

CONSERVATION ACTION TRUST



Annual Report 2008 – 2009

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1. Executive trustee's statement

Since my founding the Conservation Action Trust (CAT) along with the other trustees in 2005, I have had the great pleasure of being an integral part and watching the growth and evolution of CAT over the years.

Research, education, public participation, awareness generation as well as litigation are tools used by CAT ensuring the implementation and improvement of laws and policy governing India's natural environment. Since CAT was formed four years ago, much work has been done to promote environmental matters and safeguard our natural resources. Significant work has been done and is ongoing on ensuring the future safety of the Sanjay Gandhi National Park of Mumbai. CAT has convened the "Concerned Citizens' Commission – an Enquiry into Mumbai's floods 2005" and has finalised a report based on public hearings held in some of the worst affected parts of Mumbai and over 15,000 written depositions.

CAT is also working towards protection of existing green areas by lobbying for and assisting in notification of these regions as eco sensitive zones.

Not only has CAT protected a number of mangrove forests from destruction through lobbying, it is spreading the message on the importance of wetlands in general and mangroves in particular, far and wide. CAT has taken mangrove protection as a flagship issue and started working closely with the Forest Department and the Government to conserve wetlands and spread wetland awareness through wetland centres in Bhandup and Navi Mumbai.

CAT's education programme, Think Green to make a Difference, has worked intensively with schools across Mumbai and Pune to highlight environmental issues. This programme was started in Mumbai in February 2005 and propagates 'Green thinking' by creating sensitivity in teachers and through them reaching out to students and the larger community. This report presents to you the various activities undertaken by CAT in the year 2008 – 2009.

-Debi Goenka

2. Our profile: What we stand for

2.1 CAT's identity

The Conservation Action Trust (CAT) is a registered non-profit organization based in Mumbai, India. It was founded in March 2005 by distinguished environmentalists Debi Goenka, Navroz Seervai, and Rishad Naoroji coming from the Bombay Environment Action Group (BEAG).



Conservation
ACTION TRUST

Both CAT and the BEAG work to protect the environment and, therefore, have much in common. However, we are more focused on the protection of forests and wildlife, as well as raising environmental awareness among the youth and decision makers, while the BEAG is focused on urban environmental issues.

CAT is an action orientated organization focused on getting results and instigating change rather than just talking about doing so. We will seek to use the power of persuasion to fulfill our objectives but, will also take more forceful action via the judicial system, when the environment is highly endangered.

Our vision for the future

A future India where there is widespread understanding and appreciation of nature and where there is a better quality of life due to respect for our environment, natural resources and wildlife.

Our mission

To conserve India's natural wealth and increase sensitivity towards forests, wildlife and rivers through research, education, public participation and, when necessary, judicial intervention.

Our values

- ❖ **Determined:** *we believe passionately in getting the task in hand done to achieve a great result.*
- ❖ **Inspiring:** *we create new opportunities and possibilities to instigate change.*
- ❖ **Positive:** *we believe in our work and it gives us great energy.*
- ❖ **Caring:** *we balance energy with compassion and believe in an India where well-being abounds, not mere wealth.*
- ❖ **Courageous:** *we are not afraid to tackle any problem or issue in order to protect the environment.*
- ❖ **Forthright:** *we are not afraid to speak our minds.*
- ❖ **Truthful:** *we are committed to an honest, truthful approach to environmental activism and work with integrity.*
- ❖ **Professional:** *we take a professional, scientific approach to our work.*
- ❖ **Helpful:** *we work as a team both internally and externally to make our work effective.*
- ❖ **Equality:** *we believe everyone, irrespective of cast, creed, religion, gender and economic status, has right to enjoy the benefits of a protected and sustainable wilderness.*

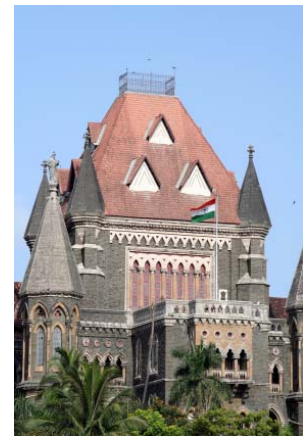
2.2 Issues of concern and areas of work

The economy of India is developing at fast rates, even during the global economic turmoil. The growth in production volumes, purchasing capacity and consumption please the government and investors, but at the same time lead to significant environmental problems. It has been estimated that by 2020 India's water, air, soil and forest resources will be under more human pressure than those of any other country.

CAT is concerned about India's future and believes that it is still not late to take actions to preserve the environment for the future generations. We try to make a difference by working on issues such as destruction of forests, especially mangroves, poor mechanisms to protect the environment and lack of environmental awareness and consciousness. According to 'State of Forest Report-2005', released by the Ministry of Environment and Forests in New Delhi on February 13, 2008, India has lost 728 sq km of forest cover since 2003. India's forest cover stands at a paltry 20.6% of the country's total geographical area, woefully short of the 33.33% it aims to achieve by 2012 under the National Forest Policy, 2002. Despite India having a number of laws and policies on paper which work to protect, safeguard and improve the quality of our environment and natural resources, the implementation and enforcement of these laws leave a lot to be desired. To tackle such problems, and, therefore, fulfill our mission, we work in the areas of litigation, education, and conservation. We generally operate in the state of Maharashtra, but engage in projects out of the state that help us reach our objectives.

Litigation

CAT tries to develop a dialogue with municipalities, companies and citizens who destroy or intend to destroy the environment. However, in some cases, litigation is required to stop environmental violation. With the help of our volunteer lawyers, CAT handles cases, most of which were initiated by the trustees of CAT under the auspices of BEAG, prior to the legal formation of CAT.



Education



We raise environmental awareness and consciousness of the general public. We show special focus on children, since they are more open to new ideas, and will spread the word having perceived the key concepts of environmental sustainability. At the end of the day, children are the future custodians of the environment and they will have to face the consequences of today's

actions.

Conservation

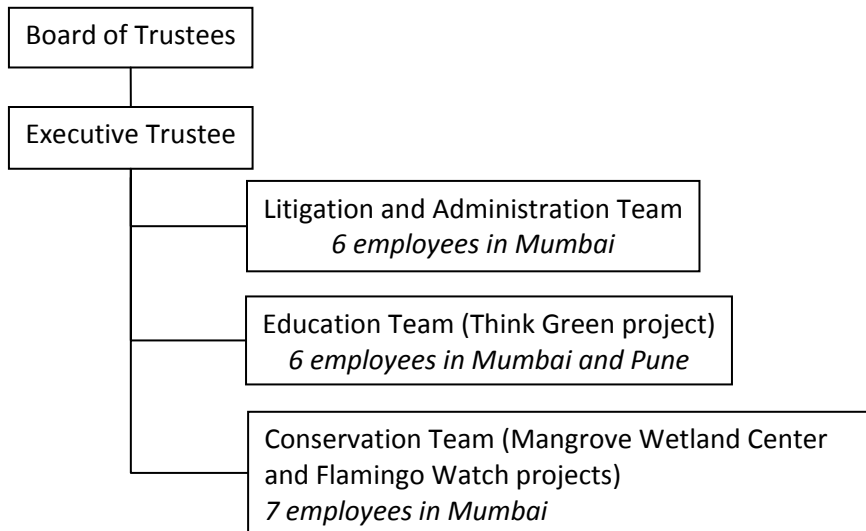
Besides communicating with the public, CAT works in the field to protect the environment. We conduct research on flora and fauna of forests, especially in mangrove areas, and monitor their condition. Together with our partners, we initiate and organize tree planting and cleaning drives.



2.3 Governance and human resources

The CAT team has been growing steadily since inception. We have 20 full-time employees working in Mumbai and Pune at the end of the financial year 2008-09. We enjoy a democratic culture, based on mutual respect and passion for the environment.

