**Application for inclusion of sand mining in the Agenda of the Convention of Biodiversity, a new and emerging issue relating to the conservation and sustainable use of biodiversity**

**Awaaz Foundation and Bombay Natural History Society.**

Information that, where possible, should accompany proposals for new and emerging issues

(Decision IX/29, paragraph 11):

1. *Why the issue needs urgent attention by the Subsidiary Body on Scientific, Technical and Technological Advice (including how it impacts biodiversity);*

The issue needs urgent attention by the Subsidiary Body because sand mining is a largely unacknowledged but major threat to biodiversity in many parts of the world. While numerous scientific studies have been conducted of adverse effects to flora fauna and ecosystems through other types of human intervention such as building, pollution etc, there is, apparently, not a single scientific document on the effects of sand mining on biodiversity conducted by the UN or by the Governments of most countries or even by independent scientific researchers. When sand, the medium in which coastal fauna and flora thrive and the most common interface between terrestrial and marine biodiversity, is removed, the entire ecosystem is inevitably and irreversibly destroyed. This would have an effect on every type of flora or fauna which survives in the costal zone including wetlands, sand dunes and beaches and would affect all coastal marine and terrestrial life including migratory birds, turtles and almost every species which make up coastal biodiversity. Sand mining would also accelerate erosion and affect water security of adjoining lands through ingress of saline water.

Sand is a necessary component to fuel the construction boom driving the rapid pace of urbanization and the rapid economic growth patterns of developing countries like India, Brazil etc. Rapid growth necessarily requires rapid construction of industrial, commercial and residential spaces. In India, the construction industry has accounted for around 40 per cent of the development investment during the past 50 years

According to Transparency International, construction remains one of the most corrupt sectors according to the Bribe Payers Index[[1]](#endnote-1). Sand mafias are consolidating their hold on various areas and controlling their areas through political might in Indian States.[[2]](#endnote-2)The sand mafia has attacked, and killed those interfering with their illegal sand mining businesses in India. The writer has faced two such attacks in Maharashtra by the sand mafia, and in spite of various assurances from the
State and Union Governments, illegal sand mining still continues on a large scale around Mumbai. Various other attacks have taken place in numerous different States as the sand mafia conducts its illegal activities through a nexus between politicians, administration and sand miners. Often, the politicians themselves own the businesses and control large areas where illegal sand mining takes place; they do not hesitate to attack and even murder any public spirited individual who ‘interferes’ with their nefarious activities. Even Government and police officials are afraid to curtail such activity.

The Washington Post states “After China and the United States, India has the world’s largest construction business which accounts for 9 percent of its 2 trillion USD economy. The country plans to invest 500 billion USD in building up its infrastructure and 500 million USD has been earmarked for the construction industry alone.”[[3]](#endnote-3)

Yet, sand is classified as a ‘minor mineral’ in India and it’s excavation is regulated by State Governments, while the Ministry of Environment and Forests does not have any effective regulatory framework to control it. Recently, the Supreme Court of India ordered the regulation of sand mining following the murder of a Police officer who tried to control sand mining in his jurisdiction and the National Green Tribunal passed orders banning sand mining in river beds.

Some beach sands contain thorium, a radioactive metal suitable for use in a nuclear power plant. Mafias in India, which has the largest thorium reserves in the world, are exploiting thorium rich sands. According to the Deccan Herald “India has an estimated 10.7 million tonnes of monazite sands (containing 8.4 lakh tonnes of thorium metal) occurring in beach and river sands in association with other heavy minerals.")[[4]](#endnote-4) According to the Pioneer "Recent reports suggest that from 2004 onwards, over two million tonnes of monazite, equivalent to 1,95,300 tonnes of thorium at 9.3 per cent recovery, has vanished from the Tamil Nadu and Kerala coasts. At a conservative estimate of $100 per tonne, the scam exceeds Rs 48 lakh crore."[[5]](#endnote-5)

Fishermen and other coastal dwellers have lived for centuries in harmony with their natural environments. Unfortunately, many of them are losing their traditional fishing businesses and becoming sand miners instead, actively degrading their environment due to short term gains, rampant mis-information and lack of any real scientific data. Child labour is common in the sand mining trade and serious effects on health include silicosis, cancer etc. [[6]](#endnote-6)

Despite the immense value of sand in construction work, despite the special value of monazite sand in energy producing initiatives, the law remains woefully inadequately applied to the area of sand mining and breeds some of the greatest corruption in countries like Indonesia, Cambodia and India. It is imperative to lay out just how crucial a resource sand is, how this importance coupled with insufficient regulations and a lack of awareness is leading to disaster, and outline various initiatives with an eye to vital future policy steps. It is also important to suggest recycling of debris and industrial waste as an alternate building material.[[7]](#endnote-7)

Sand mining can lead to coastal erosion and loss of entire coastal habits including cities, (many of which are situated along coastlines or rivers) much faster than global warming. Yet it remains marginalized in public consciousness and in the policy making of communities, Governments and International agencies.

