



**BEFORE THE NATIONAL GREEN TRIBUNAL  
EASTERN ZONE BENCH AT KOLKATA**

*(Application under Sections 14 and 15 read with Sections 17 and 18 of the  
National Green Tribunal Act, 2010)*

**ORIGINAL APPLICATION NO. \_\_\_\_ OF 2025**

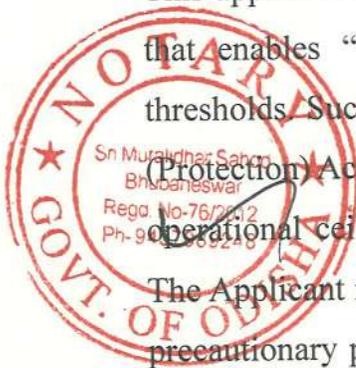
**IN THE MATTER OF:**

Natural Institute of Social Change and Resource ]		
Generation ]		...Applicant
<i>Versus</i>		
Ministry of Shipping, Ports and Waterway, ]		
Government of India & Ors. ]		...Respondents

**SYNOPSIS**

The Applicant, Natural Institute of Social Change and Resource Generation, registered under the Societies Registration Act in 1989, has approached this Hon'ble Tribunal under Sections 14, 15, 17 and 18 of the National Green Tribunal Act, 2010, seeking urgent intervention to curb a glaring regulatory lacuna in the import and handling of ammonium nitrate (AN) at Paradip Port. Over the past three years, AN imports at Paradip Port have surged exponentially from 38,734 metric tonnes in FY 2022-23 to 3,14,430 metric tonnes by November 2024, with single vessels discharging 15,000–25,000 metric tonnes and remaining berthed as floating storage for prolonged periods. This unfettered bulk import not only blatantly circumvents the 5,000 MT storage limit prescribed under the Ammonium Nitrate Rules, 2012, but also exposes densely populated coastal settlements, the nearby IOCL Refinery, DRDO installations, and sensitive marine ecosystems to catastrophic risk.

This application highlights the stark absence of vessel-specific quantity caps, a loophole that enables "floating storage" of hazardous consignments far exceeding statutory thresholds. Such vessel-based accumulation of AN directly contravenes the Environment (Protection) Act, 1986, and the Disaster Management Act, 2005, which mandate risk-based operational ceilings to ensure effective evacuation, containment, and medical response. The Applicant relies on established NGT and Supreme Court precedents emphasizing the precautionary principle and purposive interpretation of environmental statutes to prevent regulatory evasion. Furthermore, the Rules of 2012, when read harmoniously with Section 17(2) of the NGT Act, demand uniform application of the 5,000 MT cap across all storage modalities to preclude any artificial distinctions that undermine legislative intent.



+ *[Signature]*  
Secretary



Global calamities such as the Beirut port explosion in August 2020, where 2,750 MT of AN detonated with devastating effect, and the Tianjin blasts in 2015, underscore the real and present danger of oversized AN consignments. Risk assessments demonstrate that a 20,000 MT explosion would release energy equivalent to 8,000–10,000 MT of TNT, inflicting fatalities within a 461 metre radius and severe injuries within 731 metres. Over 51,000 residents within a 5 km radius of Paradip Port face grave peril, and secondary detonations at nearby petroleum, chemical, and gas facilities would precipitate a domino disaster of unprecedented scale.

In light of the foregoing, the Applicant prays for immediate interim relief restraining import or berth of any vessel carrying in excess of 5,000 MT of AN at Paradip Port, prohibition of floating storage practices, and denial of customs clearance to oversized consignments. Thereafter, the Applicant seeks a direction to the Union Ministry of Shipping, Ports and Waterways and other regulatory bodies to amend the Ammonium Nitrate Rules to expressly extend the 5,000 MT cap to vessel imports, mandate comprehensive risk assessments and site-specific safety protocols, and ensure inter-agency monitoring and reporting to this Hon'ble Tribunal.

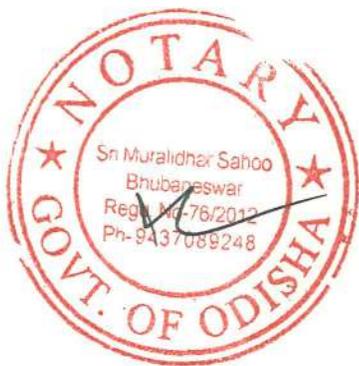
Place: *Kolkata*

Date: *10.10.2025*

*For NISARG*  
*Secretary*



*Suryendu...*  
Advocate of the Applicant



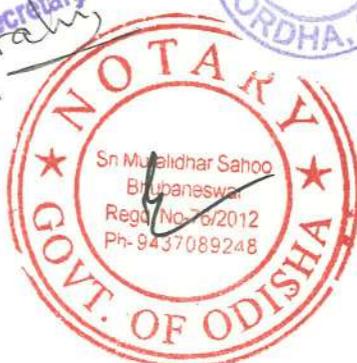


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9	2015	Toxic gas leak during IOCL Paradip refinery trial operations; worker exposure recorded.
10	2021	Fire incident at IOCL Paradip refinery; injuries and public panic reported.
11	04-08-2020	Beirut port explosion involving approximately 2,750 tons of ammonium nitrate; catastrophic precedent cited.
12	21-10-2020	Ministry notifies Paradip Port for import of ammonium nitrate in bagged form (S.O. 3718(E)).
13	24-01-2023	Visakhapatnam Port Authority issues Trade Circular-1561 notifying APCB directions on ammonium nitrate import.
14	FY 2022-23	Paradip Port handles 38,734 MT of ammonium nitrate imports.
15	FY 2023-24	Paradip Port handles 87,767 MT of ammonium nitrate imports (approx. 126.6% increase).
16	~2024	Post Russia-Ukraine war, handling of ammonium nitrate reportedly shifted from St. Petersburg to other ports (media reports).
17	04-2025	Paradip Port introduces productivity norms (contended as inadequate for quantity regulation).
18	26-04-2025	Port of Shahid Rajae, Iran blast involving ammonium-based product; fatalities and injuries reported.
19	06-05-2025	IMDG Code further strengthened concerning shipment of ammonium nitrate; invoked for maritime safety compliance.
20	FY 2024-25 (till Nov.)	Paradip Port handles 3,14,430 MT of ammonium nitrate imports (approx. 258.3% surge).
21	Various (2024-2025)	Applicant's letter/email to State authorities raising hazards of ammonium nitrate imports at Paradip.

Place: KolkataDate: 10.10.2025

For NISARG

Secretary  
[Signature]

[Signature]  
Advocate of the Applicant

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**ORIGINAL APPLICATION NO. \_\_\_ OF 2025**

**IN THE MATTER OF:**

**Natural Institute of Social Change** ]  
**and Resource Generation** ]  
 through its Secretary Mr. Chitaranjan Panigrahi, ]  
 having address at N3/213, IRC village, Nayapally, ]  
 Bhubaneswar-751012, Odisha. ]  
 Email: [info@niscarg.org](mailto:info@niscarg.org), [chita.zoom@gmail.com](mailto:chita.zoom@gmail.com) ] ...Applicant

*versus*

1. **Ministry of Shipping, Ports and Waterways** ]  
**Government of India,** ]  
**Through its Secretary,** ]  
 Parivahan Bhavan, 1, ]  
 Parliament Street, ]  
 New Delhi – 110011. ]  
 Email: [secyship@nic.in](mailto:secyship@nic.in) ]

2. **Ministry of Environment, Forests and** ]  
**Climate Change, Government of India** ]  
**Through its Secretary,** ]  
 Indira Paryavaran Bhawan, ]  
 Jorbagh Road, ]  
 New Delhi – 110 003. ]

For NISARG ]

*[Signature]*  
Secretary



Email: [secy-moef@nic.in](mailto:secy-moef@nic.in) ]

3. **Ministry of Home Affairs** ]

**Government of India,** ]

**Through its Secretary,** ]

North Block, ]

New Delhi – 110 001. ]

Email: [hshso@nic.in](mailto:hshso@nic.in) ]

4. **Ministry of Defense** ]

**Government of India,** ]

**Through its Secretary,** ]

101-A, South Block, ]

New Delhi – 110011. ]

Email: [defsecy@nic.in](mailto:defsecy@nic.in) ]

5. **Department for Promotion of Industry,** ]

**and Internal Trade,** ]

**Ministry of Commerce and Industry** ]

**Government of India,** ]

**Through its Secretary,** ]

Vardhya Bhawan, New Delhi – 110011. ]

Email: [secy-ipp@nic.in](mailto:secy-ipp@nic.in) ]

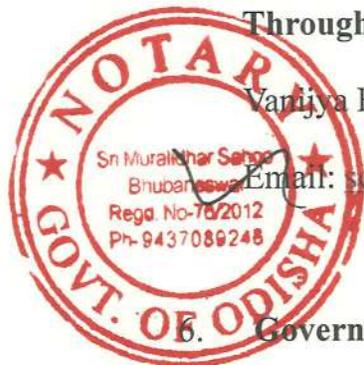
6. **Government of Odisha** ]

**Through its Chief Secretary,** ]

Lok Seva Bhawan, ]

Bhubaneswar – 751001, Odisha. ]

Email: [csodisha@nic.in](mailto:csodisha@nic.in) ]



FOR NISARG

*[Handwritten Signature]*



7. **The Forest, Environment and Climate Change ]**

Department ]

Through its Additional Chief Secretary ]

Government of Odisha ]

Kharavel Bhavan, Bhubaneswar, Odisha, India ]

Email: [fecec.or@nic.in](mailto:fecec.or@nic.in) ]8. **Odisha State Pollution Control Board ]**

Through its Chairman, ]

Paribesh Bhawan, A/118, Nilakantha Nagar, ]

Unit-8, Bhubaneswar – 751012, Odisha. ]

Email: [chairman@ospccb.org](mailto:chairman@ospccb.org) ]9. **Paradip Port Authority ]**

Through its Chairman, ]

Administrative Building, ]

Paradip Port, Jagatsinghpur – 754142, Odisha ]

Email: [chairman@paradipport.gov.in](mailto:chairman@paradipport.gov.in) ]10. **Chief Controller of Explosives, ]**

Petroleum and Explosives Safety Organization ]

A-Block, CGO Complex, Seminary Hills, ]

Nagpur – 440006, Maharashtra. ]

Email: [explosives@explosives.gov.in](mailto:explosives@explosives.gov.in) ]11. **The Office of the Commissioner, ]**

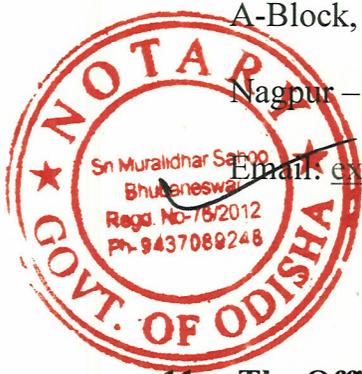
Customs (Preventive) Commissionerate, ]

Bhubaneswar, Central Revenue Building, ]

Rajaswa Vihar, Bhubaneswar, Odisha Pin-751 007. ]

Email: [vijayl.risi@gov.in](mailto:vijayl.risi@gov.in) ]

...Respondents



For NISARG

  
Secretary


**MOST RESPECTFULLY SHOWETH:****I. DETAILS OF THE APPLICANT:**

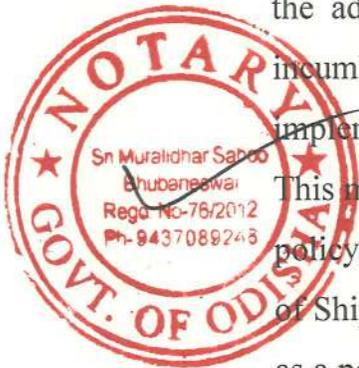
1. The Applicant is a non-profit organisation, established in 1989 and registered under the Societies Registration Act (No. XXI of 1860) *vide* Certificate of Registration of Societies No. 2736-132 of 1989-1990 dated 9 August 1989. The Applicant works primarily in the domain of Education, Health, Senior Citizens, Disaster Management, Employment, Art & Culture, Water, Agriculture, Governance, Gender, Child & Youth Development, Technology, Food & Nutrition, Energy & Environment, Animal & Wildlife and Livelihood. The present Application is being filed by the Applicant through its secretary, Mr. Chitaranjan Panigrahi. Further, the address of the Applicant for service of notices, pleadings and/or processes shall be that of its advocates on record.

A copy of the Certificate of Registration of Societies No. 2736-132 of 1989-1990 dated 9 August 1989 is annexed hereto and marked as **Annexure A1**.

A copy of the authorisation in favor of the signatory hereto, Mr. Chitaranjan Panigrahi, is annexed hereto and marked as **Annexure A2**.

**II. DETAILS OF THE RESPONDENTS:**

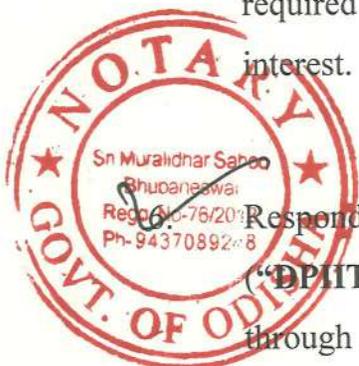
2. Respondent No. 1 is the Ministry of Shipping, Ports and Waterways of the Government of India. The said ministry is impleaded through its secretary, who is the administrative head of the ministry, and also an advisor to the respective incumbent minister. This ministry is *inter alia* responsible for formulating and implementing policies relating to shipping, port operations, and inland waterways. This ministry further oversees the functioning of all major ports in India, including policy, infrastructure development, and maritime safety regulations. The Ministry of Shipping, Ports and Waterways through its Ports Wing notified the Paradip Port as a port for import of Ammonium Nitrate ("AN"), in bagged form in India by sea vide Notification dated 21 October 2020 bearing S.O. 3718(E) published in the Extraordinary Gazette of India in its Part II, Section 3 (ii) ("**2020 Notification**"). A copy of the Notification dated 21 October 2020 bearing S.O. 3718(E) published in



Secretary  
 Khordha, Odisha  
 1322376/89-90

the Extraordinary Gazette of India in its Part II, Section 3 (ii) is annexed hereto and marked as **Annexure A3**.

3. Respondent No. 2 is the Ministry of Environment, Forests, and Climate Change, Government of India. The said ministry is impleaded through its secretary, who is the administrative head of the ministry, and also an advisor to the respective incumbent minister. The said ministry is *inter alia* the central authority for environmental policy, planning, and implementation of laws relating to the protection and conservation of natural resources and is also responsible for regulating the environmental aspects of hazardous substances, including impact assessments and compliance with environmental clearance procedures.
4. The Respondent No. 3 is the Ministry of Home Affairs, Government of India. The said ministry is impleaded through its secretary, who is the administrative head of the ministry, and also an advisor to the respective incumbent minister. This ministry is tasked with *inter alia* internal security, public safety, and regulation of hazardous materials under the Explosives Act, 1884 (**'Explosives Act'**) and Disaster Management Act, 2005 (**'Disaster Management Act'**). This ministry is also responsible for ensuring that the storage and transport of dangerous chemicals does not pose a threat to public order or national security.
5. Respondent No. 4 is the Ministry of Defence, Government of India. The said ministry is impleaded through its secretary, who is the administrative head of the ministry, and also an advisor to the respective incumbent minister. This ministry is *inter alia* responsible for national defence and security. This ministry's oversight is required in matters involving defence infrastructure, installations, or national interest.
6. Respondent No. 5 is the Department for Promotion of Industry and Internal Trade (**'DPIIT'**), Ministry of Commerce and Industry. The said department is impleaded through its secretary, who is the administrative head, and also an advisor to the respective incumbent minister. The said department is the authority responsible for formulation of industrial policy, including the regulation of explosives and hazardous materials, including Ammonium Nitrate (**'AN'**), under the Explosives Act and allied rules. DPIIT also oversees the Petroleum and Explosives Safety Organization (**'PESO'**), which is the implementing agency for safety standards



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related to petroleum, explosives, and compressed gases, and to ensure safety and security of explosive and hazardous substances, including AN.

7. Respondent No. 6 is the Government of Odisha, impleaded herein through its Chief Secretary, who is the highest-ranking executive officer and senior-most civil servant of the State of Odisha, responsible for the day-to-day administration of the State of Odisha, and for co-ordinating inter-departmental policies and overseeing compliance with state and central laws, including environmental and industrial safety regulations in the State's jurisdiction.
8. Respondent No. 7 is the Forest, Environment and Climate Change Department of the Government of Odisha, impleaded herein through the Additional Chief Secretary. This department is responsible for the formulation and implementation of policies and programs related to forest conservation, environmental protection, and climate change mitigation and adaptation within the State of Odisha. It oversees the enforcement of environmental laws and regulations, manages forest resources, coordinates afforestation and biodiversity conservation initiatives, and ensures compliance with national and state-level directives concerning environmental sustainability and ecological balance.
9. Respondent No.8 is a statutory authority i.e., Odisha State Pollution Control Board ("OSPCB"), responsible for enforcing environmental laws in the State of Odisha, impleaded herein through its Chairman. The OSPCB is charged with preventing, controlling, and abating pollution within the State. This includes planning and executing pollution control programs, advising the state government on pollution matters, and enforcing environmental laws and regulations, issuing consent for handling hazardous chemicals, and ensuring that port activities, including the import, storage, and transportation of Ammonium Nitrate, are in accordance with applicable environmental laws, rules, and regulations.
10. Respondent No. 9 is Paradip Port Authority, impleaded herein through its Chairman ("Respondent No. 9 Port Authority"). The Respondent No. 9 Port Authority manages one of India's major ports under the Major Port Authorities Act, 2021 i.e., the Paradip Port. The Respondent No. 9 Port Authority is responsible for operations, safety, and compliance with environmental and hazardous materials regulations related to cargo, including AN handled at the port.