Organizational structure of CAT (as of August 31, 2009)



The Board of Trustees is responsible for the management of CAT. It consists of 8 trustees, who are experts in varied fields including environment and economics. They meet at least biannually to discuss the status of current and proposed projects and questions of strategic importance. Every month trustees receive a newsletter on CAT's activities.

Our trustees

Mr. Debi Goenka is CAT's Executive Trustee. He has been working in the field of environmental protection in India since 1975, and has pioneered several successful campaigns to protect the natural environment, such as the protection of mangroves, the protection of the Borivali National Park, and the success in protecting over 3,500 square kilometers of forests in Vidarbha from denotification.

Mr. Pavan Sukhdev, Chairperson of CAT is an economist by profession and Ecologist at heart. With this unique combination, he has been actively working on evaluating the wealth of forests in a strictly economic sense. He has contributed several papers in this effect and is a patron for many organizations working in the field of environment and economics.

Mr. Kishor Rithe is a former engineering professor. Through the Satpuda Foundation he is working towards strengthening local citizen organizations to make a measurable impact on wildlife protection and forest conservation in the states of Madhya Pradesh and Maharashtra.

Ms. Priti Devi has decade long sustainable development, environment, climate change and social performance experience, having worked in the HSE area with an international oil & gas major in global assignments. She has been invited to join the Board of Trustees to work with the team in identifying and implementing climate change initiatives.

Mr. Ajay Rastogi, the Honorary Treasurer of CAT, is a banker currently working with Deutsche Bank AG, India. He has been in the banking sector for the past 32 years, including 14 years with the Bank of Baroda and then 18 years with Deutsche Bank. He has been keenly involved with sustainability programmes of the Bank and CAT.

Ms. Meenakshi Madhvani, leading media analyst & communication expert is the President of CAT. She has launched a communications consultancy that works exclusively with not-for-profits to address their communication & creative needs. She is also a Trustee of The Climate Project India a wing of the global organisation set up to fight Global warming & Climate change.

Mr Navroz Seervai an eminent lawyer and Senior Counsel in the Bombay High Court is one of the founding trustees of CAT. He is actively involved in public interest litigation in the field of Environmental Law, Civil Liberties and Human Rights. Having been part of BEAG since 1981, he has been the voice of the movement for environmental protection.

Mr Gautam Patel is an eminent lawyer and counsel in the Bombay High Court. He has been associated with the BEAG since 1984 and with CAT since its inception. He has been the Honorary Secretary of the Bombay Bar Association. A standing counsel in BEAG litigations he has also served on the Advisory Board of BEAG.

We are a group of young professionals dedicated to environmental protection. We have employees with specializations in Environmental Science, Botany, Animal Physiology, Entomology, Natural Resource Management, Wildlife Science, Physics and Chemistry, Tourism and International Travel, and Commerce. This diversity enables us to achieve synergy in working on complex projects.

Our team in numbers (as of August 31, 2009)

- ❖ **Number of full-time employees:** 20, including 3 non-professional staff
- ❖ **Gender balance:**
 - Men - 60%
 - Women - 40%
- ❖ **Average age:** 33 (60% of employees are 30 or younger)
- ❖ **Average work experience at CAT:** 1.5 year
- ❖ **Location:**
 - Headquarters - 40% of employees
 - Navi Mumbai and Thane offices - 35% of employees,
 - Pune office - 25% of employees
- ❖ **Education of professional staff:**
 - Ph.D - 2 employees
 - M.Sc – 8 employees
 - LLM – 1 employee
 - B.Sc. – 2 employees
 - B.Com. – 2 employees
 - Post-graduate diplomas - 2 employees
 - Mumbai University – 65%
 - Bharati Vidyapeeth University, Pune – 18%
 - Other universities – 17%

CAT provides its team with the opportunities to gain more knowledge about the environment, as well as contribute to its conservation. It is also a good platform to develop project management, communication, and technical skills.

Why do you work for CAT?

“CAT is one of the leading NGOs working for mangroves in the country. Also it is well known for its work in environmental litigation. I have got many contacts of leading personalities in environmental field.” **Research Coordinator, Mumbai**

“The objectives of CAT strongly correlate to my own aspirations. Working with CAT helps fulfill my personal goals in the environmental conservation domain. CAT has provided me with an opportunity to handle a team as well as co-ordinate a project, which is a first time experience for me.” **Project Coordinator, Pune**

“I want to work for creating awareness for environment among people through education and being with CAT I get many opportunities to do so. I am happy to be a member of CAT family” **Research officer, Mumbai**

“I work for CAT because I want to make a change in today’s scenario of environmental degradation and CAT provides the platform that will help in slow down, if not stop, this environmental degradation.” **Senior Conservation Officer, Mumbai**

“I love challenges and my passion is wildlife and forest conservation. Working with CAT helps me to contribute to the cause that is so dear to my heart. I love the multiple tasks that come my way which requires me to adapt quickly and deliver results.” **Site Manger, Mumbai**

Besides full-time employees, CAT capitalizes on knowledge and skills of its volunteers. They include environmental lawyers, consultants, scientists, educationalists, activists, community leaders, and students who contribute their time to make positive changes.

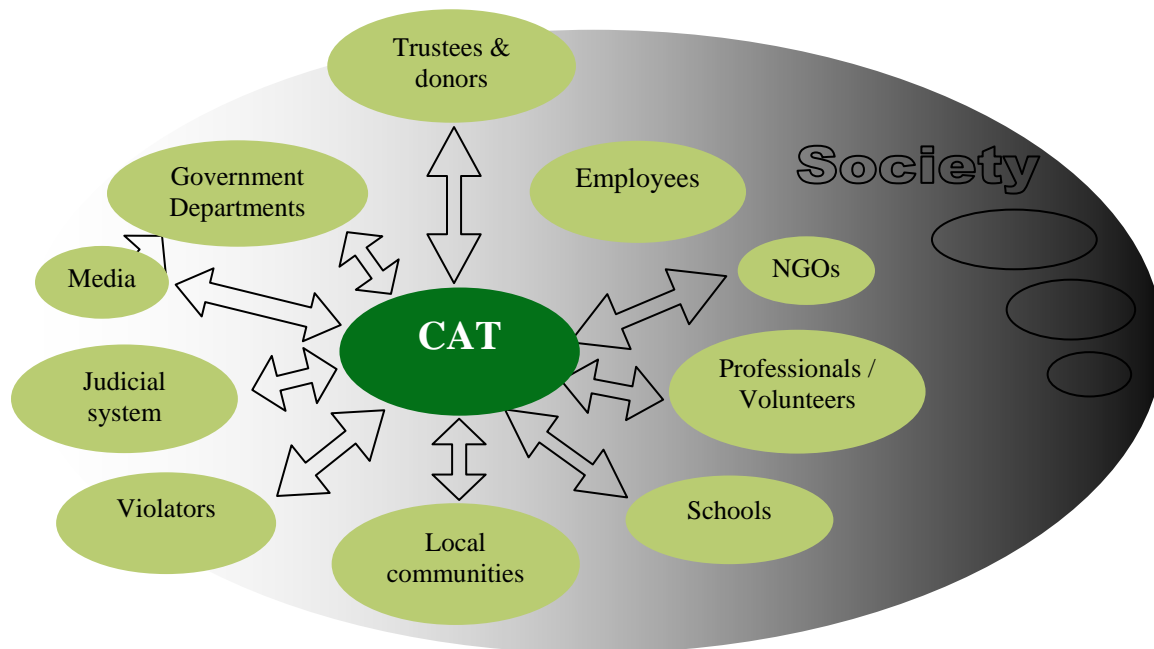
CAT regularly invites interns to work in litigation, education, and conservation, as well as organizational management. We also partner with AIESEC, a global students’ organization that promotes leadership. Every year AIESEC provides us an international intern through its exchange program.