1. *How it affects the attainment of the objectives of the Convention (citing relevant articles);*

It affects the attainment of all of the Aichi Biodiversity Strategic Goals:

* Strategic Goal A: Address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society.

Although it is a known fact that sand mining is happening in many parts of the world and that entire beaches are disappearing, needing periodic replenishment of sand, affecting expensive beachfront real estate and causing irreparable loss to biodiversity, this issue has not been acknowledged by any Government as the real threat it is. Part of the reason is the importance of sand in industrial growth which governments are loath to risk in the cause of accepting the huge environmental impacts of sand mining. This issue needs to be mainstreamed across government and society and the actual cost of continuing sand mining need to be assessed.

* Strategic Goal B: Reduce the direct pressures on biodiversity and promote sustainable use

Alternatives to sand mining are rarely discussed. Some projects have proved that such alternatives do exist and are being used in various parts of the world including recycled slag, debris and glass. However, the cost of natural sand is cheaper than the cost of manufactured materials and governments typically resist any studies which would determine the real cost of natural sand, after factoring in environmental costs. Recycling would substantially reduce the direct pressure on biodiversity, not only from the harmful effects of sand mining but from dumping of debris in coastal wetlands and on river banks if the debris were to be compulsorily recycled.

* Strategic Goal C: To improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity

The status of biodiversity would be improved if recycled alternatives to natural sand were mainstreamed and ecosystems, species and genetic biodiversity would be preserved.

* Strategic Goal D: Enhance the benefits to all from biodiversity and ecosystem services

Sand mining, apart from impacting biodiversity, also impacts traditional livelihoods, specially of fishing and agrarian communities dependent on the habitats and life forms which thrive in sand. The benefits of acknowledging the real cost of sand mining and developing recycled alternatives would benefit entire coastal and riverside communities all over the world.

* Strategic Goal E: Enhance implementation through participatory planning, knowledge management and capacity building.

Since there is a clear lack of data on the effects of sand mining, either through scientific papers or through official Government studies, policies and their implementation are taking place in a mostly ad hoc manner. In spite of International trade of sand between countries, no International protocol governs the extraction of sand or any other aspect of sand mining including biodiversity, water security, land security etc. In spite of local protests there is very little response from any Government on this issue. There is an urgent need to mainstream the issue of sandmining and carry out scientific studies through participatory planning for better policy making and implementation, at local, national and international levels.

1. *Thematic programmes of work and/or cross-cutting issues that could contribute to the resolution of the issue;*

Sand mining needs recognition as one of the most major issues facing coastal and riverine ecologies.

1. *Work already under way by relevant organizations addressing the issue;*

Awaaz Foundation has worked on coastal sand mining in Maharashtra State of India for the past decade, including advocacy with Government, litigation awareness campaigns and data collection. BNHS has worked on sand mining in rivers in Chambal etc.

, ‘Sand Wars’ directed by Denis Delestrac and ‘Mumbai’ for the French ‘Arte’ are two documentary films which recorded for the first time the extent of sand mining in many parts of the world. Sand mining is an increasing menace all over the world, as documented by Denis Delestrac’s ‘Sand Wars’, premiered in Paris in May 2013. Allegedly, Singapore has expanded its coastline through illegal sand mining in Indonesia and Cambodia, and as a direct result, Indonesia has lost entire islands. Sand mining in the USA has resulted in erosion and collapse of beachfront houses and properties. According to some experts, more than 70% of the world’s beaches are under threat of vanishing completely. Many already require repeated artificial replenishment of sand taken from other beaches and degrading those.

Sand was easily available at a depth of 6-8 feet a few years ago, but with continuous extraction, the depth has now increased to over 40 feet and in some areas even more than 100 feet. In Maharashtra, some skilled divers, at risk to their lives, still dive even up to 120 feet, but mortality rates are high. Typically, 2 brass of sand can be excavated by one boat every day. Due to the exhausting manual labour involved, weather conditions etc. each boat can operate a few hours daily for about half the year.

