic soils, block the transmission of urban noise, clear the air by producing oxygen and absorbing carbon dioxide, and control temperatures via shade and transpiration.

As far as research needs are concerned, the growing importance of intensive self-provisioning by poor urban families who lack access to adequate nutrition needs more study. The increasing opportunity for small-scale commercial urban agriculture also needs more research as the demand for perishable high-value agricultural products such as dairy, meat and leafy vegetables rises with growing numbers of city consumers. Additionally, the potential contribution that urban agriculture (for example, by nutrient recycling of organic wastes) can make to improve the urban environment needs to be explored in more detail.

Urban agriculture has been overlooked, underestimated, and under-reported. In order to enhance the positive impacts of urban agriculture, there is a need to address important research needs as well as bridge the gap between urban agriculture research and practice with urban planning and policy issues. To sum up, the potentials that urban agriculture offers in contributing to increasing food security, alleviating urban poverty, generating employment, environmental sustainability and creating more livable spaces for city dwellers need to be explored in more detail.



The conditions of city life are such that many urban people are never aware of the complex relationships between man and the environment. Days spent in glass towers, crawling traffic and

crowded supermarkets do not facilitate an understanding of the extent to which city dwellers depend on a hidden, external agricultural system. Although few truly grasp the importance of the

urban-rural connection to their daily diet, even fewer realise that viable alternatives to the conventional model of urban food supply exist. Urban agriculture is beginning to be viewed as an alternative

with enormous potential, and not merely as a contradiction in terms. Today's cities suffer from a broad range of problems which are symptomatic of underlying failures in our progressive society. It can

address some of these difficulties, and can work towards building socially, economically, and environmentally sustainable cities for Bangladesh.

The simple act of gardening can enhance the physical and spiritual health of individuals of all ages, abilities, ethnic backgrounds, and social classes. More important, it involves people actively engaging with their environment rather than examining it from a detached and domineering perspective. In other words, gardening can work to break down the artificially created barrier between humans and nature. According to deep ecologists, people who do not perceive this division begin to care as much about their environment as they do about their individual selves. People living their lives with this kind of awareness will begin to create a chain reaction of change which could alter our current path from one of ecological destruction to ecological sustainability. While this is an extreme view, it must be noted that nurturing plants and watching them flourish creates a strong connection to the earth; and it requires only a small intellectual leap to realise that to protect your own patch of the Earth you must protect it in its entirety.

Critics of urban agriculture claim that it is idealistic and impractical, citing problems of land acquisition, tenure, and allocation. But it is notable that, there are over 6,500 acres of cultivable land in Vancouver, which is more than enough to feed its growing population. Moreover, provincially, the amount of active farmland is equal to the acreage of urban backyards; thus by simply using an available resource, British Columbia could double its agricultural output. Urban agriculture is an alternative to what has been labeled conventional agriculture. However, it should not be considered solely an alternative means of producing food; it also is a viable adaptive function and response to urbanisation. Urban agriculture is

not so much an alternative to existing agricultural systems as it is an established branching of modern sustainable agricultural systems.

Ideally, urban agriculture incorporates various elements of modern sustainable agriculture to establish productive, reusable, self-contained waste and nutrient cycles. Resource conservation and management, integrated pest management (IPM), and organic food production, for example, can contribute toward developing safe, non-polluting environments. Critics of urban agriculture claim that it is an unclean harbinger for disease, pest, noise, and pollution. However, with proper planning and management, urban agriculture can be a very effective and safe means of producing food.

Virtually, even realising this fact, urban agriculture has been overlooked, underestimated, and under-reported. In order to enhance the positive impacts of urban agriculture, there is a need to address important research needs as well as bridge the gap between urban agriculture research and practice with urban planning and policy issues. To sum up, the potentials that urban agriculture offers in contributing to increasing food security, alleviating urban poverty, generating employment, environmental sustainability and creating more livable spaces for city dwellers need to be explored in more detail.

The limited space available beside or on the home may necessitate small scale farming too. Professor Syed Rafiqul Alam Rumi and the author of Department of Geography and Environmental Studies of Rajshahi University, combinedly started small scale research on urban agriculture. Government supports and financial solvency may stipulate more to concentrate on this issue in large scale.

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Global worries for environment

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THE environment includes both biotic and abiotic factors and they depend on each other for their existence. So they are equally co-existence components and distortion of one affects the other. What is happening in the world from the environmental point of view is really horrible and dreadful to think. Environmental hazards causing much problems to mankind as well as the flora and fauna of the whole world. So time has come to think over the matter and to face it successfully. First it is necessary to know what are the factors responsible for these devastating actions. Natural disasters are recurring incidents and almost every year causing serious damage to both mankind and its resources. The recent SIDR and two times flood in the same year are the best examples. Both the man made and natural factors are responsible for these natural disasters.