“My internship has been a unique opportunity to learn about India’s environmental agenda, travel to mangrove areas, observe different species, and see the life of local fishermen”. **Alexander Annaev, Russian intern to CAT, August 2009**

2.4 Stakeholder engagement

As a non-profit organization that works in the interest of the public, CAT depends and has an impact on a wide range of stakeholders. Without them, we wouldn't be able to realize our projects and spread the word. However, some of our stakeholders, (for example, environmental violators) are in confrontation with us, but we still respect them and try to develop a dialogue.

CAT stakeholder map



The following report will showcase these stakeholder engagements in detail.

3. Our approach and impact: how we make a difference

3.1 Litigation

CAT is dedicated to provide assistance in the form of technical information, legal advice, aid and equipment to all those who are confronting environmental problems. It works closely with the Forest Departments and other NGOs that are fighting to protect nature and natural resources. CAT is currently working on a number of legal cases in courts that are challenging violations of laws and policies protecting the environment, forests and wildlife. CAT also actively works on strengthening existing laws and policies that govern conservation of natural resources in India.

Mr. Debi Goenka, a founder and executive trustee of CAT is also Life Member – Activist of BEAG. For the period between the years 1983 – 2005, Mr. Goenka, was handling the litigation pertaining to conservation and protection of forests of India for BEAG. In the year 2005, when CAT was formed, all existing responsibilities on the various forest related cases were transferred to CAT. CAT is a successor of the BEAG in handling environmental cases of nation-wide importance. Many of these

Our litigation work will not be possible without our distinguished lawyers, who volunteer to contribute to environmental protection in India. They include such professionals like Mr. Shiraz Rustomjee, Mr. Gautam Patel, Mr. Navroz Seervai, Mr. Sharan Jagtiani, Mr. Rohan Rajadhyaksh in Mumbai, Ms. Indu Malhotra, Mr. Shyam Diwan, Mr. Ritwick Dutta, and Ms. Shilpa Singh, in Delhi.

Protecting mangroves and the coast

The 2004 tsunami in Eastern and Southern Coastal India and the 2005 floods in Mumbai demonstrated the importance of mangroves. They serve as flood buffers and they help in stabilizing the climate by moderating temperature, humidity, and wind. They are also valued for prevention of land erosion and accommodating a unique ecosystem that supports fishing. They are specially adapted to withstand salinity, wave action, and can grow in poor soils.

The area under mangroves in Maharashtra was 200 km² in 1972-75, which reduced to 108 km² in 1997 but increased to 118 km in 2001. According to Mumbai Metropolitan Region Development Authority (MMRDA), the mangrove areas in Mumbai have shown significant increase since 1991. However, this claim is under contention, as the maximum reclamation of mangroves around Mumbai has taken place between 1991 and 1997. It is believed that about 70 per cent of Mumbai's mangroves have been destroyed due to various development activities.

The mangroves have been afforded protection under various laws and policies of our country. In spite of all the protection afforded by several Acts, the mangroves continued to be threatened and destroyed. In order to protect the remaining mangroves in and around Mumbai the BEAG filed a Public Interest Litigation in the Bombay High Court (BHC) seeking the Court's intervention to stop the destruction of Mangroves.

On 6th October, 2005, the BHC ordered state-wide protection of mangroves in implementation of the existing law and directed the Government of Maharashtra to complete satellite mapping and declare mangroves as protected forests. Just after the order was issued, many applications were



filed in the BHC to dilute it. The applicants, including municipalities, justified their claims with

the statements that mangrove removal was necessary either for development or, even more ironically, for prevention of flooding. However, none of the applications had success. In April 2008, the BHC posted the case for final disposal in June 2008.



In the meantime, CAT decided to engage with municipal authorities to exchange views on mangrove protection and try to find solutions. The City and Industrial Development Corporation of Maharashtra Ltd. (CIDCO), a state-owned company responsible for construction of Navi Mumbai was the first to respond to this call. From January to March 2008 CAT and CIDCO representatives visited over 40 of the company's construction sites. Over 30 sites were additionally analyzed. Based on the visits, CAT developed a number of recommendations to improve the environmental impact of CIDCO's planned projects. These were accepted by the company and referred to the Ministry of Environment and Forests. This engagement set a successful example of a stakeholder dialogue, so that the Municipal Corporation of Greater Mumbai (MCGM) and Reliance Energy asked CAT for assistance regarding sewerage disposal projects and power lines respectively.

A shift from environmental confrontation to communication, consultation, and collaboration gives a hope for corporate social responsibility and better state of mangroves in Maharashtra. However, an estimated 20% of mangroves in the state have been destroyed since the

In 2007 2157 hectares of mangroves around Mumbai were notified as protected forest. In July 2008, and additional 3,431 hectares of mangroves in Borivali, Andheri and Kurla Talukas, as well as parts of Colaba were notified as protected forests. With this, notification of 5,589 hectares of the 6,000 hectares of mangroves identified in Mumbai, Thane and Navi Mumbai has been completed.

order of October 2005. Without the efforts of CAT and the BEAG, the loss would be bigger. CAT continues its endeavor to prevent any further destruction to the mangroves as the case continues in the BHC.

Another violation along the coast of Maharashtra that CAT has been working to stop is in the Alibaug Coast. In January 2009 it was learnt that on or around 31st December 2008, dumping of what appeared to be construction material was taking place on the Beach at Village Nandgoan in the Murud Taluka. A road, in clear violation of the Coastal Regulation Zone Notification was being constructed, with the help of a retaining wall, on an area of the beach where during the monsoon season, the high tide level would actually inundate the entire area. In other words, the proposed road was being constructed between the High Tide Line and the Low Tide Line by cutting off the tide using the retaining wall. Large scale illegal mining of sand was also observed that had already caused immense ecological damage to the area. A petition was therefore filed by CAT to protect the beach and shoreline from being used for these illegal activities.

The Hon'ble High Court on 21st January 2009 issued an order directing the Collector to put a stop to the construction of the road. The matter is still pending in the High Court.

Conserving private forests

The State of Maharashtra acquired 3.03 lakh hectares (3,030 sq.km.) of Private Forest land under the Maharashtra Private Forests (Acquisition) Act 1975 for the purpose of attaining and maintaining ecological balance in the public interest. The Revenue Department, unfortunately, took no steps to correct its land records to show that these lands were forest lands and were vested in the State Government at that time. As a result, a large portion of such lands was illegally sold, transferred, etc. and used for non-forestry purposes without the knowledge of the Forest Department.

Under the Maharashtra Private Forests (Acquisition) Act, the acquired private forests were deemed to be reserved forests vested in the State Government and all the private rights and interest of the owners were dissolved. Under the Act these reserved forests cannot be put to any non forest use without the approval of the Central Government.

The BEAG therefore filed a petition in 2002 in the BHC expressing its concern at the large scale misuse of private forest land for non-forest purposes such as construction of buildings, farm houses, resorts, etc. The Revenue and Forest Departments were also urged in the Petition to correct the Revenue records followed by a survey and demarcation of all such lands.



In 2005 the BHC passed an order directing the Government to complete the updating of land records by 31st May 2006. The authorities were directed not to issue any certificates without the prior permission of the Central Government stating that the land acquired was not forest land to begin with and also directed to initiate

proceedings for the cancellation of all such certificates issued in violation of the Forest (Conservation) Act, 1980. Pursuant to this order the Municipal Corporation of Greater Mumbai (MCGM) issued a number of 'stop work' notices, in relation to construction activities that were being carried out on the said "Forest Lands".

In July 2006, Writ Petitions were filed by builders in the BHC, challenging the "stop work" notice and mutation entries in the land records made by the State Government. The Hon'ble High Court passed an in 2006 restraining the statutory authorities from carrying out the said mutation entries in the land records in respect to the subject lands and restraining the statutory authorities from acting pursuant to the said "stop work" notices. Special Leave Petitions (SLP) in the Supreme Court were filed by the Forest Department as well as CAT challenging the said Order to



ensure that there was no reduction in the land to be reserved as Forest Land.