In the last 5-6 years, technological advances have made possible the use of the more efficient, less labour and risk intensive and more profitable suction pumps. A suction pump carried on a boat and followed by a larger barge for storing excavated sand can extract 100 brass of sand per day and can operate every day of the year for 24 hours. According to the manual dredgers, in the short space of 2 years, one village in Thane District has exhausted it’s entire sand stocks, the river has deepened to over 100 feet, and major erosion has ruined village lands and fields and affected their water supply.. The suction pump owners of that area have now moved close to where their ‘sustainable’ manual operation is currently carried out. Sand mining at the foot of a main railway bridge north from Mumbai threatens the security of long and short distance commuters and a small island in Vaitarna River has vanished completely. They are in fear of losing their farmland and again losing their livelihood. Repeated complaints to authorities have not been acted upon.

In the Convention of Biodiversity hosted by India in 2012, sand mining was raised for the first time as one of the most severe threats to coastal environments at a side event by Awaaz Foundation and the Bombay Natural History Society. The main Convention, although coastal issues was one the top focus areas, contained no mention of sand mining at all. Conceding the seriousness of the issues, individual members of UN bodies represented at the Convention acknowledged that sand mining did not form any part of their numerous studies and documents on coastal environment and sand was not covered under any International Convention in spite of trade between countries (such as sand imported into India from Pakistan or into Singapore from Indonesia.)

1. *Credible sources of information, preferably from peer-reviewed articles;*

Very little scientific work has been done, however, a number of news reports over many years, particularly of site visits in India and a documentary film ‘Sand Wars’ recording on-site sand mining destroying entire eco systems all over the world draw attention to this emerging threat. In addition, a Report of the Ministry of Environment and Forests, Government of India confirms illegal sand mining in Gautam Buddh Nagar, UP after sand mining and its links with politicians became a major political issue in India earlier this year.

1. Letter to Union Environment Ministry, Government of India to include coastal sand mining in the Agenda of CoP12[[8]](#endnote-8)

2. Report of MoEF confirming illegal sand mining on a large scale at Gautam Buddh Nagar[[9]](#endnote-9)

3. The Link Between Politicians and Sand mining in and around Mumbai[[10]](#endnote-10)

4. National Green Tribunal Order banning sand mining in rivers across India[[11]](#endnote-11)

5. Bombay High Court Order banning coastal sand mining in Maharashtra, India[[12]](#endnote-12)

6. Links to numerous Press reports on illegal sand mining across India[[13]](#endnote-13)

7. Links to Sand Wars, a documentary film with site visits to illegal sand mining locations in India, Cambodia, USA, Caribbean, Maldives and various other locations.[[14]](#endnote-14)

8. Website of ‘Coastal Care’, a collection of news reports on sand mining in many countries of the world.[[15]](#endnote-15)

**Criteria for identifying new and emerging issues related to the conservation and sustainable use of biodiversity (Decision IX/29, paragraph 12):**

1. *Relevance of the issue to the implementation of the objectives of the Convention and its existing programmes of work;*

Relevance of sand mining to coastal biodiversity and to the Aichi Targets has been discussed above.

1. *New evidence of unexpected and significant impacts on biodiversity*;

Since sand mining is linked to the construction growth, the scale has escalated with the development of new economies all over the world. The evidence of significant impact of biodiversity is being acutely felt in these countries recently, including loss of entire habitats and ecosystems dependent on sand.

1. *Urgency of addressing the issue/imminence of the risk caused by the issue to the effective implementation of the Convention as well as the magnitude of actual and potential impact on biodiversity;*

The issue is of the utmost urgency and impacts several other issues related to species threat and ecosystem threat covered by the Convention. A loss of sand directlyand adversely affects these issues but the importance of sand itself is to so taken for granted that it has not even been considered.

1. *Actual geographic coverage and potential spread, including rate of spread, of the identified issue relating to the conservation and sustainable use of biodiversity;*

Potentially one of the largest risks to biodiversity all over the world with rapidly spreading destructive value to biodiversity, water security, human welfare and livelihood and coastal erosion.

1. *Evidence of the absence or limited availability of tools to limit or mitigate the negative impacts of the identified issue on the conservation and sustainable use of biodiversity;*

There are no coherent sand mining policies in most developing countries. Even in developed countries, sand mining is considered inevitable and sustainability is often not measured before sand mining permissions are given. International trade of sand where entire economies and whole islands of some developing countries and vanishing rapidly due to demand of sand in developed countries makes it even more imperative to have an International protocol on sand mining in place.