*[Signature]*  
Secretary

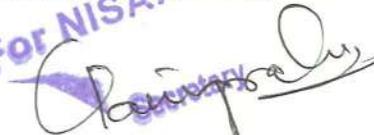


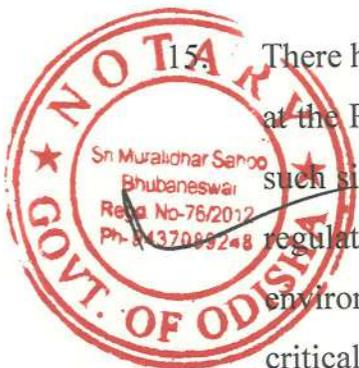
11. Respondent No. 10 is the competent authority for the regulation of explosives, petroleum products, and hazardous chemicals in India. Under the Explosives Act, 1884 and relevant rules, PESO is empowered to issue licenses and enforce safety standards for the import, transport, storage, and use of hazardous chemicals like AN.
12. Respondent No. 11 is responsible for customs clearance, regulatory oversight, and facilitation of imports at Paradip Port, including hazardous substances such as AN. The Central Board of Indirect Taxes and Customs plays a pivotal role in verifying import documentation, controlling the physical entry of hazardous consignments at the Port, and enabling or delaying clearance, thereby directly impacting the temporal stay and management of AN consignments at Paradip Port.
13. The addresses of all the Respondents, for service of notices, pleadings and/or processes is as mentioned in the cause-title of this Application.

### III. DETAILS OF THE APPLICATION:

14. The Applicant is filing the present Application seeking to raise substantial questions relating to the environment, arising out of the import of large amounts of AN, a highly combustible and explosive chemical compound having composition  $\text{NH}_4\text{NO}_3$  through the Paradip Port, being managed by the Respondent No. 9 Port Authority. AN is a designated hazardous chemical and the handling of AN is subject to regulation under the provisions of the Environment Protection Act, 1986 and Rules framed thereunder.

15. There has been manifold increase in the import of AN to the extent of 2,75,696 MT at the Paradip Port over the last 2 (two) financial years. This continuous import of such significantly large quantities of AN through Paradip Port without appropriate regulatory and safety infrastructure available thereat, is extremely dangerous for the environment, local community and the country at large given the presence of several critical installations and environmentally sensitive zones in the proximity of the said port. In view of the same, the Applicant has been constrained to approach this Hon'ble Tribunal *inter alia* seeking a direction to the Respondent No.1 to formulate

For NISA:  




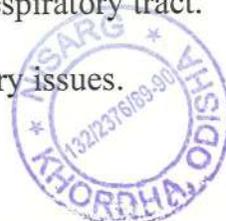
necessary rules, regulations and guidelines to restrict and regulate the quantities of AN being imported through the Paradip Port.

**Background:**

16. It is respectfully stated that AN is a chemical compound which is used to make explosives, among other chemical substances. It is a strong oxidizer and when contaminated with oil, charcoal, or other organic materials, can explode and it is shock sensitive. In fact, on 15 December 2008 AN has been included under Explosive Substances Act, 1908 as a "Special category Explosive Substance". Ammonium Nitrate was notified as a deemed explosive vide Notification No. G.S.R. S.O. 1678(E) dated 21/07/2011 under the Explosives Act 1884.
  
17. It is further stated that the slow decomposition of AN especially when stored in large quantities in a hot environment, can result in an increasing risk of the accumulation of decomposition products, self-heating (from heat released by the slow decomposition reactions) and eventually cause sudden detonation thereby causing several explosions. Although AN is widely used chemical in industries, it poses several significant hazards, particularly under improper storage or handling conditions, such as:
  - a. AN has a high explosive capacity:
    - i. AN is not explosive by itself under normal conditions, but it is a powerful oxidizer. When mixed with combustible materials (e.g., fuel, organic matter, or certain metals), it can form highly explosive mixtures.
    - ii. High temperatures, open flames, or contamination can cause violent detonations.
  
  - b. Fire hazard:
    - i. While not flammable itself, ammonium nitrate can accelerate combustion of other materials by providing oxygen.
    - ii. In a fire, it can decompose to produce toxic gases, including nitrogen oxides (NO<sub>x</sub>) and ammonia.
  
  - c. Toxicity:
    - i. Inhalation of AN dust can irritate the respiratory tract.
    - ii. Chronic exposure may cause respiratory issues.



Secretary  
*Panigrahy*



iii. Decomposition products like nitrogen dioxide (NO<sub>2</sub>) are highly toxic and can cause delayed pulmonary edema.

d. Environmental Hazard:

i. Can cause waterway pollution by promoting eutrophication (overgrowth of algae due to nitrogen).

ii. Groundwater contamination with nitrates can affect human health (e.g., blue baby syndrome).

e. Hygroscopic Nature:

i. Absorbs moisture from the air, forming clumps that can destabilize storage and handling systems.

ii. Moisture can also lead to corrosion of containers and accidental mixing with incompatible substances.

f. Threat of Terrorism:

i. Numerous terrorist activities have happened using AN, including the blast in Delhi High Court on 7 September 2011, using 2 kilos of AN. The blast killed 15 people and injured 79.

ii. As per the question raised in the Parliament by Shri Govindrao Adik on 10th August 2011, and answered by Minister of State, Ministry of Home Affairs, various cases of terrorist/bomb blasts such as the German Bakery bomb blast case of Pune and the bomb blast near Jama Masjid in Delhi, "Ammonium Nitrate" was found to have been used as one of the ingredients of the Improvised Explosive Charge. Ammonium Nitrate was also used in the Serial Bomb Blasts in Mumbai on 13 July 2011. The Department of Industrial Policy and Promotion, Ministry of Commerce and Industry has notified that Ammonium Nitrate or any combination containing more than 45% of Ammonium Nitrate by weight including emulsions, suspensions, melts or gels (with or without inorganic nitrate) shall be deemed to be an explosive within the meaning of the Explosive Act, 1884 (IV of 1884) so that a separate set of rules to regulate, manufacture, storage, transport and sale of Ammonium Nitrate can be framed. Government of India has issued Notification No. S.O. 1678 (E) dated 21.07.2011 to this effect. However, such regulations do not impose any limits on the quantities of Ammonium Nitrate which can be imported through the ports, leaving them vulnerable.

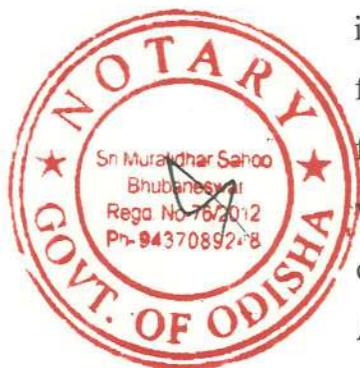


For NISARG

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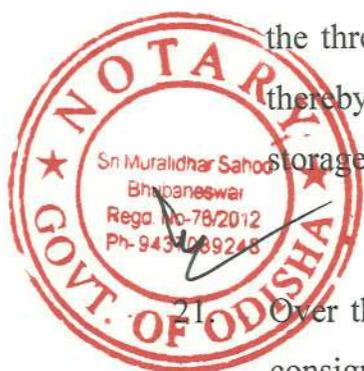
- g. AN, a widely used industrial chemical primarily for explosives, poses significant risks when not stored and handled properly. Its potential use in large quantities, particularly in scenarios involving maritime trade, can be catastrophic, especially in the context of India's ports such as Paradip. When transported in bulk—such as 15,000-25,000 tons per ship—ammonium nitrate can become a potent weapon in the hands of malicious actors, particularly when combined with other materials or subjected to deliberate detonation. This threat extends beyond traditional terrorism, entering the realm of grey-zone warfare, where hostile actors engage in covert operations to destabilize nations without direct military confrontation.
- h. AN is inherently hazardous because of its explosive properties. Under certain conditions, such as contamination with combustible materials or exposure to fire, ammonium nitrate can detonate with massive force. A single detonation of 15,000-25,000 tons of ammonium nitrate would have devastating consequences, potentially causing an explosion equivalent to half the impact size of the Hiroshima nuclear blast. The 1945 atomic bomb that devastated Hiroshima was estimated to have an explosive yield of about 15 kilotons of TNT. In comparison, for example, 20,000 tons of ammonium nitrate would release around 10 to 15 kilotons of TNT, depending on conditions such as the exact composition and environment of the explosion. The resulting explosion could lead to widespread devastation, loss of life, and significant damage to infrastructure, much like the 2020 Beirut explosion, which resulted in a similar scale of destruction and loss of life.
- i. The consequences of such an event at an Indian port would be catastrophic, resulting in loss of life, destruction of critical infrastructure, and severe disruption of supply chains, particularly for industries reliant on chemical inputs. The sheer quantity of ammonium nitrate in transit—20,000 tonnes—further amplifies the risks. A ship carrying this volume can either be targeted for a deliberate attack, or it can be sabotaged to trigger an accident, using a variety of methods. This could involve physical tampering with the storage containers, creating conditions that lead to an accidental explosion. Alternatively, the ship could be used as a mobile weapon, with the chemical payload being intentionally detonated in a densely populated area, such as a port city, to maximize its strategic impact.



For NISARG  
 Secretary



18. As a result of its hazardous and dangerous nature, AN is considered a highly regulated/ controlled substance. The import, export, use and storage of AN within India is governed *inter alia* by the Ammonium Nitrate Rules, 2012 (“AN Rules”), the Manufacture, Storage, and Import of Hazardous Chemicals Rules, 1989 etc. The handling and usage of AN is required to be in strict compliance with the AN Rules in order to avert disastrous consequences.
19. Paradip Port, located on the eastern coast of India in the State of Odisha, is a major hub for the import and export of bulk cargo, including fertilizers and chemicals. It is equipped with dedicated berths for handling hazardous materials and has facilities for bulk storage. While the port's infrastructure includes fire suppression systems, storage sheds, and hazardous material handling protocols, challenges persist due to high humidity, dense cargo traffic, and proximity to population centres. It is pertinent to note here, that as per Rule 3 (c) of the AN Rules, the Respondent No. 9, being a Port Authority, is also bound by the said AN Rules.
20. The Paradip Port has seen a steady and significant quantity of import of AN into India. In fact, close to 3.5 lakh tons of AN are imported from a number of countries every year. The AN import volume at the Paradip Port has experienced a remarkable surge over the past three fiscal years. In FY 22-23, the port handled 38,734 MT of AN imports. This volume grew by 126.6% in FY 23-24, reaching 87,767 MT. However, the most significant change occurred in FY 24-25 (till November), when imports skyrocketed to 3,14,430 MT, marking an unprecedented 258.3% increase compared to previous years. It is surprising that the Paradip Port Authority has not conducted risk assessment/ analysis of allowing import of such huge quantity of AN at the port, which often exceeds the maximum of 5000 MT per vessel allowed to berth at the Paradip Port. These berthed vessels, carrying a quantity of AN exceeding the threshold of 5000MT act as storage vessels for an indefinite period of time, thereby circumventing the thresholds and timelines provided for in respect of storage spaces.
21. Over the years, the Paradip Port has developed as a major port, importing large consignments of up to 15,15,000 MT-25,25,000 MT which are stored in vessels for days together before unloading, effectively converting them into mobile floating storage units at Paradip Port.



FOR NISARG



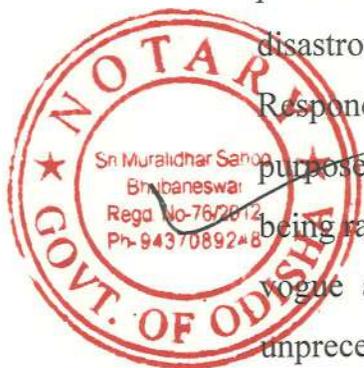
22. The Paradip Port is also dangerously proximate to key strategic assets, and areas of national importance including:

- i. Indian Oil Corporation Ltd (IOCL) – Paradip Refinery
- ii. Paradip Port Authority Hospital
- iii. Paradip Fishing Harbour and Marine Ecosystem
- iv. Paradip Town
- v. Gobindra Chandra High School
- vi. Paradip College

An indicative graphic of the above areas and assets is provided below:

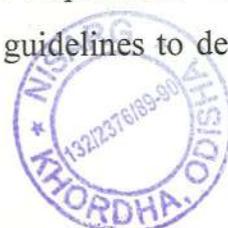


23. It is pertinent to note that Odisha is home to a population of over 4.5 crore people and includes a rapidly urbanizing coastal belt that is densely populated and environmentally sensitive. Ignoring the presence of such a huge, and growing, population along with certain strategic assets of national importance within the close proximity of the Paradip Port and failing to take into consideration the potential disastrous accidents that could occur as a consequence of such presence of AN, Respondent No.1 had issued the 2020 Notification notifying the Paradip Port for the purpose of receiving imports of AN in bagged form through sea. The grievance being raised before this Hon'ble Tribunal is that the present regulatory guidelines in vogue are grossly inadequate to meet the potential risks associated with the unprecedented and unrestricted growth in the quantity of AN being imported through the Paradip Port at present and accordingly seeks the intervention by the Hon'ble Tribunal for appropriate directions upon the respondents for devising appropriate safety measures in the form of regulatory guidelines to deal with the potential associated risks as mentioned hereafter.



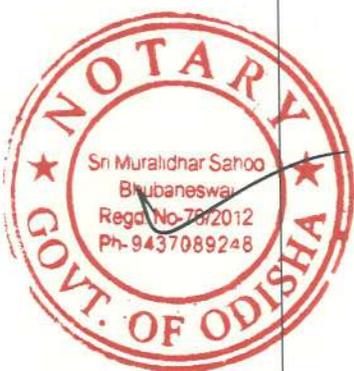
FOR NISARG

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24. The Applicant states that considering the chemical properties/ combustible nature of AN, given the close proximity to strategic national assets and given the presence of AN in the Paradip Port, any untoward incident involving AN explosion would result in disastrous consequences resulting in loss of lives of several millions of people apart from destroying strategic assets and causing severe environmental chemical pollution including toxic effects on soil, water, air, human health/ life, and life of marine creatures. Environmental damage would be caused due to release of noxious gases including Nitrogen Oxide, Ammonia and Carbon Monoxide. Nitrogen Oxide present in air irritates respiratory system. Aside from causing death of individuals, AN, when inhaled or while passing through skin contact, can irritate and burn the skin and eye, irritate nose, throat, and lungs. Higher levels may cause methemoglobinemia with headache, fatigue and would also cause skin and lips to turn into a blue colour. In fact, the presence of important assets that are in close proximity to the Paradip Port set out herein, would only amplify the extent and effect of the explosion, thereby making it more wide spread. A list of the assets located near the Paradip Port and the potential damage that could be caused on account of any untoward incident arising from AN explosion is set out below:

Sr. No.	Asset	Description	Potential Damage
a)	Indian Oil Corporation Ltd (IOCL) – Paradip Refinery	One of India's largest and most advanced oil refineries with a capacity of 15 million tons per annum, the facility refines crude oil into LPG, petrol, diesel, kerosene, and other highly flammable petroleum products.	An explosion involving AN may ignite fuel storage tanks or pipelines, leading to a chain of secondary explosions. The resulting fire could spread uncontrollably, causing massive industrial devastation, endangering personnel, and emitting hazardous pollutants like benzene, toluene, and carbon monoxide, severely impacting public health.



For NISARG

Secretary



b)	DRDO Integrated Test Range	Located approximately 90 km from Paradip, this is one of the primary missile test facilities of the Defence Research and Development Organisation (DRDO), handling sensitive weapons systems.	Any catastrophic event at Paradip involving AN may trigger national security concerns due to potential ripple effects on sensitive defense infrastructure. Panic or disruption in nearby logistics or communication networks could affect defence operations.
c)	Paradip Fishing Harbour and Marine Ecosystem	One of the largest fishing harbours on the east coast, it is a livelihood hub for thousands of traditional fishermen and supports rich estuarine biodiversity including Olive Ridley turtle nesting zones nearby.	Chemical contamination from AN detonation would kill fish, crustaceans, and disrupt breeding cycles. The explosion could release ammonia and nitrogen oxides into water bodies, triggering eutrophication and marine toxicity, destroying marine ecology and harming livelihoods dependent on fisheries.



For NISARG

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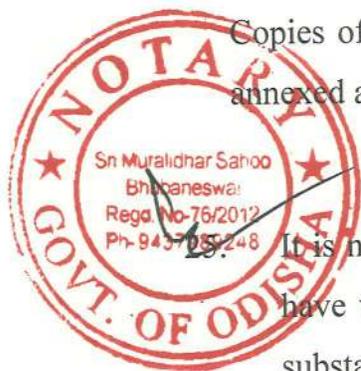


d)	Paradip Residential Areas and Jagatsinghpur Town	Densely populated areas in the immediate vicinity of the port and the refinery zone, housing workers and local populations. Jagatsinghpur town lies within 15–20 km radius of the port.	High-intensity explosion from AN could destroy homes, schools, and hospitals. Inhalation of toxic fumes (NO <sub>x</sub> , NH <sub>3</sub> ) could cause widespread respiratory illness, while panic during disaster may lead to stampedes, trauma, and secondary injuries. Inadequate evacuation infrastructure could exacerbate the toll.
e)	Bhitarkanika National Park and Mangrove Forests	A protected wetland and Ramsar site located roughly 70 km from Paradip. It is home to estuarine crocodiles, migratory birds, and one of India's largest mangrove ecosystems.	A chemical accident may indirectly affect this fragile ecosystem through air and water pollution. Mangroves are highly sensitive to changes in soil pH and chemical exposure-resulting in die-off, loss of biodiversity, and increased vulnerability to cyclonic storms.