Recently UN Secretary General Ban-Ki-Moon has expressed his deep concern over the devastating impacts caused by the environmental degradation. He has urged all concerned to face such natural calamity unitedly and courageously in the near future. The following factors could be held responsible for the natural imbalances. The major factors include -- air pollution, water pollution, deforestation, soil erosion, desertification, green-house gas effects, extinction of bio-diversity and indiscriminate discharge of waste products and garbage. Due to excessive burning of oil-gas-coal, the discharged fumes from industries, factories and from deployment of faulty vehicles, and cutting of reserved forests without any judicious consideration and for many other reasons, the green-house gasses in the air are increasing rapidly around us. As a result global warming and climatic changes are taking place. Ozone layer which protects the animal kingdom and the world from injurious impact of ultra-violet rays is also being affected considerably.

The industrially developed as well as the richest countries of the world are contributing significantly towards global warming and climatic change but not being affected as much themselves. Whereas countries like Bangladesh and other third world countries are being seriously affected by environmental disorders having no role at all in the environmental distortion. From a survey report it appears that one fourth of delivered and escaped carbon dioxide gas is from different sources of U.S.A. On the other hand such events in third world countries is estimated to be about 2 percent only.

The intensity of heavy flood, rainfall, drought, tornado and water up-charge has considerably increased in Bangladesh as com-

Recently there were held a conference on environment entitled "United Nations Framework Convention on Climate Change (UNFCCC) in Bali of Indonesia with regard to the impact and mitigation measures of global climatic change. 192 countries including U.S.A participated in Bali Conference where it was decided to create a fund of 40 billion US dollar as a compensatory measure for the affected third world countries. Australia, EU, Canada and Japan have agreed to reduce the amount of discharged carbon dioxide gas at least by 50 percent by the year 2050. The conference would be successful if now USA and other industrially developed countries are agreed and really do it.



pared to before such occurrence climatic change and other environmental hazards. People here have repeatedly surrendered their fates and have become totally disappointed being in the grips of merciless environmental hazards.

Experts have opined that there are many possibilities of occurring such natural calamities throughout the world towards the end of the century. It is known that the sea level is gradually rising due to melting of ice in the polar region. It is apprehended that the sea level will rise by up to 80-89 cm by the year 2050. If it happens, it is estimated that about one-third of total Bangladesh area will go under complete inundation and as a result approximately 20 million people will be seriously affected and the fate of Bangladesh will be in danger.

Experts think that the impact of climatic change in Bangladesh may also affect the agriculture of the country. Bangladesh still is an agro-based economy and its development depends on agriculture. The air, water and soil of the country are being constantly polluted by the industrial effluent, municipal garbage, wastes, used chemical fertilizers in the land and insecticides. The waters of the river like

Buriganga and others, canals and many such water bodies have become unsuitable for use. Due to adverse environmental impacts, many of our known fish species, aquatic animals, plants and other biodiversity bases are being extinct gradually. The various plants, trees and animals of the forest are on the verge of extinction due to non-judicious exploitation of the forest resource. The existence of most valuable and world famous Royal Bengal Tiger of Sunderbans is endangered, threatened and at serious stake at present. The valuable natural resources are being depleted or destroyed to meet the so called demands of human beings in the name of economic development of the country.

Environment friendly development

Environment plays a substantial role since the creation of both flora and fauna in this world. But due to unplanned and unwise activities of the mankind the environment is and polluted every second and is causing serious threat for organisms to live in. The loss of biodiversity is now a common sight. The habitat of birds and insects are under extinction and

endangered. The various important and valuable plant species, including the medicinal ones are being lost gradually. The food, water and fresh air on which mankind depend for their survival are being poisonously polluted by the unwise and unplanned activities of the mankind day by day.

"Environment Conservation" is the principal one among all the world problematic issues. Today, it is already too late to think over the issue of environmental conservation. We have to consider the greater interest of the people of our country by immediately bringing in an environmental balance. It will help us to protect our economic and social development. It is sure that we have to build industries to meet the demands of our people but that must not be at the cost of lives and resources. In order to ensure a suitable environment, all types of constructions, development activities should be environment friendly.

Some suggestions

In the context of the present environmental hazards, I would like to suggest the following mitigation measures to conserve our environment.

