

## Cover page

<b>Wetland Centre</b>	<b>Conservation Action Trust</b>		
<b>School name</b>	<b>Mobile Crèche</b>		
<b>Country</b>	<b>India</b>	<b>Region / city</b>	<b>Mumbai</b>
<b>Project title</b>	<b>Impacts of Urban Development on Wetlands</b>		
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<b>Name of students</b>	[In the report]		
<b>Abstract</b>	<p>The students studying this topic are children of construction workers, an extremely low income group that are constantly on the move in search of work. While their parents are on site, these children are looked after by an NGO that run a crèche. Here they are given basic education, food and chance to enjoy a few outings.</p> <p>The objective of the project was to determine the impacts of urban development on the wetlands. Keeping in mind that they are children of construction labourer it was felt that exposing the children to such a topic through which they realize that destruction of mangroves is caused by the construction activities would be like nipping it in the bud.</p> <p>As they lack any kind formal education; in addition to orientation sessions, field visits, written observations; alternative methods such as sketching observations, skit and puppet show were also used.</p> <p>Their observations made over a period of 2 months; revealed that the most rampant problem the mangroves are facing is <i>garbage dumping</i> and <i>reclamation activities</i> among other. Thus concluding that, in order to sustain Mumbai's increasing population various development projects have been undertaken for housing and infrastructural purposes at the expense of the environment.</p> <p>To disseminate the knowledge they gained through this project and to create awareness among others about the importance of Mangrove Forests the children developed a skit and a puppet show that addresses these issues.</p>		

# Impacts of Urbanization on Wetlands.



**Mobile Creche Centre, Mumbai**

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## List of Participants

<b>Sr. No.</b>	<b>Name of Participant</b>	<b>Place of Origin</b>	<b>Age (in yrs)</b>
1.	Sheetal Lokhande	Yavatmal (Maharashtra, India)	7
2.	Anusaya Telange	Udgir (Maharashtra, India)	8
3.	Piraji Telange	Udgir (Maharashtra, India)	11
4.	Akshay Kadam	Beed (Maharashtra, India)	11
5.	Sapna Kamalprasad	Nepal	12
6.	Manoj Ganesh	Chattisghad (India)	12
7.	Priti Adagale	Solapur (Maharashtra, India)	12
8.	Manisha Kamalprasad	Nepal	13
9.	Swati Nag Tilak	Osnanabad (Maharashtra, India)	13
10.	Nikhil Suresh Kamble	Washim (Maharashtra, India)	13
11.	Hitesh Dilip Uchit	Akola (Maharashtra, India)	13
12.	Jeevanmala Prakash Sable	Latur (Maharashtra, India)	13
13.	Mrs. Nayana Belose (Participating Teacher)		
14.	Mrs. Shobha Bapat (Participating Teacher)		
15.	Mrs. Ulka Raut (Participating Teacher)		

All the participating children come from various places within India and the neighbouring countries. These are children of construction workers that live like nomads shifting from place to place wherever work is available.

**Aim:** To study the impacts of Urban development on the Wetland Habitat.

## Introduction:

As mentioned above, these are the children of construction workers and belong to the category of underprivileged individuals that lack of a proper formal education. These Crèches are therefore set up to give them some form of basic education.

CAT having interacted with these children and their teachers regularly, found that they are an extremely enthusiastic bunch and when the teachers were informed of the project they immediately accepted the challenge.

Having considered their background, level of education and understanding their limitations alternative methods were suggested to carry out the project. Also considering the fact that the children are unable to read and also that most of the available data is in English, the children were shown a lot of images with reference to their topic to help get some perspective on the issue.

This report has been compiled by the CAT team for the Mobile Crèche.

### Methodology:

- *Brief Orientation*
- *Site visits* to get a hand on experience.
- *Note Daily Observation* (For those who can write)
- *Sketch observations.* (For those who cannot write).
- *Puppet Show, Skit.*

As per the WLI – Asia criteria a team of 12 children was selected from within two of the Mobile Crèche Centres that are located close to a Wetland Area. The ‘Mangrove Forest’, was selected for their study as this wetland type is in the vicinity of the Centres. The study areas included Bhakti Park, Wadala and Versova, Andheri. The data from these two Centres were then compiled into one project.