Copies of materials demonstrating the description of the aforesaid strategic assets is annexed as **Annexure A4 (collectively)**.

It is not out of place to mention that Paradip and its surrounding industrial zones have witnessed a series of serious industrial accidents in recent decades, raising substantial concerns over the handling of hazardous substances in the region. Some of the major incidents that have occurred in and around Paradip are as follows:

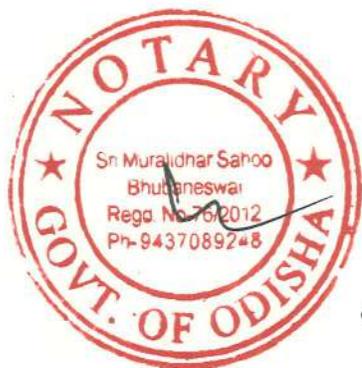
- In 2021, a major fire broke out at Indian Oil Corporation's Paradip Refinery, leading to injuries and causing panic among workers and nearby residents.



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- In 2015, a toxic gas leak at the same refinery during trial operations affected several workers and highlighted serious lapses in safety compliance.
  - In 2005, the oil spill from the IOCL facility in Paradip led to widespread contamination of coastal areas, severely affecting marine biodiversity and local fishing communities.
  - Frequent reports of minor gas leaks, fires, and unsafe waste disposal in the Paradip Industrial Area have compounded fears about systemic failure in managing industrial risk.
26. Given this pattern of industrial mishaps and the densely populated zones surrounding the port, any plan to import, store, or transport ammonium nitrate through the Paradip Port poses an unacceptable risk to human life, marine ecosystems, and the broader environment of coastal Odisha. In light of this, restricting the import of AN through the Paradip Port would be prudent and necessary in the interest of public safety, environmental protection, and safeguarding nearby strategic and industrial establishments.
27. Following are some AN related disasters and mishaps that have occurred over the years:
- a. **Beirut, Lebanon — 4 August 2020**
- Cause: 2,750 tons of ammonium nitrate stored unsafely for 6+ years.
  - Deaths: 218+
  - Injuries: 7,000+
  - Property Damage:
    - Estimated losses: \$15 billion+
    - ~300,000 people left homeless
    - Extensive damage to the port and several kilometres of surrounding areas
  - Impact: One of the most powerful non-nuclear explosions ever recorded.



b. **West, Texas, USA — 17 April 2013**

For NISARG

Secretary

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- Cause: Explosion at the West Fertilizer Company due to ammonium nitrate ignition.
- Deaths: 15 (including 12 first responders)
- Injuries: 260+
- Property Damage:
  - 150 buildings damaged or destroyed, including schools, homes, and a nursing home
  - Damage estimated at \$230 million

c. **Port of Tianjin, China- 12 August 2015**

- Cause: Improper storage of AN and other chemicals, including lack of segregation and safety compliance-approximately 800 tons of AN (along with other hazardous chemicals) involved. It caused two massive blasts within 30 seconds. The second explosion was equivalent to 21 tons of TNT. Fires caused by the initial explosions continued to burn uncontrolled throughout the weekend, resulting in eight additional explosions.
- Deaths: 173 people, including 104 firefighters and 11 police officers
- Injuries: Over 700
- Damage: Thousands of homes and vehicles destroyed; estimated economic loss in billions of yuan.

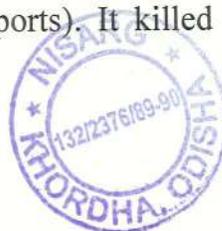
d. It was also widely reported that post the Russia-Ukraine war and consequent drone attacks, handling of AN was shifted from the port of St. Petersburg to other ports in the country, in or about 2024.



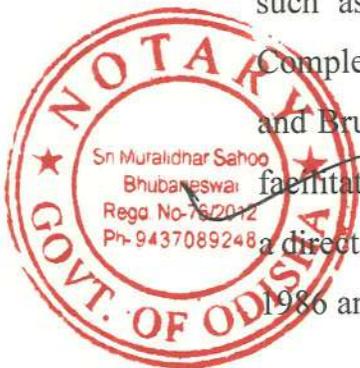
Copies of media reports/ newspaper articles in this regard is annexed as **Annexure A5**.

28. Additionally, there have been many port mishaps due to inappropriate handling of chemicals and human error, such as the recent 26 April 2025 blast at the Port of Shahid Rajajee in Iran, which was caused due to explosion from another ammonium-based product (as per preliminary reports). It killed 57 people and injured over 1,000 persons.

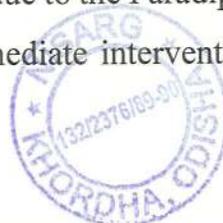
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29. Having regard to the potential risk involved in the handling and storage of large quantities of AN, as recently as 6 May 2025, the International Maritime Dangerous Goods (IMDG) Code has been further strengthened to address the increased concern over shipment of AN. It is to be noted that India's threat perception is significantly higher than that of other countries such as Australia and Brazil, who are major importers of AN.
30. The Applicant further states that permitting large-scale import and temporary storage of AN at the Paradip Port as presently witnessed without appropriate regulatory safeguards being enforced might have catastrophic consequences. It is further stated that an explosion involving 20,000 metric tons of AN, situated at the Paradip Port, would generate an explosive force equivalent to 8,000 metric tons of Trinitrotoluene (TNT). Based on the UN Safer Guard Blast Damage Estimator, such an explosion would result in fatalities within a 461.60-meter radius, severe lung injuries due to toxic inhalation within 731.60 meters, and widespread eardrum rupture up to a distance of 1,881.20 meters. The port handles up to 3.14 lakh tons of AN annually (FY 2024-25 till November), often storing up to 20,000 MT per ship for 1-2 weeks without any active regulatory cap.
31. Further, the dense habitation and sensitive infrastructure around the Paradip Port makes the continued import of AN into the Paradip Port a potential high risk hazard. Within the immediate 500-meter radius of the port, encompassing approximately 2,468 individuals, including port workers and residents - fatalities would be near-total in the event of a detonation. In a 2,000 meter radius, nearly 8,163 individuals would be subject to high-risk exposure, and across a 5,000-meter radius, over 51,000 individuals would face injuries, displacement, or death. Key installations such as the Paradip Development Authority (PDA), Coast Guard Residential Complex, JSW and LIC Paradip Offices, as well as nearby colonies like Gopal Jew and Brundaban Colony, all fall within the projected damage zones. The continued facilitation of large-scale AN docking and handling in such a sensitive ecosystem is a direct contravention of its statutory duties under the Environment (Protection) Act, 1986 and endangers human life, property, and public health.
32. Further, the compounding threat of explosion due to the Paradip Port's proximity to industrial hubs heightens the urgency of immediate intervention by this Hon'ble



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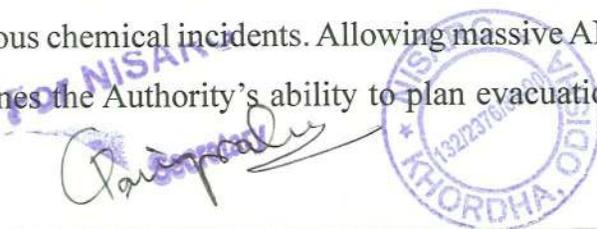
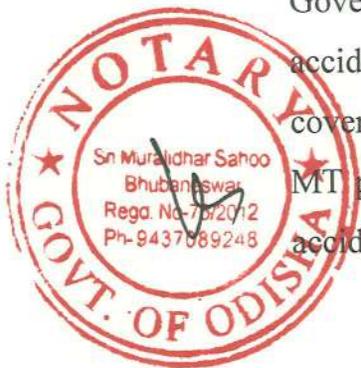


Tribunal. Facilities such as the Indian Oil Corporation Terminal, Indian Oil-Adani Gas Venture (IOAGPL), ESSAR Steel Plant, and Paradip Phosphates Limited (PPL), located within a 10,000-meter radius, handle vast quantities of petroleum products, ammonia, natural gas, and other flammable substances. In fact, the AN-triggered blast could instigate a “domino effect,” rupturing pipelines, storage tanks, and chemical silos, thereby leading to boiling liquid expanding vapor explosions (BLEVEs), release of ammonia gas clouds, toxic air contamination, and fireballs engulfing multiple installations. Such secondary disasters could cause irreversible ecological damage, destroy critical infrastructure, and paralyze the eastern economic corridor. These projections are not speculative but scientifically grounded and supported by global precedents such as the 2020 Beirut Port explosion, caused by merely 2,750 tons of AN, nearly one-eighth the volume currently handled at the Paradip Port.

33. In the wake of the aforesaid AN related disasters that have taken place in various parts of the globe as stated above, the Central Government has failed to take into account the catastrophic effects of such disasters and failed to adopt suitable and adequate regulatory measures for import of large quantities and thus the Paradip Port continues to be the dumping ground of unlimited imports of AN without any restriction. Though recently, the Paradip Port seems to have introduced measures to fix productivity norms in April 2025, they do not seek to regulate the unspecified, huge quantities of AN which are being stored on vessels awaiting berthing. Such norms are a mere eyewash and do not address the significant hazards posed by unmitigated, unregulated quantities of import of AN which has been increasing year on year, unchecked.

34. Further, under Section 3 of the Environment Protection Act, 1986, the Central Government must ‘lay down procedures and safeguards for the prevention of accidents which may cause environmental pollution’—a mandate that squarely covers preventing explosive disasters. The failure to cap vessel quantities at 5,000 MT per shipment constitutes a dereliction of statutory duty to avert catastrophic accidents.

35. Furthermore, under Section 56 of the Disaster Management Act, 2005, the jurisdictional Disaster Management Authority must ‘coordinate response and mitigation’ for hazardous chemical incidents. Allowing massive AN imports without vessel limits undermines the Authority’s ability to plan evacuation zones, medical



preparedness, and containment measures, thereby exposing coastal communities to unacceptable disaster risk.

36. The Applicant further respectfully submits that it has addressed a letter and email to Respondent No.6, expressing grave concern about the environmental and safety hazards posed by continued import and storage of AN at the Paradip Port. Despite repeated communications, the grievances of the Applicant have not been addressed, nor has any concrete action been taken to mitigate the risks highlighted therein. Copy of the letter and email are annexed hereto and marked as **Annexure A6**.
37. That, it may be pertinent to note that recently the Vishakhapatnam Port Authority vide Trade Circular-1561 dated 24.01.2023 notified the directions issued by Andhra Pradesh Pollution Control Board on import of Ammonium Nitrate. In the said circular, the safety audit report of Directorate General Factory Advice Service and Labour Institute (DGFASLI) has been annexed wherein DGFASLI has stated that in other countries, there are restrictions pertaining to berth quantity limits and time limits for storing and handling of ammonium nitrate. Further, several safety recommendations were made by DGFASLI, including, (i) limiting the number of Ammonium Nitrate bags to 10 at the wharf area to reduce the intensity of risk and aid in proper accounting, and (ii) carrying out site notification in accordance with the Manufacture, Storage, and Import of Hazardous Chemicals Rules, 1989 (“**MSIHC Rules**”) for handling huge quantity of AN exceeding the threshold prescribed under Schedule 2 of the said Rules. The Petitioner is seeking similar safety audit and restrictions for the Respondent No. 9 Port.

The said documents being voluminous, the Petitioner craves leave to refer and rely upon the same at the time of hearing, if necessary.

Thus, in light of the above, and considering the fact that AN is dispensable to the functioning of the Paradip Port and to the vital interests of the State, the Applicant respectfully submits that the import, unloading, transit, and storage of AN at the Paradip Port be forthwith restricted. The present Application thus seeks urgent and preventative relief in public interest to avert future tragedies of far greater magnitude.

For NISARG

Secretary



GROUND:

39. That, it is submitted that the Central Government has extensive powers under the provisions of the Environment Protection Act, 1986, more particularly under Section 3 of the said Act read with Rule 13 of the Environment Protection Rules, 1986 specifically empowers the Central Government to impose prohibition or restriction on the handling of hazardous substances having regard to:
- i) the hazardous nature of the substance in terms of its potential to cause damage to the environment, human beings, other living creatures, plants, and property;
  - ii) availability of other substances as substitutes for the hazardous substance proposed to be prohibited or restricted as also state of technology available in the country to develop such substitute and the period that may be necessary for introduction of the new substitute so as to impose absolute prohibition of the hazardous substance, to ensure that it takes all possible measures as deemed necessary and expedient for the purpose of protecting, preventing, controlling and abating environmental pollution including by prohibiting or restricting handling of hazardous substances.
38. That, the AN Rules specifically prohibit the import or export of AN except through ports that are duly approved by Respondent No.1. The relevant rules are extracted hereinbelow:

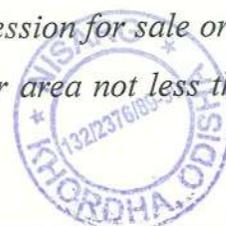
Rule 6 (4)(b) - *"No Ammonium Nitrate shall be imported or exported except at its ports notified by the Central Government."*



Rule 6(4)(c) - *"The Ammonium Nitrate shall not be imported into India by Sea except through the ports which are duly approved for this purpose by the Ministry of Shipping and Transport, Government of India, in consultation with the Chief Controller and declared as Customs Ports by the Commissioner of Customs."*

Rule 12(6) - *"Any storehouse used for possession for sale or possession for use of Ammonium Nitrate shall have a floor area not less than one square*

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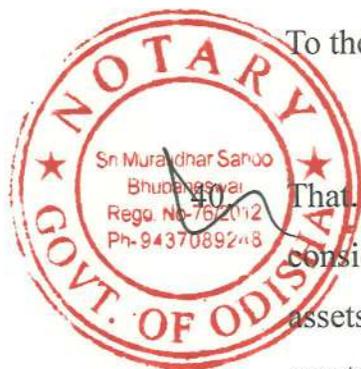


*metre per Metric Tonne of Ammonium Nitrate and the storehouse total holding capacity shall not exceed 5000 MT storage:*

*Provided that one stack of bagged Ammonium Nitrate shall not exceed 200 MT and a minimum clearance of two metres shall be maintained between the adjacent stacks and at least 0.6 metre wide gangway shall be maintained between the stacks and the walls of the storehouse.*

*Provided further that the maximum stack height shall not exceed 2.5metres from the floor level and the same shall be prominently marked on the walls of the storehouse.”*

39. That, the 2020 Notification designating the Paradip Port as a designated port does not stipulate any guideline and/or safeguards to regulate the potential risks associated with large scale import and storage of AN, even though the AN Rules contain implicit requirement of the port having requisite infrastructure to handle import of AN, particularly the potential risks associated with the same. In fact, the AN Rules impose an implied obligation upon the Central Government must do a risk based assessment of each port and jetty, before allowing AN imports. This is followed in many developed countries such as Australia. The Central Government is therefore required to apply its mind to relevant factors including but not limited to the feasibility of port(s) for import, presence of human habitation and industries, the presence of environmental resources and water bodies in the surrounding areas and thereafter, grant such an approval for a port to be eligible to receive imports. The Petitioner is unaware, if any such safety audit has been conducted with respect to the Respondent No. 9 for handling of AN and if the same, are being adhered to. To the best of the Petitioner’s knowledge, no such audit has been conducted.



That, the Central Government has, in the present case, failed to take into consideration that the Paradip Port is situated close to several national strategic assets. The scale of explosion that would be triggered owing to the presence of these assets would be monumental leading to loss of lives of several millions of people apart from causing extensive environmental pollution. However, the Central Government has completely disregarded these relevant factors and arbitrarily notified the Paradip Port for import of AN without providing appropriate regulatory

*Secretary*



safeguards to counter the potential risk hazard associated with large scale import of AN.

41. That, further the 2020 Notification is not a one-time permission/ approval process, but the Central Government is also under an obligation to constantly monitor the feasibility of the port for receipt of imports/ exports by taking into account the extant circumstances. The Central Government has failed to consider several international disasters including the AN blast in a warehouse in Tianjin Port, China, in 2015, Beirut Port explosion in 2020 and the recent decision to halt handling of AN at St. Petersburg Port of Russia owing to the drone attacks by Ukraine and the recent explosion in April 2025 in the Iranian port of Shahid Rajae. On the contrary, the Central Government continues to allow unrestricted import of AN at the Paradip Port thereby continuing its approval to receive imports through the Paradip Port. To this extent, the actions of the Central Government are unlawful and is against the very purpose of the extensive regulatory framework contained in the AN Rules.

42. That AN is also a hazardous chemical within the meaning of Rule 18 (3A) of the MSIHC Rules and accordingly the Respondent No.6 is empowered under Rule 18(3A) of the said rules to independently stop imports of chemicals for safety and environmental considerations. The relevant provision of the MSIHC Rules is extracted below:

*“18. IMPORT OF HAZARDOUS CHEMICALS –*

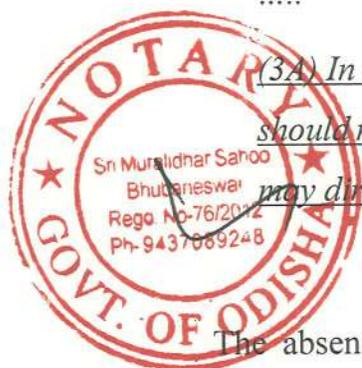
*(1) This rule shall apply to a chemical which satisfies any of the criteria laid down in Part I of Schedule I [or listed] in Column 2 of Part II of this Schedule.*

.....

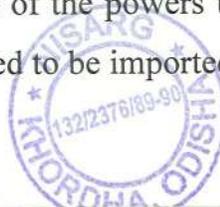
*(3A) In case the concerned Authority of the State is of the opinion that the chemical should not be imported on safety or on environmental considerations, such Authority may direct stoppage of such import. ...”*

The absence of directions from Respondent No. 8 allowing continued AN import without sufficient safeguards is inconsistent with statutory powers and responsibilities.