In a dramatic conclusion to the case the Hon'ble High Court on 24th March 2008 passed an Order that dismissed the petition of the builders that challenged the stop work notice and the mutation entries made by the State Government. The order also stated that the builders were not the owners of the land and they are deriving their authority to develop and use these properties on the basis of certain limited rights created in their favour by the original owners. It was also the builders' fault that they purchased land without the knowledge of the notices under the Private Forest Act and invested crores of rupees in developing such forest lands.

This matter came up for hearing in the Supreme Court but the petitions of the builders were dismissed. Recently some of the private parties involved, have filed a Special Leave Petition in the Hon'ble Supreme Court against the above mentioned Order dated 24th March 2008 of the Hon'ble High Court for placing on record information pertaining to the conditions on which certain estates are held in the Thane Collectorate which were not a part of the judgement arrived at by the High Court. The matter is pending in the Supreme Court.

Protecting Sanjay Gandhi National Park

The Sanjay Gandhi National Park (SGNP) in Mumbai is a unique natural biosphere reserve and home to an array of unique flora and fauna. It also provides drinking water to Mumbai city. This 103 sq km area of forests plays a crucial role in improving the air quality of Mumbai's suburbs, as well as that of Thane city and Vasai-Virar Region. SGNP was notified as a 'Protected Forest' in 1996.

The BEAG found that the legislative protection afforded to the National Park largely remained on paper. Over time, and through neglect, inaction or the lack of any real political will to protect the park, a large number of illegal activities were carried out in this national park. Illegal quarries, illegal factories, commercial establishments and encroachers from all parts of India settled illegally in the Park, with the active support of slum lords, local politicians, and local

officers. Inaction by the authorities, political interference and obstruction by vested interests prevented the preservation of the forests and the national park, to the extent of over 200 hectares of land had, by then, been encroached upon. As a direct result, there was massive deforestation, diminishing wildlife, danger to human life, damage to the lakes and, overall, a growing threat to a vital natural resource.

In 1995, the BEAG filed PIL 305 of 1995 in the BHC seeking the Court's intervention to remove illegal encroachments in the Sanjay Gandhi National Park and for protection of the park. The Court faced a delicate situation. On one hand, the law mandated the stopping of all illegal activities and the clearance of illegal encroachments from the national park. On the other, there was the issue of rehabilitating the encroachers outside the park and doing so in a just and humane manner.

In 1997, the Court recognized the need to clear encroachments and to protect the park. A boundary wall was ordered to be constructed around the park. A factory of a state authority was directed to be removed. Bus routes were discontinued. In subsequent orders, the Court evolved a carefully weighted system for rehabilitation. A census was ordered to be conducted, and a map delineating the boundaries of the park was accepted. The rehabilitation scheme formulated by the Court involved setting up of a special monitoring committee which would decide the eligibility of encroachers to rehabilitation.

The Court's orders were, inevitably, challenged in the Supreme Court, but these challenges all failed. The removal of encroachments began. Of the 61,000 encroachments, over 49,000 were removed under the orders of passed by the Court. Meanwhile, a slew of petitions came to be filed in Court, all directly or indirectly seeking a cancellation or substantial modifications of the orders. The Court heard each petition fully. All the individual cases were found to be unsustainable — *on merits*, and not merely on a larger principle of the need to protect the park.

In 2003, when BEAG pointed out to the Court that the removal of encroachments remained unfinished, the BHC ordered the removal of all remaining encroachers within six months, and completion of all other formalities.

In 2008, an order was passed disposing of the petitions with a number of directions such as payment of Rs. 7000 from eligible encroachers to be covered under the rehabilitation scheme, removal of ineligible encroachers and unauthorised constructions from the park within eight weeks of the order, appropriate steps to be taken for afforestation in the Park, and to ensure that no further encroachments are made in any part of the Park.

The Forest Department has filed affidavits in the Court highlighting compliance on their part with the Court's Order. Yet, there have been discrepancies on the State's part and the Court has directed the State to file an affidavit showing the exact number of eligible encroachers and the number of fresh encroachments after the passing of the Order dated 15th September 2003. May 2008 saw re-initiation of efforts on the part of the Forest Department to demolish unauthorised structures in the Park.



What makes this a truly remarkable case is the approach of the court itself, and of the Petitioners. Though CAT and the BEAG are focused on environmental protection, they in terms approached it as a human problem requiring a humane solution, and urged the court to evolve a scheme on those lines. And this is precisely what the court did: at no time did the court venture into the realm of writing

landmark decisions. Instead, it focused on solving the problem, one that was inherently huge and intricate.

Striving for a lesser polluted Mumbai

Air pollution continues to pose a significant threat to the environment, quality of life and health of the urban population. The rate of urbanization and motorization has led to levels of air pollution that regularly exceeds World Health Organization (WHO) recommended guidelines as well as national air quality standards.

Despite the Acts and Norms, very little has been done to check auto pollution. Indiscriminate licensing of motor vehicles combined with limited road space had led to a continuous increase in auto emissions which accounts for about 60% of the pollution in Mumbai city.

The rapid degradation of the environment within Mumbai combined with the apathy of the various authorities compelled the BEAG to take the initiative to fight against the growing pollution in Mumbai city. Hence the BEAG in 1999, filed a petition in the BHC to fight for the right of citizens of Mumbai to a clean environment. The petition aimed at controlling the air pollution caused by auto emission thereby providing a better environment to the public in the city.



The levels of toxic gases like NO_x (Oxides of Nitrogen), RSP (Respirable Suspended Particulates), CO (Carbon Monoxide) taken by the Municipal Corporation of Greater Mumbai at selected points of Mumbai in conjunction with other statistical figures (road space and population density) for Mumbai and Delhi with Mumbai's 10 lakhs vehicles against Delhi's 30 lakhs showed that pollution in Mumbai was 4 times the auto emission pollution in Delhi. The petition thus demanded urgent directions from the Hon'ble High Court for urgent relief against auto emissions through curative and preventive steps such as

- Ban on plying of motor vehicles without unleaded petrol,

- Reduction of sulphur content in petrol not exceeding .025% (g),
- Making the issuance of PUC certificates more streamlined,
- Enforcement of EURO I & II norms,
- Phasing out aged motor vehicles, two & three wheelers older than 15 years etc.

Every year an estimate of 2 lakh children get affected by chronic Bronchitis caused by pollution while an equally large number are admitted in hospitals for treatment of pollution related respiratory ailments in the city. According to a WHO report relied on for the case, India spends more than 4000 crores on treating respiratory ailments. This could be saved effectively by reducing auto emissions to acceptable limits.

The Supreme Court passed a verdict in 1999 in a PIL in which the Court prescribed the emission norms to be followed by passenger cars which were to be registered in Delhi from that year. The petitioners, basing the appeal on this verdict demanded that all the restrictions imposed by the Apex Court in Delhi be imposed in Mumbai more rigorously.

An order passed by the High Court on 15th December 1999 directed the State of Maharashtra, the Transport Commissioner, the Commissioner of Police, and Additional Commissioner of Police (Traffic) to constitute twelve “flying squads” to apprehend polluting vehicles on the street and to ensure compliance



with emission norms stipulated by the State Govt. The court appointed a committee under the then Transport Commissioner Mr. V.M. Lal to examine, consider and recommend measures to reduce vehicular pollution in Greater Mumbai. The committee subsequently came up with 100 ways to reduce Mumbai’s vehicular pollution.

In an order in 2001 the BHC directed that all transport vehicles except B.E.S.T buses over the age of 15 years shall be scrapped and transport vehicles over the age of 8 years could operate shall be phased out unless converted to run on C.N.G / L.P.G.

In 2002 when the incompetent functioning of the flying squad was brought to notice, a Coordination Committee was constituted and directed to meet monthly to resolve administration difficulties and review the functioning of the flying squads.

