



# **Development of City Farms by Street Children**

A pilot project

to improve the socio-economic condition of destitute children  
through integrated environmental management

By

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## Introduction:

The rationale for the project is based on the premise that environment and socio-economic issues are closely interlinked and that one can be tackled with the aid of the other. City farming by itself is a very beneficial activity. It improves the quality of health and environment in the city by providing locally produced organic food which is otherwise transported from long distances using precious fossil fuels generating greenhouse gases and pollution. It also adds to the visual greenery in the city and reduces the paved surface of the city. On the other hand, street children, who are normally looked upon by urban dwellers as vagabonds and trouble-makers, are highly talented. Having to fend for themselves and survive in a megacity, their creative instincts are better trained than children who are taken care of by the family. It is these latent creative abilities that need to be tapped in order to make them productive, economically independent and free from exploitation in society. The project would be a unique experiment in socio-economic and environmental management of resources in a community. In many ways, it is unprecedented and will set up a model for cities all over the subcontinent.

## Background:

The concept of city farming was first experimented and developed by Dr Ramesh T. Doshi, whose 1200 sq. ft. terrace in Bandra yields 5 Kg of fruits and vegetables daily for 300 days a year. These plants, ranging from lady's finger, eggplant and leafy vegetables to coconut, pomegranate, chickoo, guava and spices, not only consume the entire household's organic waste, but also provide more than sufficient food throughout the year, thus making the household self-sufficient. Dr Ramesh Doshi is considered one of the initiators of the Green Revolution of the 1960s. Having spent his entire career on chemical farming pioneering the NPK variety of chemical fertilizers, 76 year old Dr Doshi is now convinced that organic city community farming is the only way out of the urban waste juggernaut.



**CITY FARMING** is easy, can be done on an open surface which receives ample sunlight; all that is needed is organic garbage, bagasse, minimal soil and water requirements and sapling or seeds; they can be grown in used drums with holes for aeration or netted plastic baskets wrapped with a wire mesh, and the daily load of organic waste can be deposited into them. City terrace farming not only adds greenery to the city, but also allows a number of green vegetables and fruits to be grown for consumption, which are otherwise procured from far off places  
**TOP:** the 1200 sq. feet of terrace farm developed by Dr Doshi; **BOTTOM:** the terrace farm developed by Priti Patil at the BPT, Mumbai.



The Municipal Corporation of Greater Mumbai spends Rs. 1.5 crore each day for the collection, transportation and disposal of approximately 7,500 metric tonnes of garbage. The burden of disposing off this waste is a whopping Rs. 265 per person per annum.

The city farming technique is based on the rapid aerobic decomposition by thermophilic bacteria, an odorless and non-mechanical method patented by Dr Doshi.

Street children, most conspicuous in emerging urban centers of the global South, are the visible manifestation of the deteriorating socio-economic and cultural fabric of a society. There are an estimated 20 million street children in India (R. Agarwal, Street Children, Shirpa Publications, New Delhi, 1999) accounting for almost 7% of the child population. They are vulnerable and subject to exploitation and abuse. Many migrate from their hometowns into megacities like Mumbai, breaking away from their families in search of survival, while many others migrate with their families becoming their sole means of livelihood, and many others are abandoned in streets, left to fend for themselves.

According to research conducted by Shelter Don Bosco Research and Documentation Center, a Mumbai-based non governmental organization working with street children for the past 15 years, 56% of street children in Mumbai originate from within various parts of the State of Maharashtra. A majority (62%) reside in the Central and South zones of Mumbai. Most of the children are between 9 and 18 years of age, and have spent more than 5 years on the streets. The report concludes: "The fact that so many displaced children migrate to Mumbai reveals the tragic proportions to which our country's ailment has swelled. Not only is the number of children on the street expanding, these children are finding this atmosphere an improvement over their previous situation, which indicates the grave depths to which abject poverty reaches."



Fruit trees and flowering plants are likely to yield economic benefits to the children, also providing them with nutritious food

## Objectives:

- To channelise and give vent to the creative potential of street children
- To provide economic support for street children, preventing them from resorting to begging, crime, drugs and other detrimental activities.
- To beautify the city's landscape and provide locally produced organic food to urban dwellers.
- To manage organic waste in the city sustainably.
- To demonstrate the ecological soundness and socio-economic benefits of city farming.



## Methodology:

The pilot project would be conducted in a city school to create a farm within its premises with the involvement of street children. The street children would be given technical training to implement the technique. The farm produce, preferably flowers, fruits or vegetables, would be sold in the retail market through the school. This project would then be replicated in various other institutions. The children involved in the pilot project would train others, in the process becoming a link for self-sustainable cities of the future. The pilot project was initiated at the Rosary School, Dockyard Road, Mazgaon, Mumbai in collaboration with the Vimla Vikas Kendra, an organization that works for the empowerment of women and children to allow them to live with justice, peace and human dignity.