43. That, the 2020 Notification issued in exercise of the powers under the AN Rules provides no cap on the quantity of AN permitted to be imported per ship nor is any



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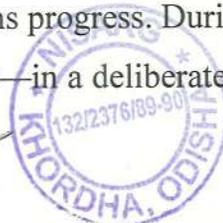
time restriction imposed on unloading (which often spans several days) and fails to impose mandatory blast-buffer zones beyond a mere 500 meters - despite projections showing destructive impact up to 10 kilometres. In other words, the 2020 Notification has been issued in express violation of the provisions of the AN Rules 2012. Rule 12(6) of the AN Rules, 2012 which imposes a maximum limit of 5,000 (five thousand) Metric Tons for the storage of AN in any licensed storehouse, including those located in remote or isolated areas, has not been incorporated either expressly or by implication in the 2020 Notification thereby allowing in effect unlimited storage of AN within the vessels either berthed at the Paradip Port, or within the vessels anchored /floating in the vicinity of the Paradip Port. This cap of 5000 (five thousand) Metric Tons in Rule 12(6) of the AN Rules, which was introduced after due scientific assessment and policy deliberation, in recognition of the grave risks posed by AN, has been conveniently ignored thereby purporting to overlook the catastrophic consequences generally associated with AN related mishaps or accidents.

44. That, however, an anomalous situation has arisen on account of the exemption granted to port authorities (such as, the Respondent No. 9 Port Authority) under Rule 3(2)(c) of the same rules, from the application of these Rules, including the aforementioned quantity restrictions. The said unwarranted exemption naturally puts no restriction on any upper limit of the quantity of AN that may be imported, handled, or temporarily stored within port premises, again conveniently overlooking the potential risk posed by AN—whether it is stored inland or on vessels berthed at ports such as the Paradip Port. Thus, the same set of AN Rules on one hand imposes restriction as regards storage but on the other does not put any fetter on the quantity that may be imported at the port. Nevertheless, such dichotomy and/or inherent inconsistency could be reconciled having regard to the powers conferred by Rule 18(3A) of the MSIHC Rules.



45. That, as a result of the aforesaid exemption granted to the port authorities, Indian ports are constantly receiving single consignments of imported AN ranging from 15,000 to 25,000 tonnes, despite the known hazards of such bulk handling. Although Rule 6(4)(d) of the AN Rules expressly prohibits the storage of AN within port premises, the practical consequence of receiving such massive shipments is that vessels remain berthed at ports for prolonged periods, often up to one to two weeks, as discharging and inland clearance operations progress. During this time, the ships effectively function as *de facto storage units*—in a deliberate circumvention of the

*de facto storage units*  
 Society



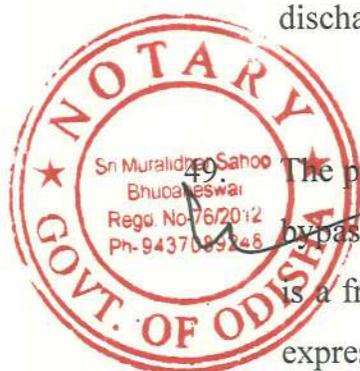
5000MT cap imposed by the AN Rules. This practice circumvents inland safety norms while exposing the port environment and its population to elevated risk.

46. Catastrophic incidents elsewhere (such as the Beirut 2020 and Tianjin 2015 explosions) demonstrate that improper AN management can result in mass casualties and severe environmental harm. Indian law, including Supreme Court judgments, requires regulatory authorities like Respondent No. 2 and Respondent No. 8 to adopt the precautionary principle and proactively prevent irreparable environmental damage in situations of credible scientific risk.

2.

47. It is further submitted, that Rule 12(6) of the AN Rules restricts storage to 5,000 MT, and Rule 15 mandates precautions in handling and transit. Together, they show legislative intent that *no single site of custody or handling* should exceed risk thresholds. A berthed vessel is one such site under Respondent No. 9's custody hence the ceiling must apply. Any vessel even at the mid-sea anchorage, or floating in the vicinity of the Paradip Port, ought to be brought within this purview.

48. As stated hereinabove, AN has been classified as an explosive (post-2011 notifications). The Explosives Rules, 2008 apply quantity limits *per consignment* whether in storage, transit, or shipment. To avoid conflict between Explosives Rules and AN Rules, Rule 12(6) must be construed to apply to vessels, harmonizing both regulatory schemes. It is further submitted, that the Port waters and coastline are held by the State in public trust. Allowing unsafe storage of 25,000 MT of AN in berthed vessels violates the trustee's obligation to protect natural resources and public safety. Imposing the 5,000 MT cap on berthed vessels ensures the State discharges its constitutional duty.



49. The practice of using berthed vessels as "floating storage" is a deliberate device to bypass the 5,000 MT statutory cap under Rule 12(6) of the AN Rules. Such conduct is a fraud on the statute and amounts to colourable exercise of power. Rule 12(6) expressly limits inland storage of AN to 5,000 MT. Permitting berthed vessels to serve as "floating storage" amounts to a colourable device to defeat the statutory cap. The law cannot be frustrated by indirect methods when its direct object is public safety.

For NISARG

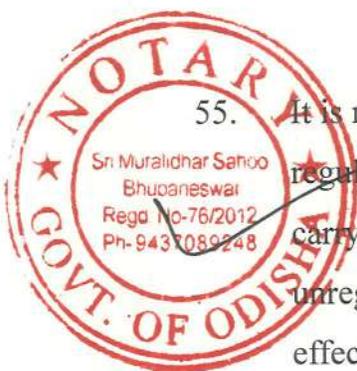
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50. Once a vessel has berthed and cargo is not immediately discharged, the vessel effectively operates as a temporary storage premises. Rule 3(c) of the AN Rules binds Port Authorities, and by extension, any premises under their control (including berthed vessels). The 5,000 MT limit must therefore apply to vessels to give full effect to the statutory mandate.
51. The 5,000 MT limit was introduced post-2011 to minimize catastrophic blast risks. A purposive reading of Rule 12(6) requires its application to all forms of storage, whether on land or on berthed vessels as the risk to human life and environment is identical.
52. Courts have consistently held that statutory safeguards cannot be circumvented by adopting hyper-technical devices. Allowing vessel-based storage beyond 5,000 MT would be a fraud on the AN Rules and contrary to public safety obligations under the Environment Protection Act 1986.
53. The AN Rules, read with international safety codes (IMDG Code), require adequate buffer zones between AN storage and human habitation. Given that projections show blast impact up to 10 km, the absence of buffer provisions violates the precautionary principle.
54. As stated above, the Respondent No. 9 is amenable to the AN Rules as per Rule 3 (c) however, by not enforcing quantitative caps, segregation of stacks, and buffer zones (as required under Rule 12(6) and Rule 15), the Respondent No. 9 has abdicated its statutory responsibility under Rule 3(c). There is no comprehensive regulation of berthing vessels acting as storage, which is an artificial loophole.

55.

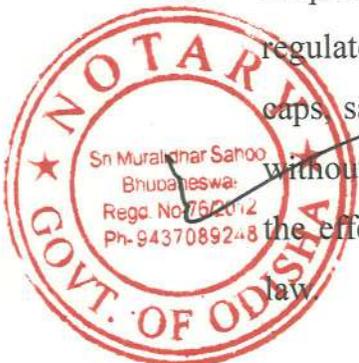
It is respectfully submitted, that the present legal and regulatory framework fails to regulate vessel-based handling creates a systematic loophole whereby ships carrying 15,000-25,000 MT or more of ammonium nitrate can operate as unregulated floating storage facilities for extended periods within port approaches, effectively circumventing all statutory quantity limits and safety protocols while exposing coastal populations to maritime disaster risks



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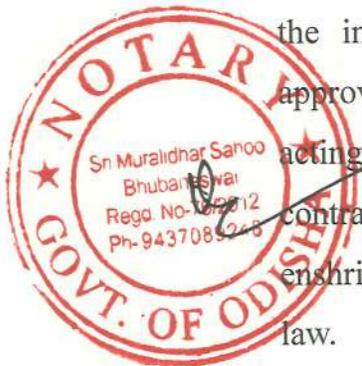


56. The continued exemption of port authorities under Rule 3(2)(c) of the Ammonium Nitrate Rules, combined with the Respondent Authorities' failure to mandate comprehensive risk assessments, creates a regulatory vacuum that international standards explicitly prohibit through mandatory licensing, quantity restrictions, and periodic safety reviews.
57. The Paradip Port is surrounded by critical installations including oil refineries, defense establishments, residential colonies, and ecologically sensitive marine habitats. The potential for large-scale hazardous events poses an unacceptable threat to these assets and the environment.
58. That, it is also to be noted that due to the increased threat perception of India due to cross-border terrorism and recent conflict with Pakistan, it is not outside the realm of possibility that such large amounts of AN can be used by adversarial actors to trigger a catastrophic blast that may lead to deaths of a very large number of people in Paradip. It is also seen how novel methods have been used to weaponize ordinary things such as pagers by the Israeli military. Hence, it is imminently possible that the people of Paradip will suffer because of weaponization of the large amounts of AN being stored near the port, on the ships.
59. The Respondent No. 11 exercises jurisdiction over customs matters at Paradip Port, including import clearance and inspection of consignments of hazardous goods such as Ammonium Nitrate. The role of customs in release and clearance of consignment materially affects the duration for which AN remains at the port, impacting the risk profile of the hazardous material's storage and handling.
60. Proper coordination between the Customs Commissionerate and environmental regulatory authorities (Respondent Nos. 2 and 8) is vital to ensure that statutory caps, safety checks, and environmental safeguards on import of AN are observed without circumvention during customs processing. Failure to do so compromises the effectiveness of regulatory controls and public safety measures mandated by law.
61. The CBIC's involvement is essential for enforcing this Tribunal's directions, including ensuring that clearance of AN consignments is not granted beyond



stipulated quantitative limits or without compliance with safety and environmental clearances in a timebound manner.

62. That, the Central Government has failed to appreciate that the power to issue notifications inheres in it the power to add, amend, vary, or rescind notifications. Accordingly, the Central Government ought to have applied its mind to relevant factors including the recent international disasters involving AN and ought to have reconsidered the potential adverse impact of the 2020 Notification. By continuing the unhindered operation of the 2020 Notification, the Central Government has failed to exercise its power in a rightful manner through proper application of mind for legitimate reasons.
63. That, even otherwise, the actions of the Central Government in continuing the unhindered operation of the 2020 Notification goes against the State's cardinal obligation to protect the welfare of its people and the environment. The actions of the Central Government are in stark contravention to public interest and national security and suffers from brazen arbitrariness and illegality.
64. Further, the continued handling, storage (including "floating storage" on berthed vessels), and movement of AN at Paradip Port without adequate safeguards contravenes Sections 7 and 8 of the Environment Protection Act ,1986, which prohibit handling hazardous substances except in accordance with prescribed safeguards. It is respectfully submitted, that the Central Government has an obligation under Section 3 to lay down safeguards for preventing accidents, which has not been effectively discharged in the present case.
65. That, it is respectfully submitted that the apprehensions of the Applicant regarding the import of AN are not ill-founded. However, by failing to revoke the approval/restrict import of AN through the Paradip Port, the Central Government is acting in a manner that is not only completely at variance with this policy but contrary to its bounden duty to protect and improve the environment that is enshrined in the Constitution of India as also the extensive regulatory framework of law.



66. That, this regulatory inconsistency is especially alarming in the context of rapid industrialization and urbanization along the Odisha coastline, particularly in and

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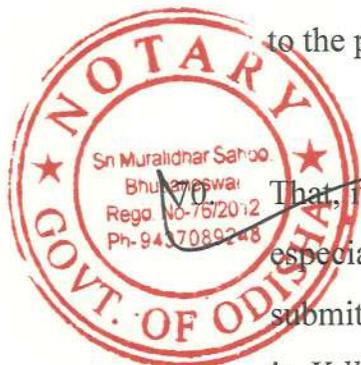
around the districts of Jagatsinghpur, Kendrapara, and Khordha, where critical infrastructure, industrial installations, and residential populations coexist in close proximity to the Paradip Port. The import, handling, or mishandling of hazardous materials such as AN in these zones, without a robust risk assessment framework, public consultation, or independent regulatory oversight, poses a serious and immediate threat to public safety, environmental health, and regional stability. In such circumstances, the continued exemption granted to port authorities under Rule 3(2)(c) merits urgent reconsideration in the interest of preventing irreversible human and ecological harm.

67. Unregulated and excessive import of Ammonium Nitrate (AN) through Paradip Port, managed by Respondent No. 9 (Paradip Port Authority), poses a grave threat to the environment and public safety. This risk is magnified by proximity to sensitive ecosystems, population centers, and strategic industrial assets, amplifying the catastrophic potential of any mishap involving AN.
68. Respondent No. 2 is the primary regulatory authority entrusted with protecting environmental and public health under the Environment (Protection) Act, 1986. Despite its statutory mandate, Respondent No. 2 has not issued or enforced adequate quantitative restrictions, guidelines, or site-specific risk assessments regarding AN import, handling, or storage at Paradip Port, leading to significant regulatory gaps in environmental protection.
69. That, further, it is a well settled position of law that even the power of exemption, where granted, ought to be exercised for the purpose of achieving the object for which such power had been granted. The reasons for exercise ought to be germane to the purpose for which such power had been vested.

That, it is well known that the precautionary principle has been endorsed by courts especially in cases involving severe damage to the environment. It is respectfully submitted that the precautionary principle adopted by the Hon'ble Supreme Court in *Vellore Citizens' Welfare Forum* was further expanded in *A.P. Pollution Control Board v. Prof. M.V. Nayudu (RETD.) and Ors. (1999) 2 SCC 718*. Here, the Hon'ble Supreme Court held as follows:

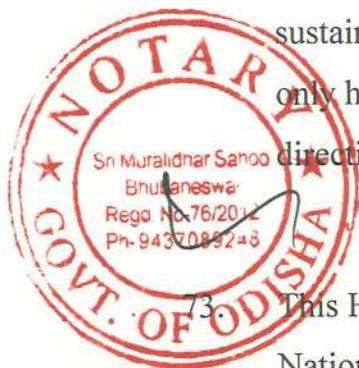
For NISARG

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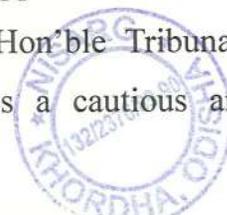


*“35. The principle of precaution involves the anticipation of environmental harm and taking measures to avoid it or to choose the least environmentally harmful activity. It is based on scientific uncertainty. Environmental protection should not only aim at protecting health, property and economic interest but also protect the environment for its own sake. Precautionary duties must not only be triggered by the suspicion of concrete danger but also by (justified) concern or risk potential....”*

71. That, it is humbly submitted that in view of the above Applicant is not constrained to await the occurrence of any untoward incident before approaching this Hon'ble Tribunal. In fact, the Respondents herein are also under a duty to discharge their obligations in line with the precautionary principle and are obligated to prevent the occurrence of environmental damage. The actions of the Respondents, in completely failing to give effect to the decision to stop import of AN via the Paradip Port, are in stark contravention of this trite principle of law.
72. The Hon'ble Tribunal is empowered under the NGT Act, 2010 to issue directions to Respondent No. 2 and Respondent No. 8 for regulatory failures resulting in substantial environmental risk. The reliefs sought—requiring active regulation of AN imports and restriction/suspension until safety benchmarks are verifiably met—fall squarely within the Hon'ble Tribunal's mandate and established precedents. This Hon'ble Tribunal has clear jurisdiction under Sections 14, 15 and 18 read with Section 2(m) of the National Green Tribunal Act, 2010 to entertain the present Application, as the matter directly concerns the substantial question of environment arising out of the implementation of the Environment (Protection) Act, 1986. The continued handling and storage of AN consignments in excess of statutory limits at the Paradip Port poses imminent threats of pollution and environmental damage of far-reaching consequence. In view of Section 20 of the National Green Tribunal Act 2010, this Hon'ble Tribunal is duty bound to apply the principles of precaution, sustainable development, and polluter pays. Therefore, this Hon'ble Tribunal not only has the jurisdiction but also the statutory duty to intervene and issue protective directions.
73. This Hon'ble Tribunal has been vested with the jurisdiction and mandate under the National Green Tribunal Act, 2010 to prevent environmental degradation and secure public health by ensuring strict compliance with applicable environmental and safety regulations. The precedential role of this Hon'ble Tribunal in matters involving hazardous chemical imports necessitates a cautious and proactive



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approach rather than reliance on partial administrative advisories that fail to address core systemic regulatory gaps.

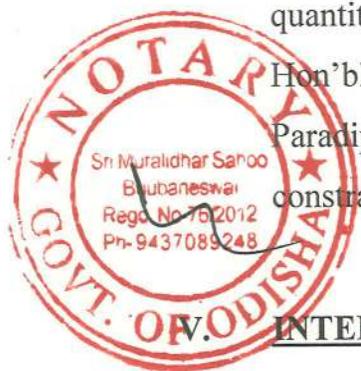
74. It is thus imperative that this Hon'ble Tribunal entertains the present application in the interest of justice, public safety, and ecological protection, and issues appropriate directions to enforce statutory caps, prohibit floating storage, mandate risk audits, and monitor compliance strictly.
75. That, the Applicant humbly submits that it for the reasons set out hereinabove, the Applicant has made out a *prima facie* case. Further, unless the interim relief sought for is granted, there would be grave and irreparable injury sustained by an entire community of people. The far reaching consequences of a possible explosion would bring about loss of millions of lives, extensive destruction of property including strategic assets of national importance apart from significant damage to the environment and health of persons and other beings. On the contrary, if the relief sought for is granted, there would be no harm, much less grave or irreparable harm caused to any section of the society. Therefore, balance of convenience lies entirely in favour of the Applicant.