Source of Map: [www.timesofindiatravel.com/mumbai-tarvel-map.html](http://www.timesofindiatravel.com/mumbai-tarvel-map.html) (Alteration have been made)



## **Project:**

Once again considering their background this group required constant counseling from CAT team. The children were initially informed in very simple terms the basics about Mangroves and the need for its conservation. They were also taken on a few *field visits* with the objective of getting the children familiar with the mangrove habitat and their study site. The children were able to see first hand the flora and fauna of the mangrove forest.

The kids were also shown a bird guide to understand the importance of the camouflaging colours that the birds possess. They were explained the feeding habit of the waders, their colour, their social life of doing most of the activities in a group and their adaptations to the mangroves and mudflats.

Given below are some of their sightings:

*Common Red Shank, Little Green Heron, Large Egret and Little Egret, Oriental White Ibis, Gulls and Terns, Black tailed Godwit, Little Stint and Plovers, Fiddler crabs and Mudskippers.*

The data collection process was split into two methods: By making *daily note* of the observations (for those who could write) and by *sketching observations* (for those who cannot write). The students came up with some amazing drawings that represented their observations. [See **Pictures: 1-6**] A few of them who could write also wrote down what they had seen. Below is a compilation of their observations over a period of seven weeks from 28<sup>th</sup> November, 2007 to 12<sup>th</sup> January, 2008. [See **Table 1**]

In order to create awareness among others on their issue they decided to develop a puppet show and skit respectively. This was then presented to the children from all the other Mobile Crèche Centres during their overnight picnic as a part of the awareness action.

In preparation for the same the children with the help of their teachers:

Developed the props. A few reference images of the flora and fauna were provided to the groups so as to avoid major technical errors.

The scripts were prepared. [Annexure I & II] The scripts rolled in the following manner: Initially with the introduction on mangrove ecosystem and then went on to speak of the

various threats of mangroves that they themselves had witnessed. These threats included mangrove cutting for construction of buildings, reclamation of mangrove patches and so on. The performances then concluded with the importance and uses of mangroves and the need to conserve them.

The Puppet show and Skit was filmed separately once again to obtain a proper clip with minimum background disturbances. However only the Puppet show turned out fine, hence it was worked on further. Subtitle have been added to the clip so that it an be used in future as an educational tool in other schools as well, thereby creating awareness about Mangrove Forests.

*Note: The dialogues in the script and in the film do not match entirely, though the concept is intact. This is because the little kids, very enthusiastically fitted their own dialogue delivery here and there.*

## Observations:

**Table 1: Written Observations (Compiled)**

<b>Sr. no.</b>	<b>Problems faced by mangroves</b>	<b>Frequency</b>
1.	Garbage dumping near the mangroves by individuals resulting in accumulation of garbage. Garbage includes – plastic bags, paper, bottles, ropes and tobacco packets etc.	20
2.	Mangroves trees were hacked, mud was dumped and later pressed on the chopped mangroves (Reclamation)	7
3.	Burning of the garbage (dumped near the mangroves)	5
4.	People urinating near the mangroves	3
5.	Mangroves are being hacked down and buildings are being constructed	1
6.	Mud being taken out with the help of a excavator and loaded in a heavy truck was later emptied on the mangroves	1
7.	An individual was cutting mangroves with an axe and then breaking them into smaller pieces	1
8.	A channel of dirty water near the mangroves	1
9.	Drying of Mangrove trees	1
10.	A concrete road already constructed near the mangroves – used by two wheelers and four wheelers	1
	<b>Total</b>	<b>41</b>

**Pictures (1-6): Sketched Observations**

**Fauna :( Picture 1-2)**



**Pic 1: Black Winged Stilt**



**Pic 2: Brahminy Kite**

**Problems affecting mangroves: (Picture 3-6)**



**Pic 3: Debris Dumping**



**Pic 4: Reclamation**



**Pic 5: Construction of residential Complexes**



**Pic 6: Construction of Roads, leading to vehicular congestion**

## **Conclusion:**

From the various observation made; the children pointed out the problems faced by the mangrove forest in their areas were mainly ‘*Garbage Dumping*’ followed by various ‘*Reclamation activities*’. Both these observations point to the impacts of rampant urbanization activities that are carried out to satisfy the need of the ever growing population.

One of the most obvious outcomes of the project was the immense knowledge that the children gained in the process of carrying out the project activities. This was revealed through the puppet show and the skit that they had prepared on the Mangrove Forest.