## Resources required:

### a) Manpower:

- For the pilot project, a group of 10 children from an economically disadvantaged group have been selected. They will work towards building the city farm and reap its benefits. This will be replicated in subsequent projects
- For the project to succeed, a local NGO (Non-governmental organization) takes up the work of day to day monitoring and co-ordination with the children and school authorities.
- An agricultural/ horticultural expert who will guide the children regarding the growth of vegetables, fruits and flowers so that the yield and growth are sustainable

### b) Material Resources:

- Waste iron drums of 200 liters and 20 liters capacity
- HTP Bags (polythene)
- Aerated containers such as baskets
- Organic waste



Enthusiastic children learn the technique of city farming and ways of maintaining the farm from Preeti Patil



- Sugarcane waste
- Soil
- Manure or vermicompost
- Saplings of fruits, flowers and vegetables

### **c) Selection of Plants:**

For the first phase, it is important to select plants which will yield results in the short term such as vegetables/ fruits (brinjal, lady's finger, cucumber, papaya, banana) and even flowers. The expected time of bearing results in these plants is 2 months. Fruit bearing plants like guava, custard apple, chikoo, pomogranate can be planted simultaneously. These will yield results only after six months.

### **d) Space:**

- Small vacant spaces around residential areas
- Terraces
- Compounds of industries and offices
- Traffic islands
- Waste lands like salt pan areas

### **e) Mobilization of Resources**

#### **Drums:**

- Organizations like BPCL, IOC, ONGC have been contacted for drums of 200 lit capacity. Painting contractors in the vicinity are being contacted for drums of 20 lit capacity.
- Workshops in localized area have been requested for cutting out holes in drums.
- Civil contractors and grocers can donate HTP bags.
- In case funds are available, decorative aerated baskets can be used.

#### **Space:**

Local authorities, housing societies, corporate, religious and educational institutions can be contacted for space requirements.

#### **Plants:**

Local nurseries can be contacted for donation of saplings. Suppliers of organic food are also being contacted for sponsoring sapplings.



## Application

- Contracts for maintenance of garden in housing colonies, traffic islands, campuses of industries/offices can be taken up to beautify the areas and make them garbage free.
- Waste lands belonging to the government can be taken up for greening.
- Terraces of schools/ colonies can be taken up to build city farms and grow fruits/ vegetables



Street children from Mazgaon strike a pose with Roshni Udyavar, Preeti Patil and members of Vimla Vikas Kendra at the inauguration of the project on August 15, 2004

## Scope and Phases:

The project will aim to in its first phase (1 year) to produce city farms in all the schools of at least one ward (preferably a central or south ward where the maximum number of street children are located) of Mumbai. This ward will be a replicable module.

## Expected Outcomes and Beneficiaries:

- Improvement in the financial condition of children.
- Improvement in the skills of street children.
- Set up of a decentralized solid waste management system.
- Publishing a manual for street children to create city farms
- The project will be documented with research on the background of children and what they have achieved from their participation from the project.
- Increased green coverage of the city.
- Providing organic and locally produced food for city dwellers.
- Replicable model.



## Evaluation:

The project will be evaluated at the end of its first phase (completion of one ward in Mumbai) on the basis of its positive impact on the lives of children and the environment.

## Role of OPCR and other NGOs:

The OPCR will supervise the overall project from conception to implementation and evaluation. It will accomplish this with the aid of local NGOs, professionals and social workers working in the field of children and environment.

## References:

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- A Demographic Profile of Street Children in Mumbai, by Barnabe D'Souza, sdb, Larissa Castelino and Dakshayani Madangopal, Shelter Don Bosco Research and Documentation Center, Don Bosco Campus, Matunga, Mumbai 400019, November 2002



## How the project came to be:

**PREETI PATIL**

“Mumbai Port Trust has developed an organic farm on the terrace of its central kitchen which is an area of approximately 3000sq ft (279 sq. m) area). The activity of city farming was started initially to dispose of kitchen organic waste in an ecofriendly way. Staff members, after their daily work in the kitchen, tend the garden, which has about 450 plants. Besides the ecofriendly disposal of waste, the employees, who are not professional gardeners, experience creative pleasure in a friendly social environment.

In a span of five months, fruits like pomegranate, guava, sugarcane, and a range of vegetables like ladyfinger, tomatoes, and radish have been produced. Many people visit the farm, and the workers take pride in showing them around the garden. The positive response has helped add to their self-esteem. This can be seen from their enthusiasm and positive attitude. The farm was awarded the second prize and first prize by the National Council of Friends of Trees consecutively during their annual show held in February 2003 and 2004.