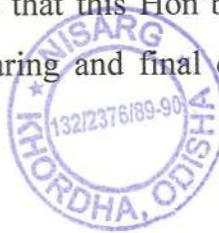
#### IV. LIMITATION

76. The Applicant states that the cause of action for the present Application is a continuing one and arises on a day -to- day basis until such time as the Paradip Port's approval to allow imports of AN is not restricted. The threat of explosion and consequent disastrous consequences continues to remain until such time as the Paradip Port continues to remain a notified port without there being any limit on quantities of AN imported. In fact, the Applicant was constrained to approach this Hon'ble Tribunal on account of the consistent rise in import volumes through the Paradip Port. The instant application is therefore not in breach of any limitation constraints.

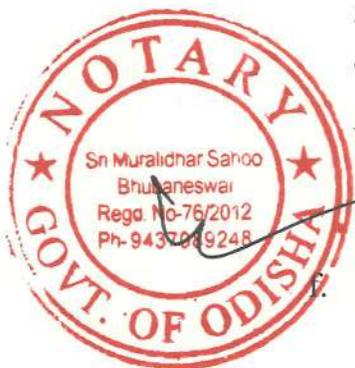
#### INTERIM RELIEF:

77. In view of the above, the Applicant humbly prays that this Hon'ble Tribunal be pleased to grant the following reliefs pending hearing and final disposal of the present Application:



For Notary  
  


- a. Pass an order directing the Respondents to prohibit the import of AN at the Paradip Port, managed by Respondent No. 9 Port Authority until Respondent No. 1 imposes limit of 5000 Metric Tons on imports per vessel, pending hearing and final disposal of the present Application; or
- b. Pass an order directing the Respondents to restrict import of AN through the Paradip Port, managed by Respondent No. 9 Port Authority up to a maximum of 5000 Metric Tons per vessel allowed to berth at the Paradip Port, pending hearing and final disposal of the present Application; or
- c. Pass an order directing the Respondents to restrict storage and handling of AN imported through the Paradip Port, managed by Respondent No. 9 Port Authority up to a maximum of 5000 Metric Tons in the vicinity of the Paradip Port and during barging at any given time, pending hearing and final disposal of the present Application;
- d. Direct Respondent No. 8 to exercise its powers under Rule 18(3A) of the MSIHC Rules to immediately prohibit the import, unloading, or storage of AN at Paradip Port and within nearby city limits, until all adequate safety, environmental, and emergency preparedness measures are established, verified, and complied with.
- e. Direct Respondent No. 9 (Paradip Port Authority) to ensure that no single vessel or storage site at Paradip Port or in berthing distance holds more than 5,000 Metric Tons of AN at any given time and to refrain from permitting any "floating storage" or similar circumvention of regulatory storage limits during the pendency of this Application;
- f. Pending hearing and final disposal of the present Application, pass an order of injunction restraining the Respondents from granting any further permissions/clearances for import of Ammonium Nitrate through the Paradip Port, managed by Respondent No. 9 Port Authority, until Respondent No. 1 imposes limits on import quantity in a single vessel.



For MSARG  
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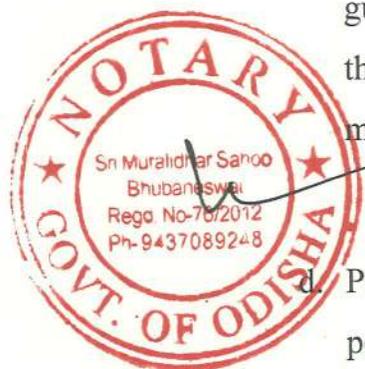


- g. Pending hearing and final disposal of the present Application directing Respondent No. 11 to ensure no customs clearance is issued for consignments of AN exceeding the regulatory limit of 5,000 Metric Tons per vessel in berthing range or storage site;
- g. Pending final hearing, direct the respondents to submit periodic reports or affidavits before this Hon'ble Tribunal specifying the status of import restrictions, safety audits, and compliance steps undertaken with respect to handling of AN at Paradip Port.
- h. Pass such further or other orders as this Hon'ble Tribunal may deem fit and proper in the facts and circumstances of the case and thus render justice.

#### VI. RELIEFS:

78. In view of the above, the Applicant humbly prays that this Hon'ble Tribunal be pleased to grant the following reliefs:

- a. Pass an order directing the Respondent No. 1 to notify limit of 5000 Metric Tons per vessel for import through vessels, floating storage, and handling of Ammonium Nitrate by sea including barging, in bagged form though the Paradip Port managed by the Respondent No. 9 Port Authority;
- c. Pass an order directing Respondent No. 2 (Ministry of Environment, Forests and Climate Change) to immediately frame and notify robust regulatory guidelines including quantitative limits and site-specific risk assessments for the import, storage, and handling of Ammonium Nitrate at Paradip Port, managed by Respondent No. 9 (Paradip Port Authority);
- d. Pass an order directing Respondent Nos. 5 and 10 not to grant any further permissions/ clearances for import of Ammonium Nitrate through the Paradip Port, managed by the Respondent No. 9 Port Authority until Respondent No. 1 imposes limits on import;



For NISARG

*[Signature]*



- d. Respondent No. 9 (Paradip Port Authority) to strictly comply with the regulatory caps and safety protocols specifically, to ensure no single vessel (including berthed or floating vessels) at and/or in the vicinity of Paradip Port holds more than 5,000 Metric Tons of AN at any given time and to prohibit de facto floating storage arrangements that bypass statutory thresholds;
- e. Direct Respondent No. 11 to actively coordinate with Respondent No. 2 and Respondent No. 8 to ensure environmental clearances, risk assessments, and quantitative restrictions for AN import consignments are verified and complied with before customs clearance is granted;
- f. Direct Respondent No. 11 to ensure no customs clearance is issued for consignments of AN exceeding the regulatory limit of 5,000 Metric Tons per vessel or storage site, in strict compliance with the statutory guidelines and this Hon'ble Tribunal's directions and require Respondent No. 11 to submit periodic reports to this Hon'ble Tribunal detailing customs clearance status, import quantities, delays, and compliance with environmental and safety conditions imposed on AN imports.
- g. Pass such further or other orders as this Hon'ble Tribunal may deem fit and proper in the facts and circumstances of the case and thus render justice.

Date: 10.10.2025

Place: ~~Kolkata~~ Bhubaneswar.

x   
APPLICANT

VERIFICATION

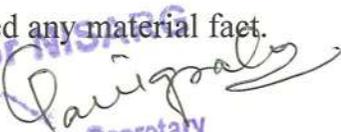


I, Chitaranjan Panigrahi, secretary and authorised representative of the Applicant, having address at NISARG N3/213, IRC village, Nayapally, Bhubaneswar-751012 do hereby verify that the contents of paragraphs 1 to 78 are true and correct to the best of my knowledge and belief, and I have not suppressed any material fact.

Date: 10.10.2025

Place: Bhubaneswar.



x   
Secretary  
APPLICANT



Schedule XIV-- Form No. 100

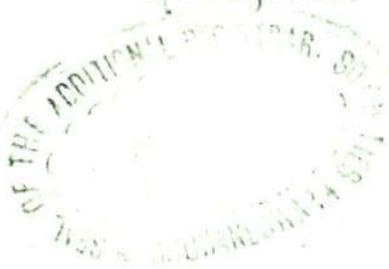


# Certificate of Registration of Societies

ACT XXI OF 1860

BBSR

No 2376-132 of 1989-1990.

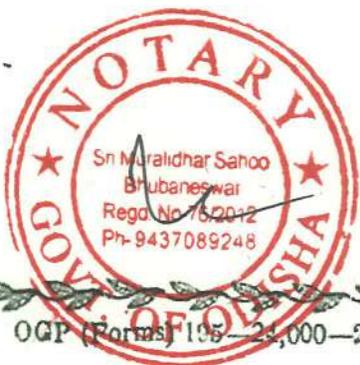


I hereby certify that Natural Institute of Social Change and Resource Generation,  
E-71, BhimaTanj Housing Board Colony, Bhubaneswar,  
has this day been registered under the Societies  
Registration Act (No. XXI of 1860).

Given under my hand at Bhubaneswar

this 9<sup>th</sup> day of August

One thousand nine hundred and eighty nine.



*[Signature]*  
Registrar of Societies,  
Orissa  
ADDL REGISTRAR SOCIETIES

OGP (Forms) 105-24,000-2-7-1983

B-2-7

For NISARG

*[Signature]*  
Secretary





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Annexure - "A-2"

**natural institute of social change and resource generation**

Regd. under Societies Registration Act & FCR Act bearing Registration nN. 2376-132 of 1989-90 & FCRA No.-104830012

17<sup>th</sup> July 2025

**AUTHORITY LETTER**

I, Saroj Mohanty, the President of Natural Institute of Social Changes and Resource Generation, do hereby authorize Mr. Chitaranjan Panigrahi, the Secretary, on behalf of the Society to file an Original Application before the National Green Tribunal, Bench at Kolkata, under the National Green Tribunal Act, 2010 and other relevant provisions of law, and to sign and file any document including but not limited to Vakalatnamas, Affidavits, Applications, Replies, Rejoinders etc. in respect of the said Application before the National Green Tribunal, Bench at Kolkata.

Mr. Chitaranjan Panigrahi is also hereby authorized to appear before the National Green Tribunal, Bench at Kolkata to testify, produce or give evidence and/or file any Affidavit, verify, declare, confirm etc., and do all necessary acts and deeds in respect of the above litigation on behalf of the Society.

For Natural Institute of Social Changes and Resource Generation

For NISARG

President  
*[Signature]*



N3/213, IRC Village, Nayapalli, Bhubaneswar, Odisha, 751009

E-mail : info@nisargindia.org, www.nisargindia.co.in



For NISARG

Secretary  
*[Signature]*



  
**भारत का राजपत्र**  
**The Gazette of India**

सी.जी.-डी.एल.-अ.-22102020-222633  
CG-DL-E-22102020-222633

असाधारण  
EXTRAORDINARY

भाग II—खण्ड 3—उप-खण्ड (ii)  
PART II—Section 3—Sub-section (ii)

प्राधिकार से प्रकाशित  
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पोत परिवहन मंत्रालय  
(पत्तन स्कंध)  
अधिसूचना

नई दिल्ली, 21 अक्टूबर, 2020

का.आ. 3718(अ).— अमोनियम नाइट्रेट नियम, 2012 के नियम 6(4)(ग) के अंतर्गत प्रदत्त शक्तियों के प्रत्यायोजन में केंद्र सरकार जनहित में, अमोनियम नाइट्रेट के आयात की आवश्यकता को ध्यान में रखते हुए, अमोनियम नाइट्रेट के बोरीबंद रूप में, समुद्री मार्ग से भारत में आयात के लिए पारादीप पत्तन को अधिसूचित करती है।

[फा. सं. पी.डी.-26025/12/2020- पी.डी.-II]

अरविंद चौधरी, आर्थिक सलाहकार

MINISTRY OF SHIPPING  
(PORTS WINGS)  
NOTIFICATION

New Delhi, the 21st October, 2020

S.O. 3718(E).—In exercise of the powers conferred under Rule 6(4)(c) of the Ammonium Nitrate Rules, 2012, the Central Government, in consideration of the necessity to import Ammonium Nitrate in public interest, notifies Paradip Port for import of Ammonium Nitrate, in bagged form, in India, by sea.

[F. No. PD-26025/12/2020-PD-II]

ARVIND CHAUDHARY, Economic Adviser

5076 GI/2020

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and Published by the Controller of Publications, Delhi-110054.



For NISARG  
Secretary



Annexure - 'A-4'

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DRDO  
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Ministry of Defence, Government of India

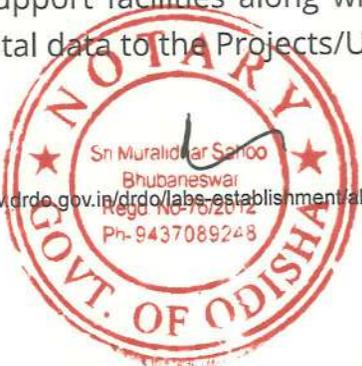
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# About Us

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For NISARG

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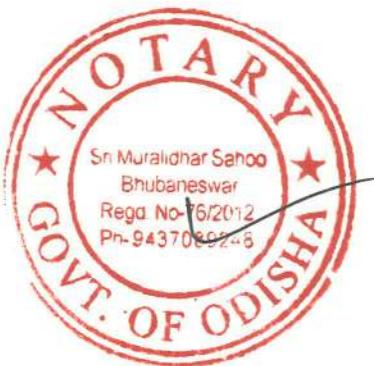
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## Bhitarkanika - Mangrove Forest (Wildlife) Division, Odisha - The Paradise of Nature.

Presentation · December 2016

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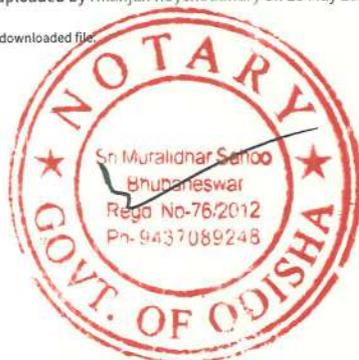
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*Parigraha*  
Secretary



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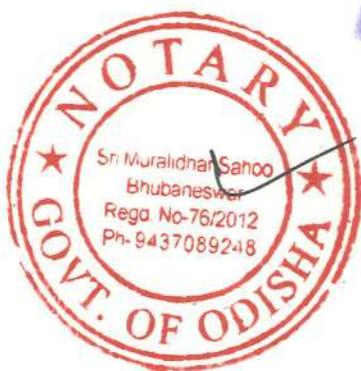
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**BHITARKANIKA**  
**MANGROVE FOREST (WILDLIFE) DIVISION, ODISHA**  
**THE PARADISE OF NATURE**

by

**Dr. N. Roychoudhury, Scientist 'G'**  
**Forest Entomology Division**  
**Tropical Forest Research Institute**  
**Jabalpur (Madhya Pradesh)**



For NISARG  
*Danupada*  
Secretary



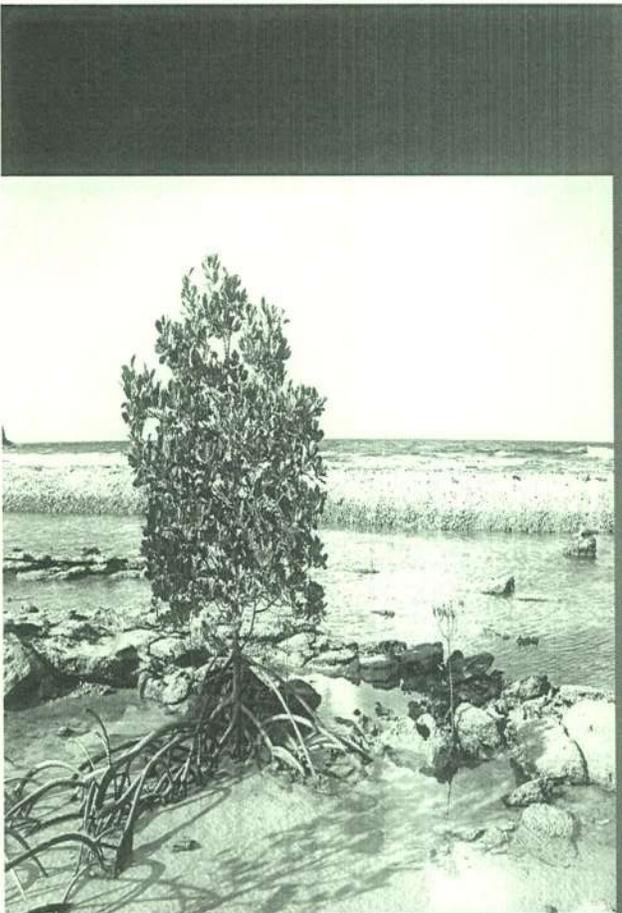
## Introduction

- Mangroves are salt tolerant plant community found in tropical and sub-tropical intertidal region of the world, receiving rainfall between 1000-3000 mm and temperature ranging between 26-35<sup>0</sup>C.
- They exhibits a variety of adaptation in morphology, anatomy and physiology to survive in a hostile environment which is marked with water logged soils and high salinity regime frequented by storm and tidal surge.
- Prominent among these adaptations are presence of pneumatophores, buttress, stilt roots, vivipary, etc.

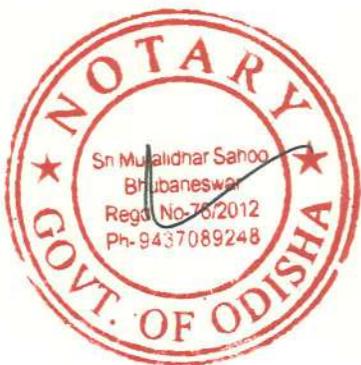


For NISARG  
*Danigopal*  
Secretary





Mangrove Ecosystem



For NISARG  
*[Signature]*  
Secretary





Pneumatophores



Buttress

Stilt roots



For NISARG  
*[Signature]*  
Secretary



## Mangroves in Odisha

- The mangroves of the Odisha coastal area occupy an area of 213 sq km are distributed in the three zones, namely :
- Mangroves of Mahanadi Delta,
- Mangroves of the Brahmani and Baitarani Delta, i.e. Bhitarkanika Mangrove,
- Mangroves of the Balasore coast
- Mangroves located in the five districts of the state, such as Baleshwar (2 sq km), Bhadrak (21 sq km), Jagatsinghpur (7 sq km), Kendrapara (183 sq km) and Puri (0 sq km).