Post this we have been involved in various applications that have been filed in the BHC by parties seeking exemption from the above orders. In 2008 we pressed for the implementation of the traffic restraint scheme that was initially proposed by a committee led by former transport commissioner V M Lal. The BHC urged the MCGM to test the feasibility of disallowing cars on the roads once a week, on the basis of registration numbers. The State Government is opposing this scheme, as they feel that it is impractical, and would require a large police force to man it. Instead, the State Government recommends improving infrastructure by building more roads and augmenting parking. We have been pushing for an approach that controls the demand and not merely one that facilitates the supply of private cars. The parties have been asked to file written submissions on 22 September 2009 and it remains to be seen if Mumbai in fact will have a TRS or not.

Enhancing sustainability of quarrying

Over the last decade or so there has been rapid, rampant and systematic degradation of natural hillocks in residential areas in the suburban and peripheral parts of Mumbai. This was firstly due to uncontrolled construction activities of the builders and developers. The MCGM and the MMRDA, who granted licenses for quarrying in these areas to the builders failed to take any action in order to curb these activities.

The mismanagement led to significant environmental impacts such as disturbance of vegetation cover due to loss of soil, weakening of rock structure due to usage of explosives, disturbance in internal hydrological systems, disturbance to wildlife in the area etc. The quarrying activities caused heavy dust and particulate matter in the environment, increased levels of noise in the area, led to development of cracks in the walls of the surrounding buildings thereby weakening the structures. All these activities had a negative impact on the lives of people living in the areas.

The BEAG filed a petition in the BHC on 17th Jan 2005 seeking a curb on the quarrying activities. By the order dated 11th Oct 2006, the High Court restrained parties from carrying on the activities of quarrying, stone crushing. The Maharashtra Pollution Control Board was directed to take suitable action, including launching of prosecution against the



persons who are engaged in unauthorised quarrying and stone crushing and report the same. The matter is pending for final hearing in the court.

Minimizing pollution of the Patalganga River

Twenty years ago, the BEAG filed a petition in the BHC regarding the ongoing pollution of the Patalganga river basin from Khopoli at the foot of the Western Ghats to the Dharamtar Creek. On its way, the river passes through the heavily industrialized belt of Rasayani and Maharashtra Industrial Development Corporation (MIDC) areas. Shortly after it was filed, BEAG added twenty major industrial units as party Respondents to the petition, seeking that their effluent discharges be controlled.

Thanks to the efforts of the BEAG in court and outside with the Maharashtra Pollution Control Board, all the industrial units now have effluent treatment plants. Some discharge through a Common Effluent Treatment Plant.



A February 2007 report by Wilbur Smith Associates, funded by the Environment Improvement Society of the MMRDA, in association with the Maharashtra Pollution Control Board (MPCB) showed that while most industries are by and large compliant, untreated sewage continues to be discharged into the river by the Khopoli Municipal Council; and there are still instances of chemical tankers being permitted to be washed in the river.



In April 2008, the Petition was taken up for hearing. CAT pointed out that it had no real surviving grievance against the industries, except for a direction to MPCB (based on the Wilbur Smith report) to ensure that the required standards are met. In yet another departure from its traditional role, CAT relied on the affidavits filed by industry themselves to show that not only had industry sought to meet the required standards but, more importantly, that industry was itself in turn supporting the CAT in its attempt to get the Khopoli Municipal Council to put in a sewage treatment plant. The industries have all stated on Affidavit that the pollution caused by the Municipal Council adversely affects their operations and the health of their workers and personnel who live in the vicinity. The Court has ordered the Khopoli Municipal Council to state, on Affidavit when it will install the Sewage Treatment Plant.

3.2 Education

CAT raises environmental awareness and consciousness of the Indian society, especially children. We work with students and teachers at schools in Maharashtra to deliver innovative lessons on the environment and organize visits to nature. Our major educational project is *Think Green to Make a Difference* that is realized in collaboration with schools in Mumbai and Pune. The project is aimed at propagating 'green thinking' by creating sensitivity in teachers and students and through them reaching out to the larger community. We target children as our audience, as they are more open-minded and proactive. By the end of the day, India's environmental sustainability depends on them and they will have to solve the environmental and social problems stemming from today.

Think Green to Make a Difference – Mumbai

Partners

ABN AMRO Bank was a sponsor of the project from November 2005 to December 2007. Thereafter there was no separate donor for Think Green. The costs were included in budgets of other projects made available through various sponsors of CAT.

Time-frame

The project has been active since February 2005. CAT has been working on a regular basis with schools and NGOs on environmental education.

Objectives

Our key objective is to develop curriculum based programmes and exchange resources, knowledge and skills within the partner schools of Mumbai.

Target audience

As we would like to educate children representing the majority of the population, we work with schools and centers for children from lower and lower-middle income groups.

Status

From January to April 2008 CAT worked with schools within the Wetland Link International Asia (WLI-Asia) Inter-School Education Programme established to increase awareness on wetland conservation and enhance in-depth information exchange and experience sharing across Asia. Our role was to invite secondary schools in Mumbai to join the programme and provide the necessary guidance to 7 teams made up of students. Every team developed a plan for a project related to wetland conservation. We analyzed and selected 4 projects to be presented at the final assessment by members of the WLI-Asia network. The Mumbai Mobile Crèche (MMC), an NGO that works with construction workers' children was one of the 9 winning teams among a total of 23 teams from 7 Asian countries.

The Think Green team regularly interacts with school students by running lessons within curriculum-based modules and working with their nature clubs. From February 2005 to July 2009 we worked with about 25 different schools and 10 centers of the Mumbai Mobile Creche (MMC), including 5 schools and 8 centers since January 2008. These schools and centers are located across the city of Mumbai. In the upcoming academic year we intend to work with 3 schools and 9 MMC centers.

We pay special attention to working with the MMC, as construction workers are largely marginalized in our society. This segment of the population represents lives in poverty and lacks any kind of formal education. Think Green has made an attempt to reach out to children from this segment, as they are the ones are likely to put up pressures on the environment directly, though unintentionally. We use interactive techniques to deliver lessons on various topics.

Results achieved

One of the four students' projects submitted for WLI-Asia was awarded a prize. Four children from the MMC, one teacher and a representative from CAT went to Hong Kong for the prize distribution.

About 109 interactions were carried out during the academic year 2008-2009. Through these interactions about 2000 students and about 50 teachers were reached out to. The interactions involved a mix of presentations, games, field visits, skits and action based projects. The topics of lessons taught included general understanding of the environment and terms in ecology, ecosystems and ecological niches, adaptations and interrelationships, and understanding the problems faced by the environment. Through all these interactions the children became more aware of the environmental issues in the surrounding, they learnt how to analyze a problem and develop solutions.

We also prepared a draft of the Teacher's manual that will assist secondary school teachers in carrying out lessons in Environment Science. The manual will be printed and distributed to teachers through a series of workshops.

Impacts of urban development /industrial activities on wetlands, a project by students of Mumbai Mobile Crèches, Fort, Mumbai

The outcome of the students' project was a puppet show aimed at raising awareness on mangrove conservation. The show was filmed and sub-titled. Four of the 24 children from MMC, namely Sapna Gaire, Piraji Telange, Swati Nagtilak, Akshay Kadam were selected to attend the Award Function in Hong Kong on 26th April 2008. They were accompanied by their teacher and a CAT representative.



Piraji Telange – 11 yrs: I had heard a lot about the forest but had never heard about 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 colorful 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.

Think Green to Make a Difference – Pune

Partners

The Pune Municipal Corporation (PMC) financially supports this project and has provided office space for use for this project and to set up a knowledge and activity centre. PMC also provides access to the 60 schools for activities of this project.

Time-frame

Currently a one year agreement has been executed between CAT and PMC running from October 2008 – October 2009. We are working on getting this agreement extended for the coming years.

Objectives

1. Sensitize and train teachers to build a sustainable and long term Environment Education Programme in 60 PMC schools.
2. Sensitize students through the Environment Education Programme and create a resource pool of future conservationists in them.

Target audience

The programme unites 60 PMC schools, including 20 secondary schools and 40 primary schools spread across the city of Pune. At least one teacher from each school is part of this programme. Students of class 8 of the secondary schools and class 6 of the Primary schools are targeted in this project.