The terrace which was once part of a concrete jungle looks totally green and beautiful. Gradually we see a lot of birds visiting the area along with many butterflies. The area



is much cooler than before and during summers one does not feel the heat on the top floor.

The activity of city farming has made me realize that while living in concrete jungles, although we had learnt about all species of plants and insects in schools, we had no feeling of a sense of reality about them and as such no feeling of attachment. It is only now, when we see and experience the delicious tasting fruits being formed from the tiny flowers, the medicinal properties of so many species, the colourful butterflies sitting on different flowers sucking nectar, that we develop a kind of reverence for nature. With it comes a feeling which is scary. If our children do not get a chance to live with nature, how will they love it? If they don't love and respect it how will they take care of it?

While we spend so much money on activities related to releasing stress, this simple technique of city farming is a great stress buster. I have seen the effects of this activity on some very disturbed and depressed people. While working on the farm, as they watched the fruits of their labour, their faces started glowing and there was a sense of achievement which made them enthusiastic and happy like children.

Seeing the benefits of this activity brought the feeling that in India where, there is so much poverty, where people who have migrated to the megacities are basically farmers at heart, who have only come to cities to earn their livelihood, this activity would benefit deeply. Especially street children who are otherwise exploited would also benefit extremely from this activity. It is a kind of education in itself, also earning them some income and greening the city simultaneously.

As soon as the thought came to my mind and I met Roshni, we discussed the possibility of implementing our ideas. We realized that it was easy and more and more people were ready to work for it. We hope to start a chain reaction and make people realize the power they have within them. It is my dream to have as many city farms in Mumbai as possible and to do my best to convert this concrete jungle into a lush green farmland. "

## **ROSHNI UDYAVAR**



" I have been associated with the OPCR (Organization for the Protection of Children's Rights, Montreal, Canada) since 2001 when I was involved with the International Institute for Sustainable Future (IISF), Mumbai, in the production and publication of the book, "Please Don't Let Me Go Papa" published by the OPCR. In May 2002, I participated in the Fifth International Conference on the Child organized in Montreal by the OPCR. There, I presented a paper on Poverty and the Girl Child. Thereafter, I coordinated the programs organized by Global Futures Network (GFN), IISF,

OPCR and other organizations at the World Summit on Sustainable Development (WSSD) in August 2002 in Johannesburg. In September 2003, I began my official work



with the OPCR as the Director of their operations in India. Our first major task was to produce a bimonthly international online Newsletter which began publication in October 2003. It focuses on various children's issues and carries well-researched articles by eminent authors as well as the latest news and updates on children's rights issues. In establishing this newsletter, we were able to build contacts and network with several NGOs working on children's rights such as YUVA and organizations such as UNICEF and the Tata Institute of Social Sciences (TISS). Now, our plan is to register the OPCR Mumbai and create a consortium of children's organizations providing a platform for the various organizations working on children's rights.

Most of my work, so far, has been at the international level, where I was part of debates and discussions among child right experts and social scientists in conference rooms of five star hotels. My work has also been on the theoretical level having conducting research and gathered information in the social science field. The ground reality back in my country has always remained on my mind and I have always felt the need to do something immediately for destitute children: to allow them to grow in a safe and healthy environment, with enough food and nutrition, study and play. Understanding well the poverty and socio-economic conditions in India, I feel that the implementation of their rights at the government level is a long term but crucial goal. We need to pursue the strengthening and implementation of a legal framework for the protection of children, but the urge to do something immediately had remained with me.

In March 2003, my curiosity and my work with the Rachana Sansad as the head of the Postgraduate department in Environmental Architecture took me to the Bombay Port Trust where I was told that the Catering Officer, Ms Priti Patil had developed a most unique terrace garden using the technique of rapid aerobic composting developed by Dr. R. T. Doshi.

That was the beginning of my friendship with Priti, who first proposed the idea of working with street children in Nagpur, her native town, just after we visited her garden. For quite some time, almost a year, we talked about doing some activity in Mumbai, but nothing materialized. Finally, one fine day in July 2003, we decided to meet and put our thoughts and act together. I soon took up the draft and converted it into a Report. The rest of the project was entirely managed by Priti. She made efforts to contact companies, contractors, schools, gardeners even NGOs who could help in coordinating the project. We gave ourselves August 15, 2004 as deadline and, despite all obstacles the project came into being. We are not very sure ultimately how many lives the project will affect, but the twinkling eyes and hopeful smiles of the children gave us a very positive feeling. We felt confident that the project had the potential of illuminating the lives of many more children."

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