For NISARG  
Secretary  
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- Odisha is a home to about 700 plant species including 120 orchid species and 94 species of mangroves, which make the state second largest mangrove ecosystem in India.
- Natural calamities and biotic pressures, including insects are the main enemies of mangrove ecosystems.
- It is noteworthy to mention the recent experience of cyclonic disaster, "HUD HUD", occurred in Odisha and Andhra Pradesh.

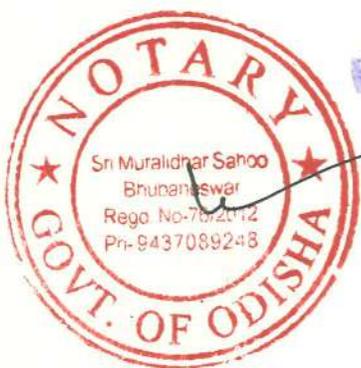


For NISARG  
*(Signature)*  
Secretary



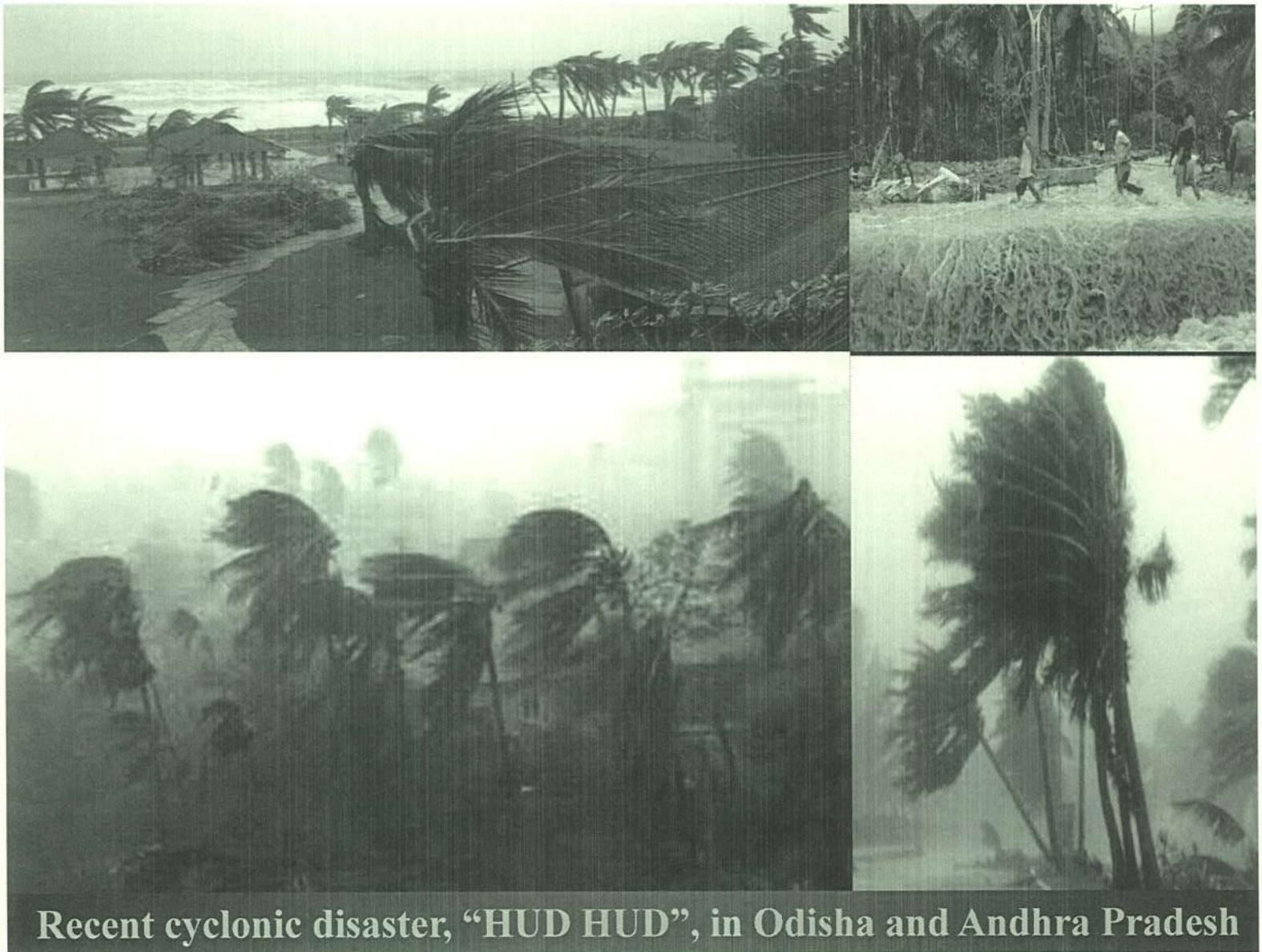


Recent cyclonic disaster, "HUD HUD", in Odisha and Andhra Pradesh



For NISARG  
Secretary  
*Gandapalle*





For NISARG  
Secretary  
*Panigrahy*



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FACEBOOK/MANOHRAN ANANTHAKRISHNAN

OCT. 12, 2014  
Visakhapatnam, India



Recent cyclonic disaster, "HUD HUD", in Odisha and Andhra Pradesh



For NISARG  
*Panigrahy*  
Secretary



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Recent cyclonic disaster, "HUD HUD", in Odisha and Andhra Pradesh

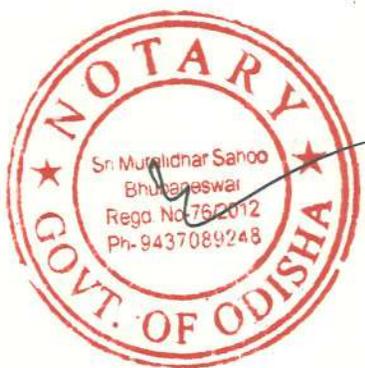


For NISARG  
*Sasigopal*  
Secretary



## Mangrove Forest (Wildlife) Division, Rajnagar, Kendrapara, Odisha

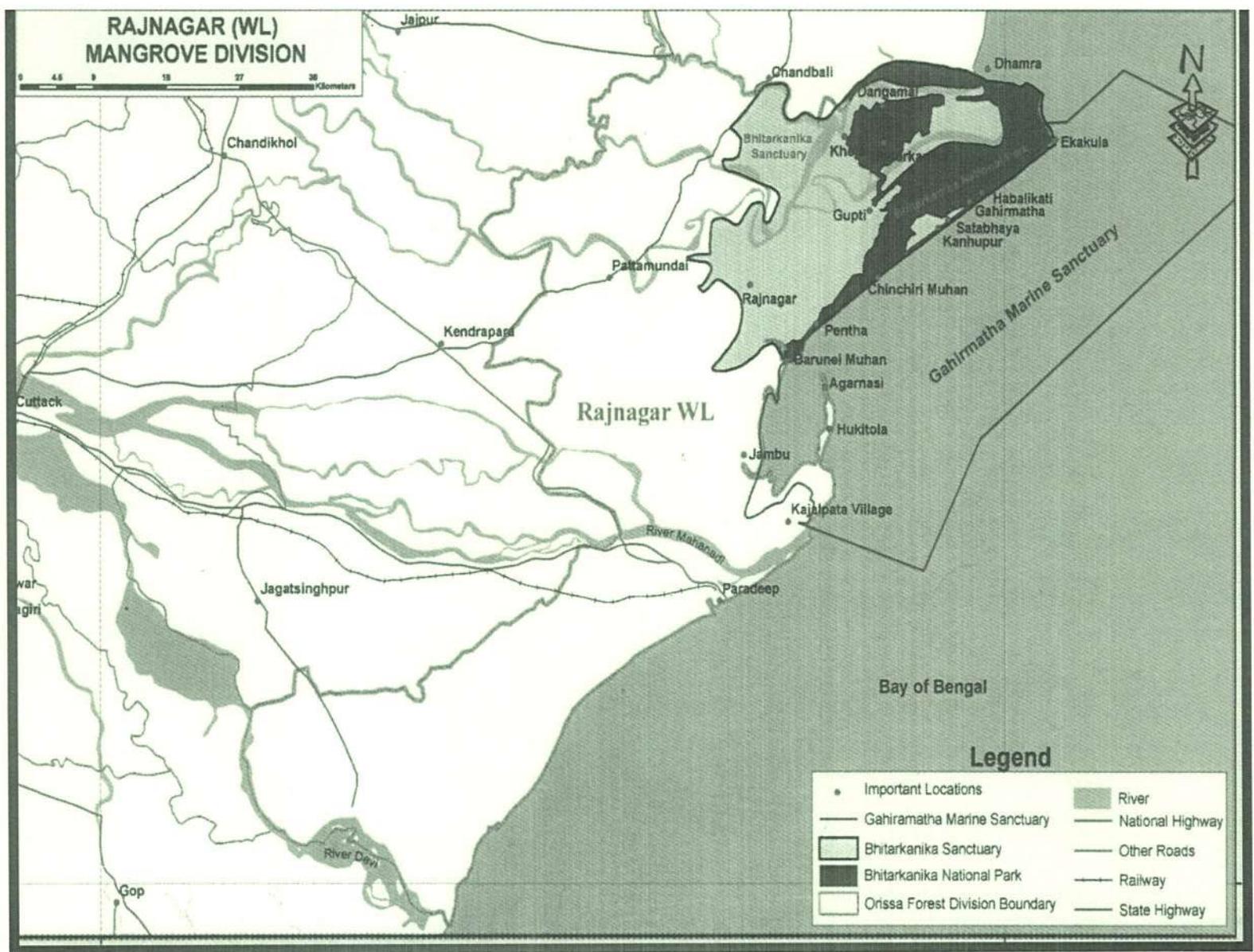
- Mangrove Forest Division (Wildlife), Rajnagar has jurisdiction over part of two revenue districts, Kendrapara and Jagatsinghpur.
- The forest vegetation is mostly mangrove, which is unique in Odisha and one of the largest in India after Sundarbans.
- The mangrove forest of this Division is about 200 sq. km.
- Major part of mangroves is located in Brahmani, Baitarani delta (Bhitarkanika Wildlife Sanctuary) and Mahanadi delta.
- Mangroves of Mahanadi delta is highly degraded due to heavy anthropogenic pressure.



For NISARG

*Ganapathy*  
Secretary





For NISARG  
*[Signature]*  
Secretary



- There are five ranges in Mangrove Forest (Wildlife) Division :
  - Kanika range
  - Rajnagar range
  - Mahakalpada range
  - Kujang range
  - Gahirmatha (Wildlife) range
- 
- This Division assumes great importance from the wildlife point of view because it consists of three protected areas :
  - Bhitarkanika Wildlife Sanctuary
  - Bhitarkanika National Park
  - Gahirmatha (Marine) Wildlife Sanctuary



For NISARG  
*Pant*



## Bhitarkanika : the paradise of nature

- Bhitarkanika is named as per two Odia words 'Bhitar' meaning interior and 'Kanika' meaning extraordinarily beautiful.
- The Bhitarkanika mangroves were Zamindari forests until 1952.
- Then the Govt. of Odisha abolished the Zamindari system and put the Zamindari forests in the control of the State Forest Department.
- In 1975, an area of 672 sq. km. was declared as Bhitarkanika Wildlife Sanctuary.
- It is in this period wildlife management started and initiated Crocodile Conservation Project and mass nesting of sea turtles on the Gahirmatha coast.
- The Gahirmatha (Marine) Wildlife Sanctuary, which bounds the Bhitarkanika Wildlife Sanctuary to the east, was created in 1997 and encompasses Gahirmatha beach in adjacent portion of the Bay of Bengal.



For NISARG  
Secretary



- An area of 145 sq. km, the core area of Bhitarkanika Wildlife Sanctuary was declared as Bhitarkanika National Park in 1998.
- Bhitarkanika was designated as Ramsar Site, a wetland of international importance in 2002.
- Bhitarkanika comprises of Bhitarkanika National Park and Bhitarkanika Wildlife Sanctuary in Kendrapara district.
- It is mainly confined to the deltaic regions of river Brahmani and Baitarani.
- Bhitarkanika Conservation Area (BCA) has been proposed to be declared as World Heritage site by UNESCO.
- **Ramsar definition**
- Ramsar, a city in Iran hosted the first World Convention on Wetlands on 2<sup>nd</sup> February, 1971.
- The Ramsar Convention defines wetlands as “Wetlands are area of marsh, fen, peat land or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water, the depth of which at low tide does not exceed six meters”.



For NISARG  
*Panigrahy*  
Secretary



## Bhitarkanika Unesco tag

TNN | Updated: Times of India, Nov 7, 2016, 12.03 PM IST



The Bhitarkanika National Park in Kendrapada district will have to wait for at least another year to get the 'world heritage' tag from the Unesco as the site selection committee will take its final decision at its 41st session at Krakow in Poland in July next year.

A two-member team from of IUCN (International Union for Conservation of Nature), including Naomi Doak and Remco van Merm, visited the national park recently to assess the India's second largest mangrove forest for its nomination for listing as a World Heritage Site.

"In 2008 Bhitarkanika appeared on the tentative list of Unesco's World Heritage Sites. But we will have to wait for another year for all formalities to be completed. We had also submitted a dossier on Bhitarkanika for its nomination as World Heritage site two years ago," said the park's divisional forest officer Bimal Prasan Acharya.

During their three-day long visit, the IUCN team visited crocodile rearing and breeding centre in Dangamala, Bagagahana (birds sanctuary), Kalibhanjadei forest, a century-old hunting tower, Gahiramatha marine sanctuary and Kanika palace within the park and its nearby areas.



For NISARG  
*Prasanna*  
Secretary



## Mangroves

- Mangrove is a compound word formed by Portuguese ‘Mangue’ and English ‘Grove’.
- In Portuguese ‘Mang-ue’ is used for individual species of mangrove habitat and thus the word mangrove can be said to be group of mangrove species (trees, shrubs, herbs, etc.).
- In other words mangroves are known as ‘tidal forests’ or ‘deltaic swamp forests’ or ‘littoral swamp forests’.
- Mangroves are also described as ‘coastal woodland’, ‘Mangals’ or ‘Mangrove forests’.
- The mangrove ecosystem is a highly dynamic ecosystem, which provides exploring flora and fauna.
- Bhitahrkanika has richest diversity of mangroves in India.



For NISARG  
*Ganigoda*  
Secretary



## Floral diversity

- Total number of plant species – 94
- According to Ghosh *et al.* (2003), mangroves can be classified as :
  - True mangroves-30
  - Mangrove associates-28
  - Back mangroves-30
  - Beach flora-6
- Major mangrove species
  - 3 species of *Avicennia*
  - 4 species of *Bruguiera*
  - 3 species of *Heritiera*
  - 3 species of *Rhizophora*
  - 3 species of *Xylocarpus*
- and many more along with the rare mangroves like *Aglaia cucullata* and *Cerbera odollam*



For NISARG  
Paiigrahy





FOR NISARG  
*Sachin Pal*  
Secretary



## Faunal diversity

- 28 species of Mammals
- 285 species of Birds
- 42 species of Reptiles
- 14 species of Amphibians
- Variety of Fish and 18 species of Crab
- Significant mammals-Sambar, Spotted Deer, Wild Boar, Fishing Cat, leopard Cat, Hyena, Porcupine, Smooth Indian Otter and Dolphin).
- Significant birds-Indian Skimmer, White Bellied Sea Eagle, Bar Headed Geese, Brahminy Duck, Pied Avocer, Spot Billed Pelican, Lesser Adjutant Stork, Mangrove Pitta, Goliath Heron, Painted Stork, Spoon Bill, Ibis and Grey Hornbill
- Significant reptiles-Estuarine Crocodile, Water Monitor Lizard, Indian Python and King Cobra