1. *Magnitude of actual and potential impact of the identified issue on human well-being;*

All coastal and fishing communities are impacted by sand mining, which can lead to health issues such as silicosis, cancer, loss of farmland, loss of sweet water and loss of traditional fishing or agrarian livelihoods. Child labour is also common in illegal sand mining.[[16]](#endnote-16)

 *(g) Magnitude of actual and potential impact of the identified issue on productive sectors and economic well-being as related to the conservation and sustainable use of biodiversity*.

The magnitude has never been measured independently, yet ultimate economic well being is tied into the sustainable growth of a country’s economy. Short term gains by using almost free naturally available materials instead of recycling debris containing sand will lead to huge future economic losses when valuable coastal and river-front land including urban land is threatened and when water scarcity is felt.

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1. Introducing the Construction Sector Transparency Initiative http://www.cidb.org.za/Documents/KC/cidb\_Publications/Presentations/19May2011\_CoSTSummit\_IntroCoST\_ChristiaanPoortman.pdf [↑](#endnote-ref-1)
2. Laika Abdulali “The Link between politicians and sand mining in and around Mumbai” http://www.awaaz.org/Awaaz\_Foundation/Sand\_dredging/Entries/2012/10/4\_The\_link\_between\_politicians\_and\_sand\_minin\_gin\_and\_around\_Mumbai\_by\_Laika\_Abdulali\_files/Laika%20Abdulali%27s%20book.pdf [↑](#endnote-ref-2)
3. Rama Lakshmi “India’s illegal sand mining fuels boom, ravages rivers” The Washington Post 19 May 2012 http://articles.washingtonpost.com/2012-05-19/world/35456963\_1\_rampant-sand-illegal-sand-unauthorized-sand [↑](#endnote-ref-3)
4. Kalyan Ray “India all set to tap thorium reserves’ The Deccan Herald 3 May 2012http://www.deccanherald.com/content/246849/ [↑](#endnote-ref-4)
5. Sandhya Jain “Thorium holds key to India’s energy security” The Pioneer http://archive.dailypioneer.com/index.php?option=com\_k2&view=item&id=52434:thorium-holds-key-to-india’s-energy-security&Itemid=549 [↑](#endnote-ref-5)
6. Nandakumar Pawar “Presentation at CoP 11” http://www.awaaz.org/Awaaz\_Foundation/Sand\_dredging/Entries/2012/10/9\_Nandkumar\_Pawars\_Presentation\_for\_CBD\_Cop11.html [↑](#endnote-ref-6)
7. Bombay High Court Order dated 4 February 2010 [↑](#endnote-ref-7)
8. Sumaira Abdulali Letter to Ministry of Environment and Forests, Government of India (MoEF) http://www.awaaz.org/Awaaz\_Foundation/Sand\_dredging/Entries/2013/7/22\_Letter\_to\_Environment\_Minister\_to\_include\_sand\_mining\_in\_the\_official\_Agenda\_of\_CBD\_Cop\_12.html [↑](#endnote-ref-8)
9. Ministry of Environment and Forests Government of India Report on sand mining http://envfor.nic.in/content/report-moef-sand-mining [↑](#endnote-ref-9)
10. The Link between politicians and sand mining in and around Mumbai [↑](#endnote-ref-10)
11. National Green Tribunal Order dated 5 August 2013 [↑](#endnote-ref-11)
12. Bombay High Court Order PIL No 138 of 2006 dated 28 August 2009 [↑](#endnote-ref-12)
13. Awaaz Foundation Compilation of Press Articles in India http://www.awaaz.org/Awaaz\_Foundation/Sand\_mining\_Press\_coverage/Sand\_mining\_Press\_coverage.html [↑](#endnote-ref-13)
14. Denis Delestrac “Sand Wars” documentary film http://sand-wars.com [↑](#endnote-ref-14)
15. “Coastal Care” global News Reports http://coastalcare.org/sections/inform/sand-mining/ [↑](#endnote-ref-15)
16. Faiz Abdulali “Child Labour and Illegal Sand Mining” http://www.awaaz.org/Awaaz\_Foundation/Sand\_dredging/Entries/2013/4/20\_Child\_labour\_and\_illegal\_sand\_mining\_by\_Faiz\_Abdulali.html [↑](#endnote-ref-16)