*Given below are some of the comments of the children in their very own words:*

### **Sapna Gahire – 12yrs**

When the mangroves were destroyed, the beauty of the place was destroyed, Flamingoes and butterflies stopped coming and all the birds went away. It became difficult to get medicine. It was very sad. Tall buildings were made in place of the mangroves and people started living. Voices of little children could be heard instead of the calls of the birds. We have to protect the mangroves. Save the mangroves.

### **Anusaya Telange – 8 yrs**

I liked the mangroves. There were a lot of advantages of the mangroves. It stopped the soil from getting washed away during rains. It gave plants from which different medicines were made. A lot of different and colourful birds and butterflies came to the mangroves. Mangroves were visited by Dragonflies and Flamingoes. These birds looked so beautiful when they flew.

### **Piraji Telange – 11 yrs**

I had heard a lot about the forest but had never heard about the mangroves. Every tree sends its root down in the ground however mangroves send its roots above the ground, to get air, because it grows in areas where there is lots of water. The mangroves have lots of water around them. Many small creatures live in these waters. Different colourful birds come to mangroves as they get their food in the mangroves. We should protect and save the mangroves. Everyone should be told about the importance of mangroves.

## Annexure

### Annexure I: Puppet Show: - Save the Environment: Magnificent Mangrove

#### Characters:

CHARACTER 1: Narrator (Joker) - Jovial person who introduces and concludes the play.

CHARACTER 2: Sapna - Little girl, daughter of a construction worker come from Nepal and settled in Mumbai for work.

CHARACTER 3: Teacher (In the play referred to as Didi meaning Elder Sister) - A volunteer who come to teach these children at the crèche.

CHARACTER 4: Piraji - Little boy, son of a construction worker come from Udgir, Maharashtra and settled in Mumbai for work.

#### SETTING:

The Mangrove Forest at Sewri that is relatively close to the children's Mobile Crèche Centre. Also seen are the Mangrove Animals, Birds, Mangrove plants and later Building.

An early December morning....

*The Show Begins with the Narrator singing as he come in to address the children.*

NARRATOR:

Lalaa....lalaa...lalaa... lalaa...

Hello Children. Do you know what I bring for you today? Well it's a puppet show. Come I will tell you about Mangalvan (mangroves). Do you think I am talking about a boy, Oh no! I am talking about a place known as Mangalvan, a beautiful mangrove forest.

*Sapna arrives looking for her friend Piraji, but since she does not see him she decides to go to his house and call him.*

SAPNA:

Hello Piraji, will you come with me?

PIRAJI:

Where are you going?

SAPNA:

Well, I am going to Mangalvan that is near the sea shore

PIRAJI:

What is so special about Mangalvan?

SAPNA:

Oh my friend Mangalvan is where the sea meets the river so there is a lot of water around. You get to see a lot of beautiful birds such as the Flamingos. There are plenty of crabs. A lot of beautiful butterflies and dragonflies can also be seen in Mangalvan.

PIRAJI:

Now that you have described so many beautiful things about Mangalvan, I think I will come along with you to see the place,

*(They both go towards Mangalvan)*

SAPNA:

Look Piraji there is dragonfly. How pretty it looks, isn't it?

Oh look there Flamingos too. It's so good to see so many of them together.

PIRAJI:

See this crab. Oh look the shell is moving.

Sapna, what is this object that looks like piece of wood?

SAPNA:

This is not a piece of wood. It is roots of the mangrove.

PIRAJI:

But aren't the roots always below the ground? Don't you know that the plant will die if the roots came up out of the ground?

SAPNA:

I don't know much about this. See Teacher is coming, why don't we ask her about it?

TEACHER:

Hello Sapna how are you?

SAPNA:

I am fine thank you. Teacher, do you know why the roots of mangrove plants come above the soil?

TEACHER:

Oh yes I do know about it and I will tell you why the roots come above the soil. You see the mangrove plants grow in areas that have lots of water. As the area in which they grow is under water most of the time their roots do not get air. Are you aware of the fact that plants require air, water and soil to grow?

SAPNA:

Yes I know that the plants require water, air and soil to grow.

TEACHER:

Okay. You see the mangroves get water and soil but they do not get enough air as they grow in areas where there is lots of water. These mangroves plants take in air by sending their roots out of the soil. I must leave now as I have a lot of work to do at home.

SAPNA:

We too are coming along with you.

*(They all go away)*

**After some days:**

SETTING:

Tall buildings have come up all around the mangrove area.

PIRAJI:

Sapna where did the Mangalvan (mangrove forest) go?

Look such beautiful tall buildings have come up here.

See they have made broad roads too. The place is looking so nice.