For NISARG  
Secretary  
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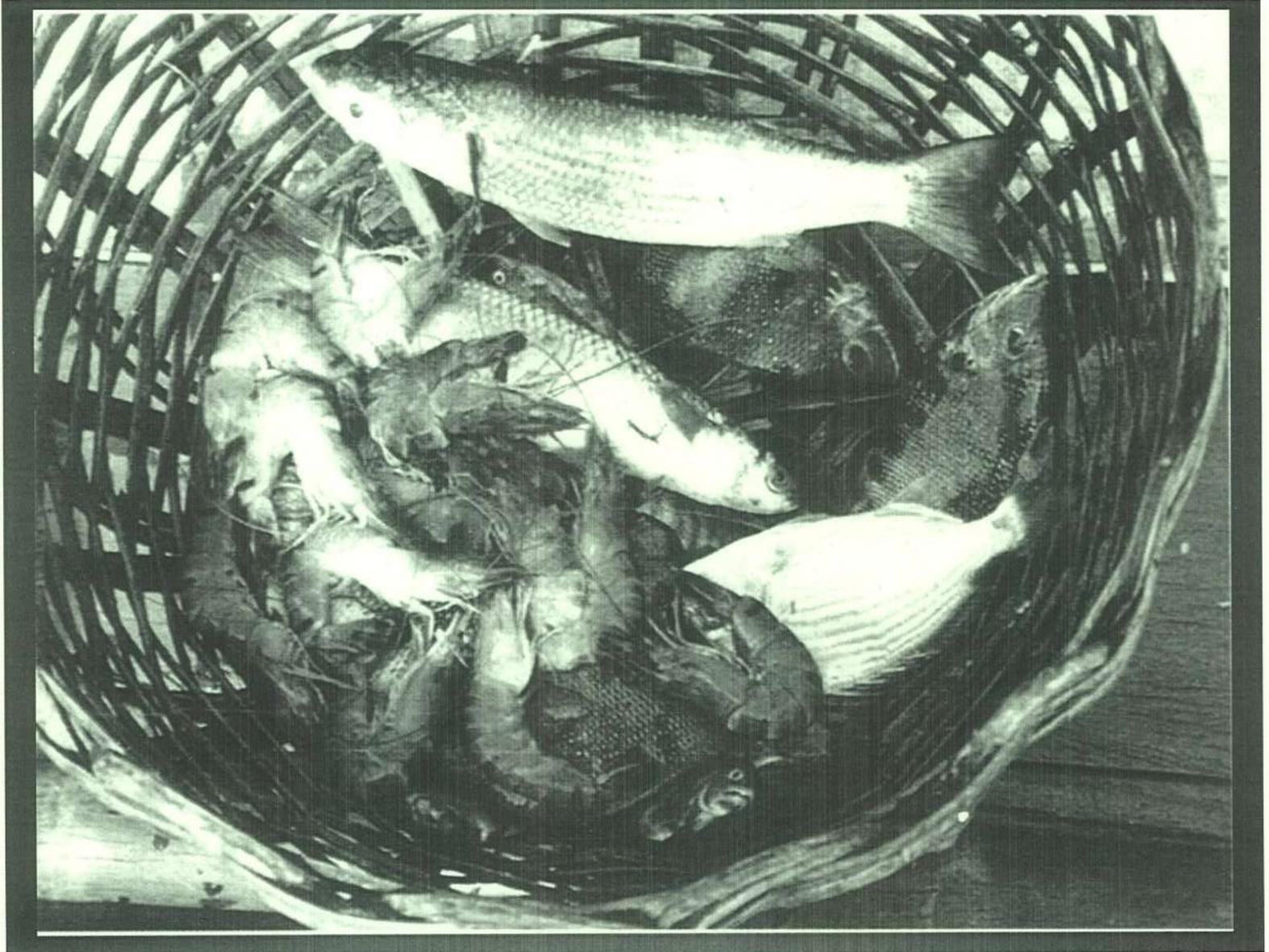
*Crocodylus porosus* Schneider, 1801

Kingdom : Animalia, Phylum : Chordata, Class : Reptilia, Order : Crocodylia, Family : Crocodylidae



For NISARG  
*Pavitra Das*  
Secretary





NOTARY  
Sri Muralidhar Sahoo  
Bhubaneswar  
Regd No-762012  
Ph-9437089248  
GOVT. OF ODISHA

For NISARG  
Pawigopal  
Secretary

NISARG  
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KHORDHA, ODISHA

## The Heronry of Bhitarkanika

- Bhitarkanika mangroves harbor one of the largest mixed species heronries in the country with more than 30,000 birds of 11 species breeding annually in a small mangrove patch of about 5 ha area between June to December.
- The heronry in Bhitarkanika is located in an island covered with mangrove vegetation.
- The major breeding birds in this mixed species colony are Asian Open Bill Stork, Great Egret, Intermediate Egret, Little Egret, Cattle Egret, Grey Heron, Purple Heron, Black-crowned Night Heron, Little Cormorant, Darter and Black-headed Ibis.
- Documented use of 5 species of mangrove trees for nesting, which include, *Excoecaria agallocha*, *Heritiera fomes*, *Cynometra iripa*, *Bania*, *Hibiscus tiliaceus* and *Tamarix troupis* is preferred within the heronry by the birds.



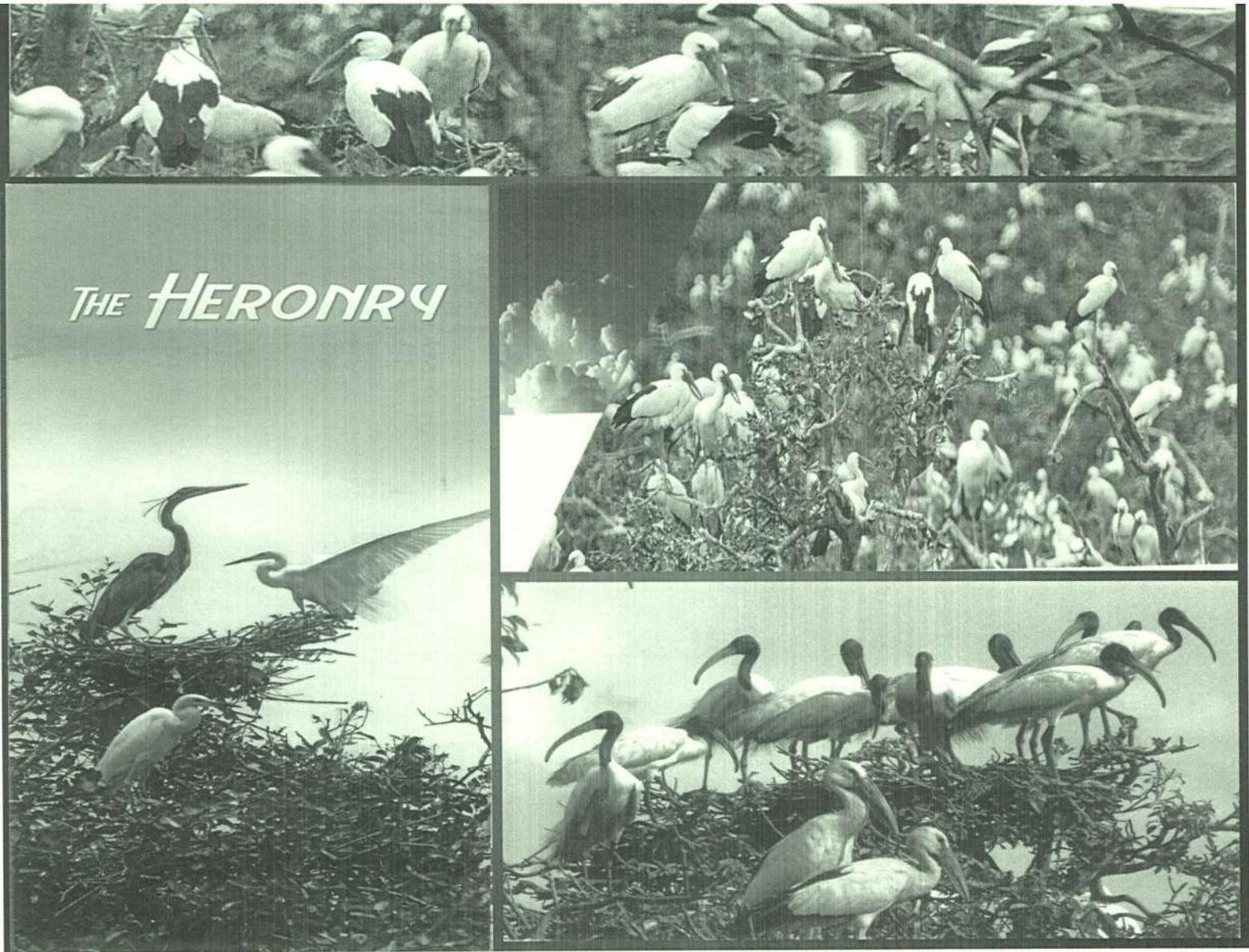
For NISARG  
*[Signature]*  
Secretary





For NISARG  
*Gaigal*  
Secretary





For NISARG  
Secretary  
*Sanku Gopal*





For NISARG  
*[Signature]*



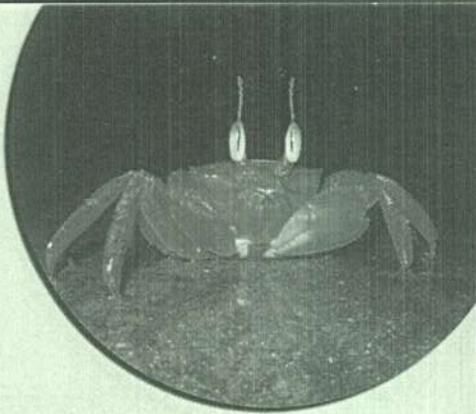
## The crabs of Bhitarkanika

- Crabs are one of the major components of mangrove faunal biodiversity.
- Crabs are decapods crustaceans of the order Brachyura which have a very short tail and are covered with a thick exoskeleton and are armed with a single pair of claws.
- The crabs are generally called the “ecosystem engineers” that create new habitats and change the availability and quality of food, shelter and refuge for other constituent species in mangrove ecosystem.
- There about 6,793 crabs found around the world, in oceans, fresh water and there are also some terrestrial crabs.
- One million tons of crabs are being eaten annually in restaurants and homes all over the world.
- There are 18 species of crabs recorded in Bhitarkanika.

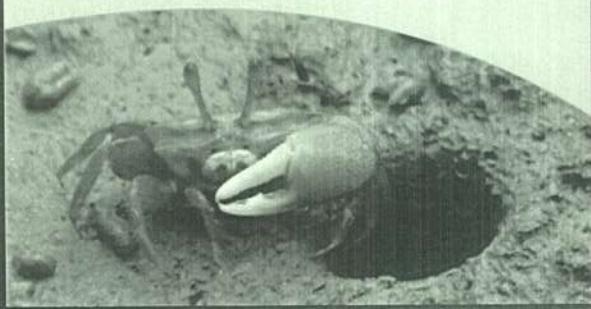


For NISARG  
Secretary  
*Ranigopal*





# Crabs in Mangrove Forest of Bhitarkanika



For NISARG  
*Saini*  
Secretary



# MARINE TURTLES OF GAHRMATHA

*The Primordial Mariner*

***Testudo mydas* Linnaeus, 1758**

Kingdom: Animalia, Phylum: Chordata, Class: Reptilia, Order: Testudines, Superfamily: Chelonioidea, family: Cheloniidae



FOR NISARG  
*Saujanya*  
Secretary



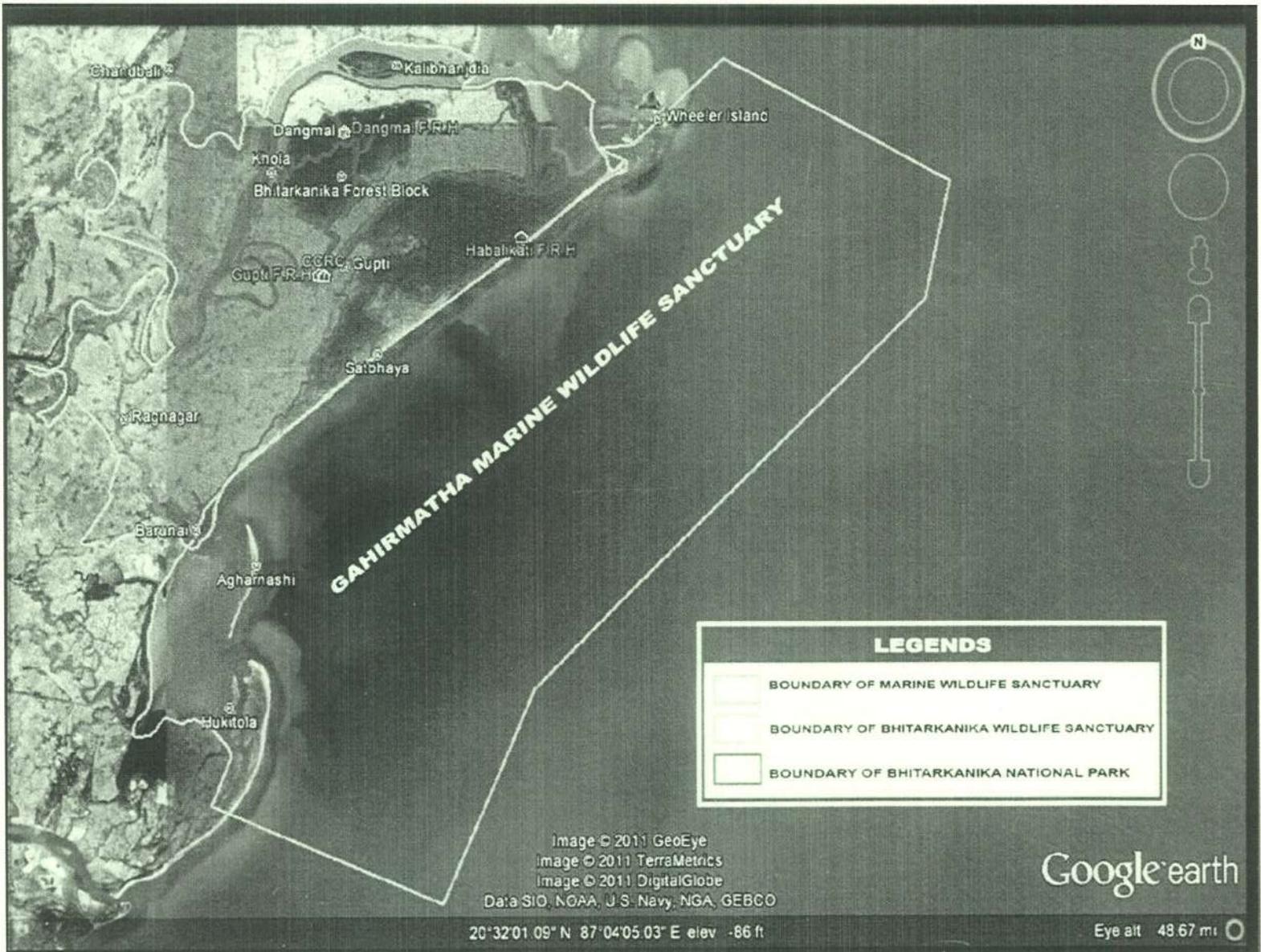
## Gahirmata Marine Wildlife Sanctuary

- Gahirmatha is the only marine wildlife sanctuary of Odisha notified in 1997, covering an area of 1435 sq. km (1408 sq. km of water body and 27 sq. km of land mass including reserve forests, mud flats and accreted sand bars) in revenue district of Kendrapara.
- Gahirmatha with its islands attract Olive Ridley Marine Turtle in large numbers and home to large diversity of marine fauna.



For NISARG  
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Secretary





For NISARG  
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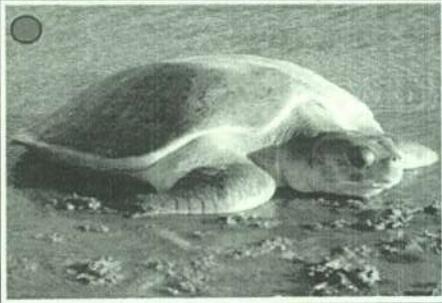


- Marine turtles are one of the earth's most primordial creatures.
- The seven species that can be found today have been around for 110 million years, since the time of dinosaurs.
- These turtles are large (100-1300 pounds), air breathing reptiles normally inhabit tropical and subtropical seas throughout the world.
- Their shells consist of an upper part (carapace) and lower section (plastron).
- Hard scales (scutes) cover are found in all the species except Leatherback and the number and arrangement of these scutes are used to identify the species.



For NISARG  
*Ganigopal*  
Secretary





Flatback turtle

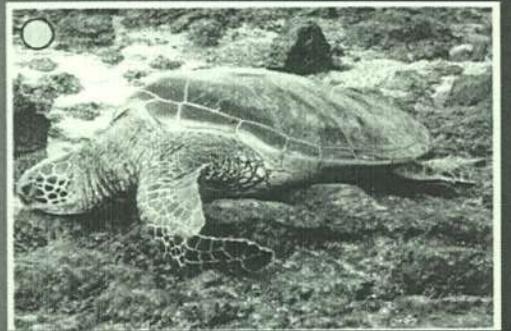
- Global species diversity : 7
- National species diversity : 5
  - State species diversity : 4



Kemp's Ridley turtle



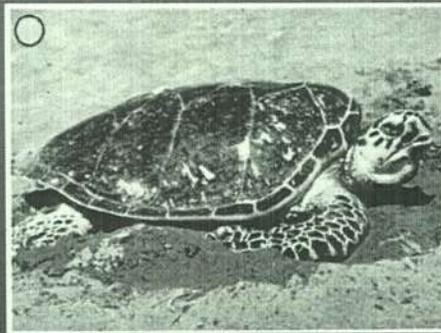
Loggerhead turtle



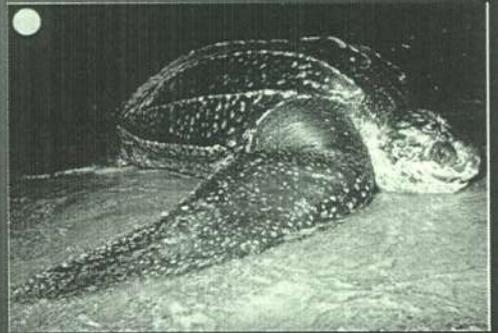
Green turtle



Olive Ridley turtle



Hawksbill turtle

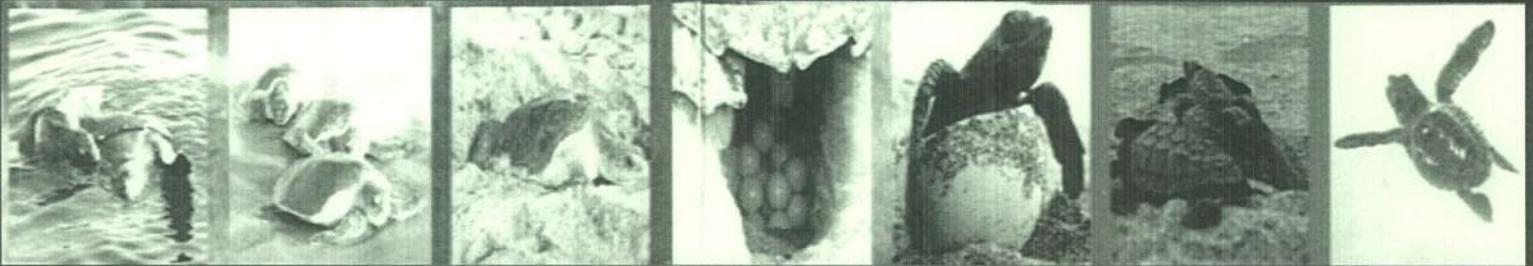


Leatherback turtle

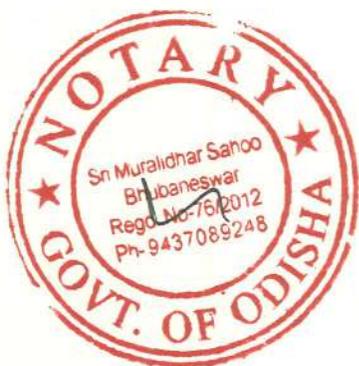


For NISARG  
*Pavitra*  
Secretary





- One often gets to see the adults, mating, egg laying and hatching in sea waters and beaches. But where do the other developmental stages before attaining the adults and in between the age class go . . . . ???
- That's still a mystery . . .
- Thus, that phase of life is called as -**The Lost Years.**