- The construction of industries and factories should be done in such a way that its discharged fumes, pollutant fluid, gas and other wastes must not affect the public health.
- We must also have to take care that the discharged waste from the factories must not pollute our air, water, and soil. In such case, if needed we will have to hire qualified manpower to look for the environment friendly technology.
- We need to install "Affluent Treatment Plant (ATP)" in the vicinity of industries/factories and we will have to ensure its appropriate use in removing or recycling the industrial discharge.
- We also need to ensure the recycling and reprocessing concept to re use these waste products to our benefit.
- In order to save our fresh air, we have to strictly ban the deployment old and faulty vehicles in the street.
- We will have to launch afforestation programme regularly to keep our reserve forest at the level of 20 percent land area.
- We will have to aware the general mass with regard to importance of forest. The forest helps to maintain the ecological balance by absorbing the escaped poisonous carbon dioxide gas and it also contributes to promote the economic and social development of the people.
- The scarcity of surface water due to siltation of rivers and other water bodies, unplanned development infrastructure in the country is exerting much pressure on ground water level. So in order to minimise such pressure, let us to re-excavate the silted water bodies to reinstate adequate supply of surface water.
- It is necessary to stop unplanned urbanisation and also unwise construction of embankment in the country.
- There should be the provision of compensatory measures for the affected poor countries like Bangladesh in case of natural disasters.
- There should be proper rules and regulations as regards the conservation of environment and its appropriate implementation.

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The writer is an environmentalist.

BOOK REVIEW

We can change the world by saving climate into a communal activity

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"KEEPING Greenhouse Gas Online up to date can be hard work at the best of times. In March of 2004, the publishers Macmillan approached me with the idea of writing a book about how climate change is going to affect you and me, and how we affect it. It was to be called *Climate Change Begins at Home: Life on the two-way street of global warming*. I jumped at the chance. Most weekends since then have seen me tapping away at this keyboard, doing yet another wordcount and losing more hair from my already draughty head" this note is by Dave Reay who has created an uproar round the world writing an unconventional and peculiar book -- *Climate Change Begins at Home: life on the two-way street of global warming*. The salient characteristic of this book is its simple and powerful metaphors with the funny jokes which sound a little ironic.

It's quite a useful book if we go careful to try to shrink emissions; it explains where some emissions are hidden and ways to avoid these and points out easy ways to make reductions that seem obvious after we read them. Our lives, and that of our next generations, are in peril of global warming. Our common sense could not pick out the quick rate of change occurring in the environment around us. Now, we must take back charge of the future. Dave Reay is not inviting the readers to make radical changes in their lifestyle to accomplish this. Instead, he exhibits how small and ordinary steps can get our condition better and make it sustainable for generations to come.

The author's method is well suited to the task. He invents a "typical" family of four, the Carbones, who could be our neighbours. There are John and Kate, with their two boys. Later, Kate will be discovered pregnant with Lucy. Lucy will become a guiding example for choices leading to alternative futures. Reay outlines the daily lives of the Carbones. There is getting the boys to school, John and Kate to work, and the various side trips for groceries and the like. Grandma Carbone visits from her house across town. What contribution to greenhouse gases does this lifestyle make every day? Every year? What changes can and should be made? Or can this daily round continue without modification?

Reay's answer to the last question is a resounding "No!" He provides numerous examples of visible and hidden costs that perhaps only a few of us recognise. Is our house one of the "uninsurable" residences? Insurance companies view climate change and sea level rise as inevitable and know the risks are too high for coverage. There are more direct considerations than insurance, however. What will our next automobile be? Reay suggests we can review just what type of vehicle we really need. He favours the "dual-fuel" solution, since the overwhelming use of cars is local and urban. Can we resist the "upgrade" of our fridge to one that talks to us? If we need more space, is renovation more cost effective than shifting to a newer, larger residence? Finally, we can give thought to our workplace. How many lights, computers and other office appliances sitting there humming away drawing hydroelectric power for 24 hours per day, 365 days a year? What can we do about that?

Reay asks a good many questions of us all. He provides the reasons for the questions. One major factor behind many of them is the hidden "embodied" resource cost. That new fridge or upgraded personal computer arrived manufactured. The components, case and other parts required mining or other process-

Climate Change Begins at Home: Life on the two-way street of global warming
By Dave Reay
Publisher: Macmillan



ing. While we are on the subject of hidden costs, what are we paying in "food-miles" -- the shipping of food-stuffs from distant places that might just as readily be grown locally?

Reay's approach is not preachy nor does he want us to don a hair shirt of guilt over our climate impact. He does, however, urge immediate consideration of what we can do to reduce that effect. The choices are all ours, not his. However, for us, our children and for the rest of us, it is important that we may confront the issue and make the decisions. The Carbones considered them carefully and implemented them without significant lifestyle adjustment. Can we keep up with the Carbones?

Climate Change Begins at Home should be enough to convince anybody that they should do something about climate change and that they can do something about it, while still enjoying a healthy and fulfilling lifestyle. From page one, this book is not only informative, it is very entertaining and incredibly readable. This book is about more than doing our bit; it is an inspiring document of how individuals really hold the keys to the future of our own planet.

Dave Reay has succeeded where so many scientists, academics and environmentalists have failed -- in bringing climate change down to the level of the ordinary family. If we are not convinced about climate change and its deadly upshots, this book will change our mind. It may even change our life. This is a compelling call for every individual action on climate change across the world.

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