Status

The project has completed 9 months of activities in the 60 schools. Of the schedule drawn out, which lists 7 different subjects to be covered, currently the 7th lesson in being conducted in the



different schools. Teachers have been demonstrated various teaching techniques. One Teacher training workshop has been conducted by CAT with one more to be conducted in the coming month. One exhibition displaying various projects undertaken by the 60 schools is to be organized before end October 2009.

Results achieved

CAT has addressed a number for teacher training workshops from October 2008 to date. We organized one two day workshop for the teachers of the 60 participant schools in March 2009. In addition to this CAT has addressed teachers participating in 6 other workshops organized by the Education Board of the PMC as well as the Sarva Siksha Abhiyaan in Pune.



We have been conducting student interaction sessions in all 60 schools from December 2008 to March 2009 and again from June 2009 till date. A total of approximately 410 school sessions have been conducted by CAT for this project.

An Environmental Education Office and Knowledge Resource Centre have been set up at the Dadoji Konddev Vidya Mandir, Near Sath Toti Police Chowkey, Kasaba Peth, Pune 411011. This centre has been set up with a number of reference books across diverse levels for use both by students as well as teachers covering a wide range of topics of Environmental Science. In addition to the library the resource centre also holds a number of display material such as posters, models and activity sheets.



3.3 Conservation

Conservation of forests is getting more and more important, as, on the one hand, they are facing unprecedented human pressure, and, on the other hand, there is an increasing recognition of their role in sustaining the life of human beings and the planet. Forests are the largest source of oxygen, essential for the survival of all flora and fauna, including us, humans. Increasing green house effect and global warming is a growing hazard for all life, and forests tackle this danger, naturally, in the best possible manner. Forests provide a number of environmental services that are important for the Indian economy.

CAT focuses on conservation of mangroves and their habitat. Mangrove ecosystems are generally established on the intertidal muddy shores. The mangrove vegetation is especially uniquely adapted to survive in the most hostile conditions of high salinity, ill-conformed soil, tidal currents, wave action and hurricane winds. Not only do these plants survive in these hostile conditions but also serve as buffers between the land and the sea, thereby protecting the land from erosion. Protection of such areas becomes extremely vital for cities like Mumbai, where most of the land is reclaimed from the sea. Besides, mangroves act as the lungs and kidneys by purifying the air and the water.

We protect the mangrove eco-system of Mumbai through our Mangrove Wetland Center (MWC) initiative that is made of several ongoing projects. The main idea is to develop a recreational park and supporting educational facility in the coastal mangrove belt between Vikhroli and Thane in Mumbai for building greater awareness of the fragile eco-system surrounding the city. The sustainability of this development is ensured via partnerships with the Forest Department, the wider corporate sector and the public.

Besides protecting the mangroves of Mumbai, we pay attention to engaging with communities living close to them. Also, we regularly team up with corporations and other NGOs to organize

tree planting and cleaning drives. The most recent major plantation project was carried out in summer 2009 in Dharamshala, Himachal Pradesh.

Mangrove Wetland Center – Bhandup, Mumbai and Vashi, Navi Mumbai

Partners

The Mangrove Wetland Centre (MWC) is a collaborative effort of the Forest Department of the Government of Maharashtra and CAT. HSBC Bank and CIDCO financially support the planning phase of the project at Bhandup and Vashi sites respectively. Architects appointed for the MWC development are M/s Design International Architects, Singapore. The local communities of Koli and Agri fishermen are also among the key stakeholders of the project.

Time frame

As per the agreement signed between all the parties, the Phase I of the Bhandup MWC would be completed by October 2008. For the MWC to be functionally open, it would take a minimum of two years from the date of approval of plans by the concerned authorities. The pace of development would also vary depending on the quantum of finance received.



As for Navi Mumbai MWC the phase I which is for planning would get over in September 2009, and the centre could be operational within two years from official receipt of approval of plans from the concerned authorities. As there is no aspect of immediate finance or fund raising here, this centre could be operational sooner since CIDCO a partner is ready with the finance needed for the project.

Issues addressed and objectives

Mumbai has the highest population density in the world, and the lowest per capita ratio of open spaces. This problem is further aggravated by the skewed location of the few existing open spaces. Mumbai, however does have a small respite, largely due to 103 sq. km. sprawl of Sanjay Gandhi National Park and the green belt of mangroves across the suburban coastlines. The residents of the eastern and northeastern suburbs of Mumbai are perhaps the worst sufferers in this respect. The last of the open lands in Mumbai within city limits happen to be mangrove areas and wetlands of the eastern suburbs. This land is being sought out for so called development of commercial and residential structures by the builders.

The MWC team, apart from the protection of this fragile mangrove eco-system, has the following objectives:

1. Raise environmental awareness and promote conservation of wetlands to improve the quality of life in coastal areas;
2. Provide facilities for researchers and students to study mangrove eco-systems;
3. Create working places for the local communities of fishermen, inculcate sustainable fishing practices and ensure their participation in efforts to protect the wetlands and creeks;
4. Develop a much needed recreation area in Mumbai while simultaneously maintaining and protecting the fragile ecosystems .

Target audience

As the MWC is in its planning phase, the sites in Bhadup and Vashi are currently only visited by the CAT staff, representatives of institutional stakeholders, and school children. However, we target the following groups to be visitors of the MWC, when it is constructed and opened up for public:

1. Local residents;
2. Visitors staying in the MMR region;
3. Special interest groups like environmentalists, bird watchers etc;

4. Educational institutes;
5. Government/research institutes.

Status

Along with ecological restoration of the mangroves within the proposed sites in Bhandup and Vashi, certain facilities will be created for the visitors within the purview of the CRZ notification. Mr. Babanrao Pachpute, Forest Minister of Maharashtra set up the foundation stone of the MWC building in Bhandup on the 1st March, 2008. The team of international architects led by Mr. Charles Ho visited the site in June 2008 to prepare the construction plan with respect to all aspects of visitor requirements, both from a physical comfort level as well as an educational and eco-interest aspect.



All that land situated to the East of Eastern Express Highway that fall under villages Kanjur, Bhandup, Nahur and Mulund and are already declared as Protected Forest form the site for the Bhandup MWC.

The Vashi site is situated along the Palm Beach Road and falls in villages Sonkhar, Sarsole, Nerul, Karave.

The construction of the center will start after the Forest Department approves CAT's master plan, which is expected by the end of 2009. We are also preparing a proposal to the Forest Department to get clearance on the Vashi site in regards to the Forest Conservation Act 1980. CAT conservation officers visit the two sites on a daily basis to monitor the condition of the flora and fauna, as well prevent illegal activities, such as poaching and illegal construction.

The administrative work to kick off construction of MWC has been supplemented with research on the various eco-systems at the proposed sites. In summer 2009, we finalized our second season of the biodiversity study for the Vashi site that revealed that the water is less polluted

compared to other sites because of regular tidal flushing. The siltation is not as high as Thane creek. However the siltation rate has yet to be determined. A comprehensive report will be ready by November 2009. The mangrove flora and fauna appear to be rich and healthy. For example the mudskipper individuals seen on the site were as big as any fish contrasting to their tiny size in Thane creek. The existing ponds, when filled with creek water, attract many species of birds. Currently we are analyzing content of heavy metals in fish and salt taken from the sites. Attempts to reintroduce *Rhizophora* species of mangrove in Bhandup, and monitoring tide levels at four sites along the Thane Creek to predict the impact of the rising sea levels on the MWC is also ongoing.

32 species of plants, six species of mammals, 66 species of birds, 12 species of reptiles, 36 species of insects. In total, 266 species of plant and animal life have been recorded in these sites.

The MWC team has been engaging with schools close to Bhandup and Vashi, such as Lymm High School, Hiranandani School, and Pawar Public School since April 2008. Through our open-air sessions, Mangrove and Wetland ecosystem Interpretation trails, awareness camps and other events, we are trying to improve students' knowledge on mangroves and encourage them to protect the local environment, etc. Approximately 350 students have visited our sites so far.