SAPNA:

You call this nice and pretty, what has been done is not correct. They have destroyed the mangrove to construct these buildings. Oh look the dumper trucks are dumping mud on the mangroves and see those people are cutting the mangroves too. This is really bad.

PIRAJI:

What's so bad about it? Such pretty houses have come up, buildings have been constructed, roads are been build. Its good, as it is what was the use of the mangroves?

SAPNA:

Oh my friend, don't say that mangroves are of no use, Teacher told me how useful mangroves actually are. She is going to come today so we shall ask her. Look there she is coming. Do you know about the low tide and high tide? During high tide when the water rises, these mangroves prevent the water from causing harm to the land. If there are no mangroves then during high tide all the water will come in and damage the land. The soil will go away with the water and one day will be just water all over.

PIRAJI:

Is it so? I did not know this. From today onwards we shall pay attention to the mangroves and will stop them from being destroyed.

SAPNA:

Protect the mangroves

PIRAJI:

Save the mangroves. Let us protect the mangroves today for a better tomorrow.

## **Annexure II: Skit: - The Mangrove Forest**

### **Characters:**

Narrator

Woodcutter

Housewife - stays in a small hut near the mangroves,

Driver - employed by the contractor to drive a dumper truck.

Swati & Akshay (two kids) live in a hutment near the mangroves. They are children of construction workers but study in a local school. They know about the mangroves since they learnt about it in their Mobile Crèche centre.

A learned person

Others: Crab, flamingo, butterfly, a building, a wader, a mudskipper, two contractors

### **One mid December afternoon.....**

#### **Narrator:**

Good afternoon to all present here.... We the kids of Versova Mobile Crèche centre are going to enact a skit, so please pay attention to what we do here...

(All the characters introduce themselves)

#### **Narrator:**

(Pointing towards the mangroves)

These trees are mangroves. They grow where nobody wants to live but it gives shelter to different types of life forms like the Flamingos, Egrets, crabs and various types of fishes. These trees are found near Vashi Bridge, Bandra and also near our centre in Versova.

(As the narrator introduces the different life forms found in the mangroves one by one - a Wader (Black tailed Godwit), Flamingo, crab, butterfly and the mudskipper; different children representing those life forms come on stage briefly and leave)

The narrator leaves the stage.

### **Scene I: In the Mangroves**

Woodcutter:

(Enters the mangroves)

Today I have to do a lot of work, I have to cut trees. Wow! There are so many trees here; I will cut these trees.

(He starts cutting the mangrove trees. After cutting a few of them, he leaves the stage).

Housewife:

I don't have firewood in my house to cook food today. Where should I get the wood from? (She looks around)

Somebody has cut down some trees here; let's collect some wood from here....

(Collects firewood and carries on her head and leaves the stage).

Dumper truck driver:

(Enters the stage)

My boss has ordered me to dump this debris. Where should I dump them?

(He notices a patch of cleared mangroves)

I will dump the debris here...

(Empties the load on the cleared patch and leaves the stage and comes again for a second round and leaves the stage)

Flamingo:

(Come in looking for some shade to sit in, she asks?)

Where should I sit? There were so many trees here, a few days ago.

Oh! Somebody has cut the trees here, (feels very sad)

I will find some other place to rest (sees another mangrove tree nearby) Ok....I will sit under this one.

Mudskipper:

(Come in looking for his usual feeding place)

There was so much water here but I can see that somebody has dumped mud.  
Where will I stay now?

Hmmm.... I can see some water there; I will adjust in this pool...

*(The contractors taking advantage of the situation start constructing an apartment building on the cleared patch of mangroves. After a few months a huge building is ready for occupancy.)*

*(Swati & Aksha; school friends plan to go for a walk)*

Swati: Come Akshay; let us go to see the mangroves.

(Both of them reach the mangroves)

Swati: There were so many trees here. Who destroyed them???

Akshay: Who could have done this??

Swati: Let's go and ask an expert.

(The kids leave the mangroves and return with an expert)

Swati: Sir, see this area (she shows him the destruction of mangroves that has taken place). The builders have hacked the mangroves and constructed a huge building here.

Expert: Let us save the mangroves that are not harmed rather than cribbing over the lost ones.

(All join together in a crowd to campaign against destruction of mangroves. Everybody shouts together) SAVE the MANGROVES.... Save the Mangroves...

# Photographs

Field Visit:



Performance at Overnight Stay:



Performers with their teachers:



Puppet Show



Skit