To celebrate the essence of the *World Wetland Day*, we organized a Fun- Learning session on what is a wetland and what is its importance, with the Pawar Public School. Students of standards 5th, 6th and 7th attended this programme. We conducted a nature trail to increase the awareness of students with regard to the mangrove ecosystem and its inhabitants. We played games testing their memory and also sensitizing them to the sounds of the animals around them. The children were also introduced to bird identification with various anecdotes and interesting facts about creatures of the wetland. Almost two hundred students participated and were thrilled to see rare species of birds such as Painted Storks and Spot billed Ducks.

The planning phase of the MWC project has also included extensive interaction with the local communities of Agri and Koli fishermen, who live along the Thane Creek and depend on it for a living. We organized community training workshops in the Navi Mumbai region in Karave and Sarsole villages in July and August 2009 respectively. A similar workshop is planned to be delivered in the village of Nerul. Though our educational activities, we are trying to empower fishermen, raise their awareness of environmental problems in the area, and encourage sustainable fishing practices. By August 2009 socio-economic surveys based on Participatory Rural Appraisal and Rapid Rural Appraisal methodologies had been completed in Sarsole, Nerul, and Karave.

Motya Bai Fair (27 Mar 09): On *gudi padva*, local fishermen worship Motya Bai their Local Deity who is considered by them to be the Goddess of prosperity. They come to the MWC site in large numbers to pray in their finery. CAT staff was at the site to ensure that no littering or pollution of the habitat was caused in the bargain. We along with Maharashtra Forest Department had erected banners at the site showcasing the ill effect of pollution on the mangrove ecosystem and advised people to be more cautious.



Results achieved

Since the MWC is in its planning phase, it will have its full impact and be most effective after realization. However, today the benefits for the environment and local communities are already obvious. The proposed sites have been protected from further degradation and attempts to use it for illegal agriculture, and any developmental activities. This protection is essential for preserving the biodiversity in the region. Regular interactions with members of the local community have sensitized them for the need to protect wetlands and mangrove eco-systems.

Some of them have come forward to patrol and report incidences of mangrove destruction, poaching, and illegal dumping.

Flamingo Watch – Mumbai

This project is titled “Monitoring of the lesser flamingo *Phoenicopterus minor* population in Mumbai and studying their migratory patterns”.

Time-frame

The project was started in May 2006 and is ongoing. It will be continued to understand the various parameters affecting the flamingo population of Mumbai.

Partners

The project is financially supported by Boeing India. Students from Mumbai University as well as other bird watchers from various fields of life, volunteer with us for this project.

Issues addressed and objectives

India supports the largest proportion of the Greater Flamingo *Phoenicopterus roseus* and Lesser Flamingo *Phoenicopterus minor* populations of South Asia, with breeding sites in Gujarat and Rajasthan and non-breeding sites across the country. The intertidal area covering the mudflats and mangroves of the Thane Creek, Trombay and Sewri eastwards to Uran wetlands has become increasingly important during the non–breeding season for a large population of Lesser Flamingos (10 % of the country’s population) and a smaller number of Greater Flamingos. However the detailed distribution of flamingos in the area and their use and dependence on the various habitats is not properly understood.

Over 100 species of birds have been reported from this area. The area is a very important wintering ground for water birds. It supports over 1,00,000 birds during winter. The Bombay

Natural History Society has selected the site as an Important Bird Area due to the occurrence of many species of birds in numbers much above their 1% biogeographic population threshold determined by the Wetlands International.

The Lesser Flamingo is classified as a “Near Threatened” species by the International Union for Conservation of Nature (IUCN). The Lesser Flamingos do not breed in Mumbai region. The rich mudflats provide good feeding grounds for the flamingos. Their numbers have dwindled over the years owing to pollution in the creeks and mudflats they



frequent, reduced and altered food quantity and quality, hunting on migratory routes and egg and nest site destruction.

CAT conservation officers and volunteers try to reach the following objectives:

1. Identify migratory routes and flyways of lesser flamingos visiting the Thane Creek;
2. Study and document the lesser flamingos’ population, including their age and sex ratio;
3. Track lesser flamingo movement between roosts and foraging sites and understand seasonal preferences for different sites;
4. Characterize lesser flamingo habitat use patterns;
5. Protect and conserve habitats for lesser flamingo.

Status

CAT and its volunteers have been observing flamingos and other birds in Airoli, Vashi and Sewri (suburbs of Mumbai) on a weekly basis since May 2006. We carry out periodic boat trips along the Thane Creek to estimate the number of flamingos and assess the condition of mangroves.

In 2009 we submitted proposals for satellite telemetry and studying the feeding behavior and physiology of flamingos in Mumbai, the responses on the same are awaited.

Results

CAT has got evidence that the number of flamingos visiting Mumbai has reduced drastically over past 3 years. The analysis of the complete data collected is ongoing and will be brought out as an independent report on completion.

Working with the fishing community of the Thane Creek – Mumbai

This project is titled “Enhancing the livelihoods of fishing community in the Thane Creek through environmental conservation and eco-tourism”.

Time-frame

This project was proposed for the period from January 2008 till May 2009. This project will be continued in line with the MWC upon the receipt of approvals for the same.

Partners

The project was financially supported by Boeing India for the period of January 2008 till May 2009. These continuation of the activities post this period are being supported by CAT through funds received from various donors.

Members of the local community of Koli and Agri fishermen volunteered with us for this project.

Issues addressed and objectives

The Koli and Agri community are an ethnic groups found throughout Maharashtra. Fishing communities along the Thane Creek, numbering around 15,000 individuals depend on the

mangrove forests for their livelihood. The community at present is facing lot of hardship, due to declining fish catch and is in dire need of help. There is a large surplus of educated and uneducated people in the community who are unemployed. They have been betrayed by the leaders whom they have elected who have ignored the genuine pressing issue concerning the life of the poor fisherman.

CAT though its community interactions have motivated the poor fishermen to stand up for their rights, CAT coordinates and arranges meetings with Government officials to highlight the problems faced by the fishermen and also enlisted the community members to help in conserving mangrove habitats which are an integral part of the fishermen's lives.



The concept of the project was to educate the local people about the importance of mangroves and train the fisher folks as nature guides who can also patrol mangrove areas to prevent poaching and destruction. The project also proposed to provide an alternative source of livelihood as well as equip them to monitor the biodiversity of the Thane creek along the Bhandup bank. This would lead to a comprehensive conservation initiative in a bottom- up approach and will improve their fishing practices in a sustainable manner. It was also proposed to expose them to the concept of eco friendly tourism. These objectives in turn support a larger goal of conserving and enhancing the mangrove habitat in the city of Mumbai, also enhance the floral biodiversity of the area, demonstrate non-conventional and eco-friendly ways for recreation for the Mumbai citizens and build the acumen of the Forest Department in mangrove management.

Status

The activities completed so far have been to understand the socio- economic conditions of the fishermen using Participatory Rural Appraisal and Rapid Rural Appraisal methodologies. This has been completed for fishing villages of Bhandup under this project. This exercise helped identify the people who would actually benefit from any capacity building/ sustainable livelihood

program. A Capacity Building Workshop was carried out at Bhandup from the 19- 24 December 2008. Monitoring and survey of the Bhandup site had been done for all four seasons; summer, monsoon, post monsoon and winter. We had interacted with the Forest Department on various occasions for capacity building both through presentations and site visits.



Results

We undertake joint site visits with the Forest Department and the officials are regularly updated on various aspects of mangrove habitat and conservation. This is vital since the existing staff is not well acquainted with mangrove ecosystems since they have been made charge of mangrove areas only since the last two years. The training provided help make up for their lack experience in this field.

Regular site visits have prevented the dumping and destruction of mangroves. Complaints against offenders have been filed and action initiated by CAT staff.

Workshops and joint site visits with the local community members have helped raise awareness about the need to have alternate sources of income for the community besides fishing.

Soil moisture conservation and Afforestation – Dharamshala

Time frame

The initial phase of this project that comprised of selection of the project site was carried out in August 2006. A Memorandum of Understanding was signed between CAT and the Himachal Pradesh Forest Department (Dharamshala Range) in April 2007. The work of Soil Moisture Conservation began on 8th May 2007. This constituted the first phase of the project. The second

phase included plantation which was carried out in July 2007. The third phase of the project began 19th May 2008.

Partners

This project was initially funded by Ms. Jo Self who desired to support environment improvement and afforestation work in the Dharamshala region. The project is now being funded by other donors of CAT. CAT has been carrying out this project in collaboration with the Forest Department of Dharamshala Range.

Issues addressed and objectives



In Himachal Pradesh, nearly 1000 small to medium-sized slate mines have stripped up to 60 percent of the forest and triggered countless landslides. The forest in the region of Dharamshala division has faced the onslaught of exploitation over a prolonged period. As a result the slopes have become barren and are exposed to all factors of erosion.

There was an urgent need for scientific and systematic afforestation which would accelerate the process of re-establishment of forest in these areas. By means of this project, CAT has established a model that can be used to encourage similar activities and projects in other denuded/degraded areas. CAT has also created awareness among the locals regarding the importance of forest and the benefits that they can derive from it.

Approach and status

In total over half an hectare on the slope of the site has been planted on and regenreted. The area selected for the third phase conducted this year is around 0.25 hectares in size and is situated adjoining the area of the preceding year.

Dangi (Loose stone Masonary) construction, which serves as check dams, was initiated on 24th May 2008 and was completed on 10th June 2008. A total of 2629.6 cubic feet of Dangis were constructed in this phase and construction was carried out according to the criteria followed last year.



The area was fenced using iron angles and 5 strands of barbed wires to prevent the entry of grazing animals in the area. The first three strands, from ground level, were placed at 6 inches and the rest were placed at 9 inches. To enhance protection of the area from grazing animals, the barbed wires were woven with Barberry branches. Fencing of the previous year was also reinforced in the same manner.

Pits of the dimension 1x1x1.5 feet were prepared for plantation. Soil cover in the area is sparse. The soil, whatever present at the site contains large amount of gravel and is sandy hence lacks nutrition required to support growth of the plants. Hence good quality cow dung manure was added to the pits prior to plantation. A total of 250 plants were planted this year.



Plantation began with the onset of monsoon. Plants were selected after consultation with the Forest Department officials and the locals of the area. Indigenous species were used for plantation so that the ecological balance of the forest remains undisturbed. Listed below are the plants that were planted.

Result achieved

We visited the site in November 2008 to ascertain the results achieved. According to the locals the ground has stabilized in 18 months as the occurrence and intensity of

land slides in has reduced. The entire hill has shown substantial increase in the vegetation cover indicating that the land has stabilized. This also indicated that the water retention capacity of the soil has also increased.

It is clearly evident that the work carried out by CAT in past two years is a success and can be replicated in similar areas.

4. Our plans: What we are up for

CAT exists to and has been actively working towards educating people about the importance of India's environment; helping people understand the use of natural resources in a sustainable manner to minimise damage to the environment; persuading stakeholders and decision makers to take steps to protect India's natural wealth and encouraging community participation for protection of their local environment.

Expansion is crucial but is totally dependent on the funding that can be made available. CAT is funded purely by donations from our supporters. CAT is planning to expand work on the 'Think Green to make Difference project' and reach out to more schools in Mumbai, Pimpri Chinchwad Municipal Corporation Schools as well as into certain rural schools in various districts of Maharashtra.

CAT is also planning on starting work on an afforestation programme in the Sanjay Gandhi National Park (SGNP) . The area selected for reforestation within SGNP lies at Malad stretch of the National Park. This area, admeasuring approximately 33 hectares, has been recently cleared of the illegal encroachments. With the objective to restore this area of forest to its natural state CAT plans to undertake this project.

To protect the existing mangroves and also to restore degraded and denuded areas CAT proposes to conduct, along with suitable expert agencies, satellite mapping of mangroves along the coast of Maharashtra. Mangrove mapping using satellite imagery as well as correlation of this information with the actual field surveys will help in understanding the diversity of mangroves along the coastline of the state. Information on progressive increase/decrease of mangrove cover, status and health of existing mangroves will also be sought through this study.

Amongst our various awareness activities CAT is also looking to produce a short film on consumerism and its effects on the environment.

We shall keep you posted on the developments of these proposed projects and seek your continued support for our activities.

CONSERVATION ACTION TRUST
Travel details : International & National during the year 2008-09

**Cost of International
Travel**

	Name	Designation	Destination	Purpose	Gross Expenses	
				Project		
1	Mr. Debi Goenka	Executive Trustee	Mum/Honkong/Mum	Think Green		
2	Ms.Georgina Fernandes	Education Officer	- do -	Think Green		
3	Beloshe Nayana		- do -	Think Green		
4	Swati Nagtilak		- do -	Think Green	225870	Partly
5	Telange Piraji		- do -	Think Green		
6	Gaire Sapna		- do -	Think Green		
7	Akshay Kadam		- do -	Think Green		
8	M/S Charles,Christopher/ Thomas	Visit of Architects to India	Singapore/Mumbai/ Singapore	Mangroves Wetland	198025	YES
9	Ms. Neera Adarkar	Visit by Arch.	Singapore/Mumbai	Centre(MWC)		
					423895	

Cost of National Travel by staff

	Name	Designation	Destination	Purpose	Gross Expenses	Sponsored by external Org.
1	Mr. Debi Goenka	Executive Trustee	Mum/Delhi/Mum	Forest	8,267	No
2	Mr. Debi Goenka & Mr. Gautam Patel	Executive Trustee	Mum/Delhi/Mum	Forest		
	Ms. Sayed Nudrat Zawar	Trustee	- do -	Forest	17423	No
3	Mr. Ashish	Sr. Conservation Officer	Mum/Dharamshala/Mum	Dharamshala Project	205325	
					14806	Partly
4	Mr. Debi Goenka	Executive Trustee	Delhi (staying charges)	Forest	5962	No
5	Mr. Debi Goenka	Executive Trustee	Mum/Delhi/Mum	MWC	11273	yes
					4,420	
6	Mr. Debi Goenka	Executive Trustee	Mum/Pune/Mum	Pune Think Green (PTG)	1016	yes
7	Mr. Debi Goenka	Executive Trustee	Mum/Pune/Mum	PTG	1626	yes
8	Mr. Debi Goenka	Executive Trustee	Mum/Delhi/Mum	MWC	10020	yes
9	Ms. Sayed Nudrat Zawar	Sr. Conserv. Officer	Mum/Delhi/Mum	Dharamshala	4683	Partly
10	Ms. Sayed Nudrat Zawar	Sr. Conserv. Officer	Mum/Delhi/Mum	Dharamshala	5277	Partly
11	Mr. Debi Goenka	Executive Trustee	Mum/Delhi/Mum	MWC	11074	yes
12	Mr. Debi Goenka	Executive Trustee	Mum/Delhi/	MWC	27867	yes
13			Dharamshala/Mum	Dharamshala	26581	Partly
				PTG	1775	yes
14	Mr. Debi Goenka	Executive Trustee	Mum/Delhi/Mum	MWC	12275	yes
15	Mr. Debi Goenka	Executive Trustee	Mum/Delhi/Mum	MWC	9490	yes
16	Mr. Debi Goenka	Executive Trustee	Mum/Delhi/Mum	MWC	5287	yes
17	Mr. Debi Goenka	Executive Trustee	Mum/Delhi/Mum	CIDCO	9988	yes
18	Ms. Georgina Fernandes	Education Officer	Mum/Pune/Mum	PTG	994	yes
19	Ms. Roopali Raghavan	Project Co-ordinator	Mulshi/Pune/Mulshi	PTG	12258	yes
					407687	