For NISARG  
*Gangadhar*  
Secretary



## Way of approach to Bhitarkanika

- From Chandbali in Bhadrak district.
- From Rajnagar in Kendrapara district.
- From Bhubaneswar to Bhitarkanika-170 km by road.
- **Nearest Railway station**
- Cuttack-100 km from Rajnagar
- Bhadrak-55 km from Chandbali
- **Nearest air port**
- Bhubaneswar-140 km from Rajnagar and 190 km from Chandbali.
- **Entry points** : Gupti and Khola
- **From TFRI, Jabalpur to Bhitarkanika**
- TFRI-Dindori-Achanakmar-Amarkantak biosphere reserve-  
Bilaspur-Jagir Champa-Sambalpur-Angul-Mungeli chowk-  
Kendrapara-Pattamundai-Rajnagar-1077 km

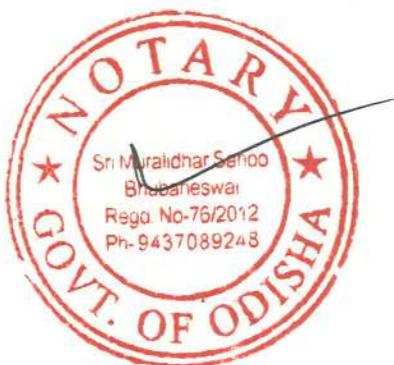


FOR NISARG  
*S. S. Sahoo*  
Secretary



## Recent Field tour to Bhitarkanika (17.11.16-26.11.16)

- Documented flora and insect fauna of Bhitarkanika National park
- Two ranges-Kanika range and Rajnagar range
- 11 forest blocks in Kanika range
- Surveyed Bhitarkanika (1712.40 ha) and Dangmal (636.00 ha) forest blocks
- 14 forest blocks in Rajnagar range
- Surveyed West Orasahi (512.00 ha) block



For NISARG  
*Savitri*  
Secretary



### True mangrove



Dhala Bani, *Avicennia alba* Blume (family Avicenniaceae)



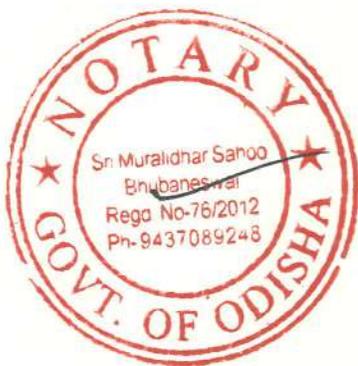
For NISARG  
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Secretary



### True mangrove



Bada Bani, *Avicennia officinalis* L.(family Avicenniaceae)



For NISARG  
*[Signature]*  
Secretary



### True mangrove



Rai, *Rhizophora stylosa* Griff. (family Rhizophoraceae)



For NISARG

Secretary  
*[Handwritten Signature]*



## True mangrove



Nape palm, *Nypa fruticans* (Thunb.) Wurmb.(family Arecaceae)



For NISARG  
*[Signature]*  
Secretary



### True mangrove



Pitamari, *Xylocarpus mekongensis* Pierre (family Meliaceae)



For NISARG  
*[Handwritten Signature]*  
Secretary



### True mangrove



Hental, *Phoenix paludosa* Roxb. (family Arecaceae)



For NISARG

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## Mangrove Associate



Harakancha, *Acanthus ilicifolius* L. (family Acanthaceae)



For NISARG

Secretary  
*[Handwritten Signature]*



## Mangrove Associate



Panamas, *Cerbera odollam* Gaertn. (family Apocynaceae)



For NISARG  
Secretary  
*Pantipaty*



### Back Mangrove



Nentei, *Caesalpinia crista* L. (family Caesalpinaceae)



For NISARG

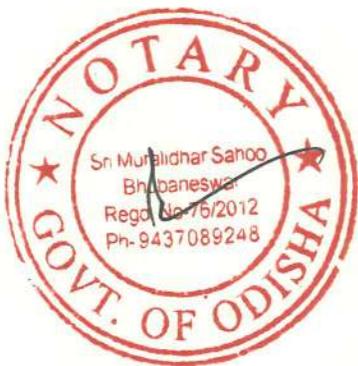
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New record



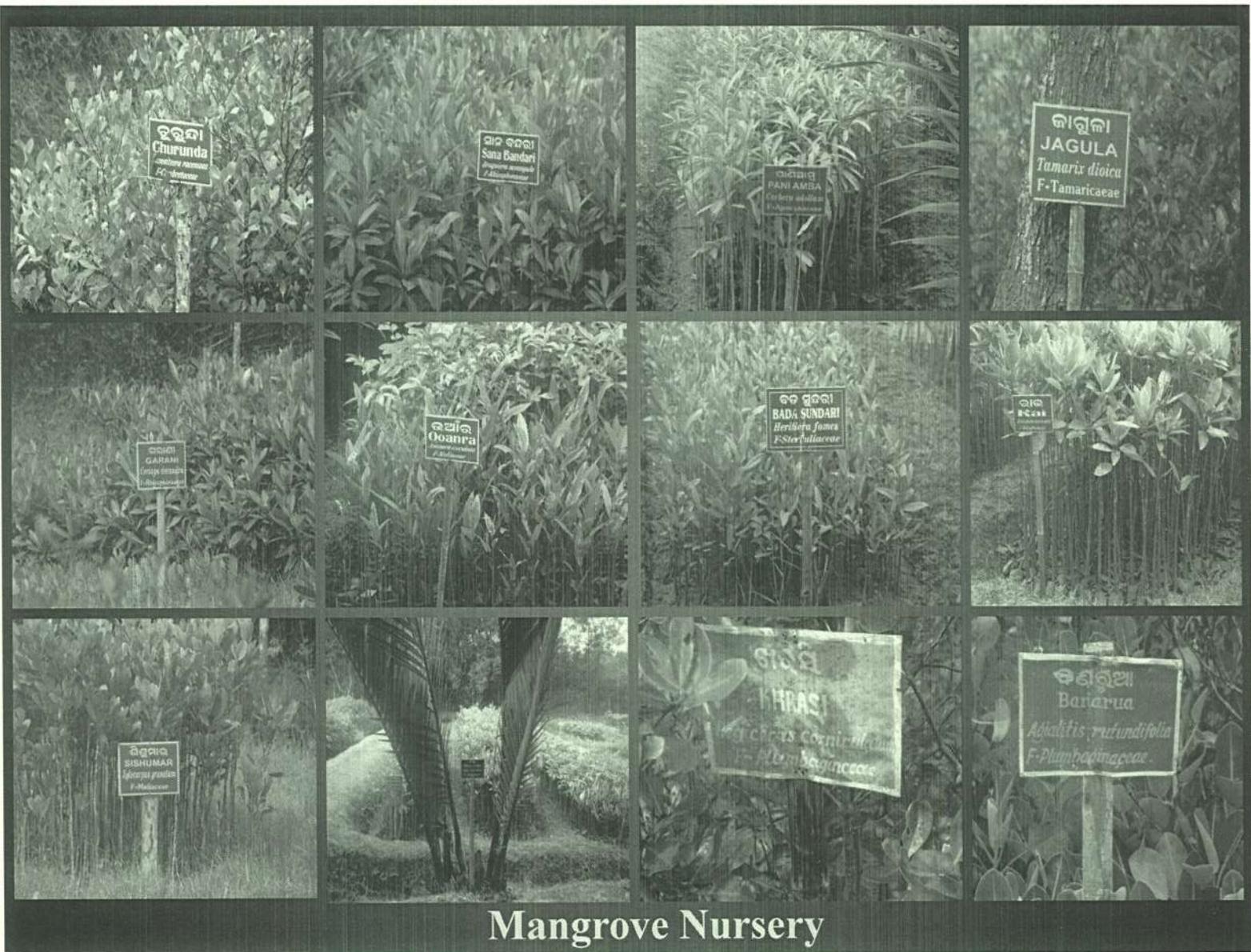
Strychnine tree, *Strychnos nux-vomica* L. (family Loganiaceae)



For NISARG

Secretary  
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For NISARG  
*[Signature]*  
Secretary



## Documentation of insect fauna

- Documented insect fauna – 71 samples
- Butterflies - 48 samples (30 species)
- Moths – 17 samples (10 species)
- Odonates – 4 samples (3 dragon flies and 1 damsel fly)
- Orthoptera – 2 samples (1 grasshopper and 1 stick insect)
- Hymenoptera-2 samples (1 honey bee and 1 ant)
- Documented Bania, *Hibiscus tiliaceus* L. (family Malvaceae) – a new host plant record for leaf roller, *Sylepta derogata* Fabricius (Lepidoptera : Pyralidae)



For NISARG  
*Paijit Das*  
Secretary



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The Common Indian Crow, *Euploea core* (Cramer) (family Danaidae)



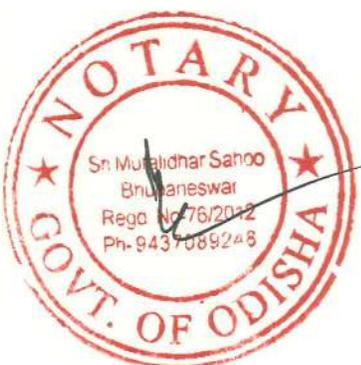
For NISARG  
*[Signature]*  
Secretary



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The Tailed Jay, *Zetides agamemnon* (Linnaeus) (family Papilionidae)



For NISARG  
*Ganipada*  
Secretary





The Common Mormon, *Papilio polytes* Linnaeus (family Papilionidae) M



For NISARG  
*Pawit*  
Secretary



93



The Great Eggfly, *Hypolimnys bolina* (Linnaeus)  
(family Nymphalidae) F



For NISARG  
*Pavitra*  
Secretary



- 94-



The Blue Tiger, *Danais limniace* Cramer (family Danaidae)



For NISARG

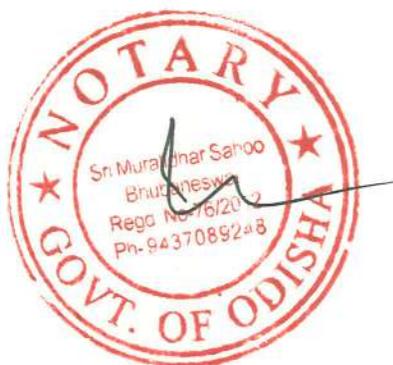
Secretary  
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- 95 -



The Common Evening Brown, *Melanitis leda* (Drury) (family Satyridae)



For NISARG  
*[Signature]*  
Secretary



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The Peacock Pansy, *Precis almana* (Linnaeus) (family Nymphalidae)



For NISARG

*Panigrahy*



- 97 -



The Common Albatross, *Appias albina* (Boisduval) (family Pieridae)



For NISARG

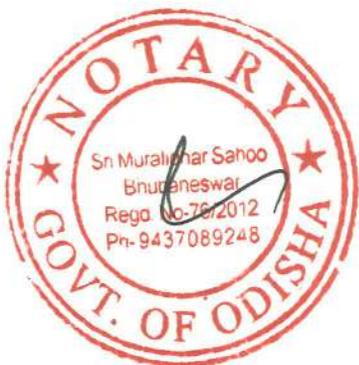
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The Swallowtail, *Papilio* sp. (family Papilionidae)



For NISARG  
Secretary  
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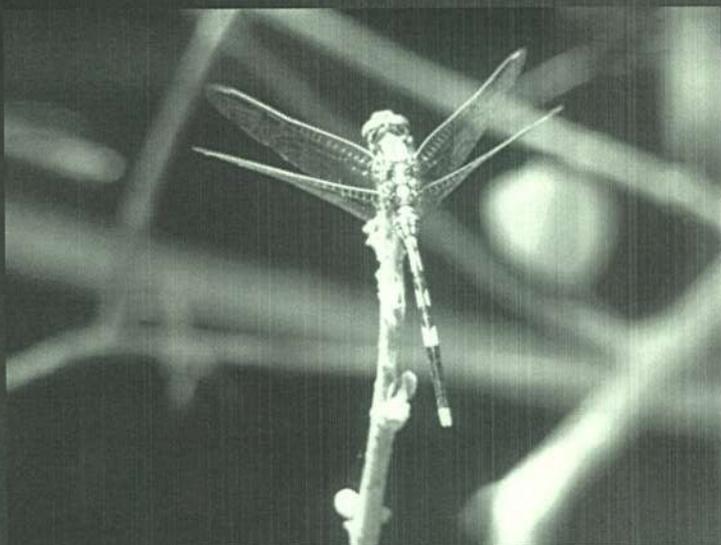


The Three-Spot Grass Yellow, *Eurema blanda* (Boisduval) (family Pieridae)



For NISARG  
Secretary  
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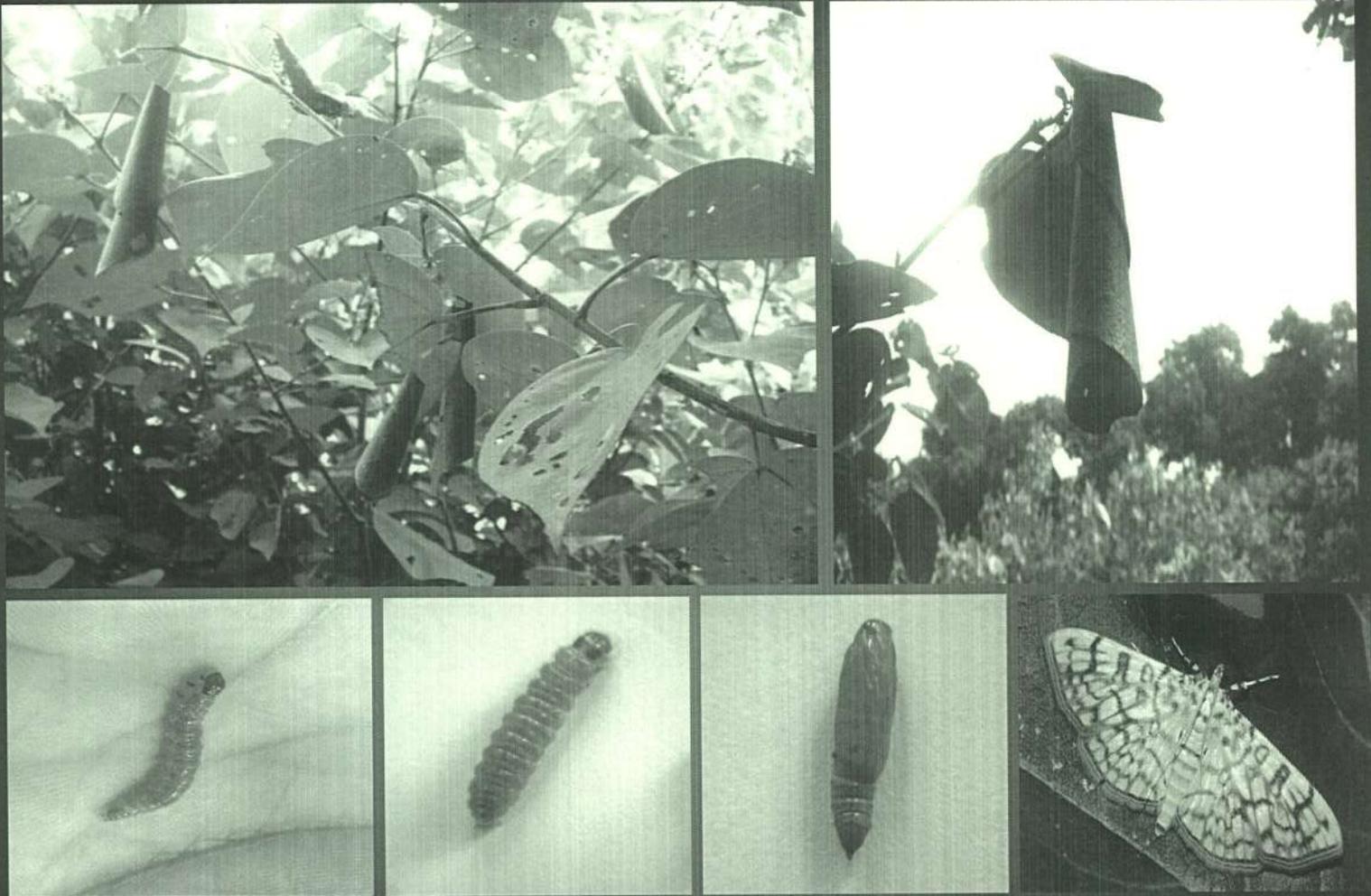


Dragon flies  
(Order Odonata)



For NISARG  
*[Signature]*  
Secretary





*Hibiscus tiliaceus* L. (family Malvaceae) – a new host plant record for leaf roller, *Sylepta derogata* Fabricius (Lepidoptera : Pyralidae)



For NISARG  
*Sanku*



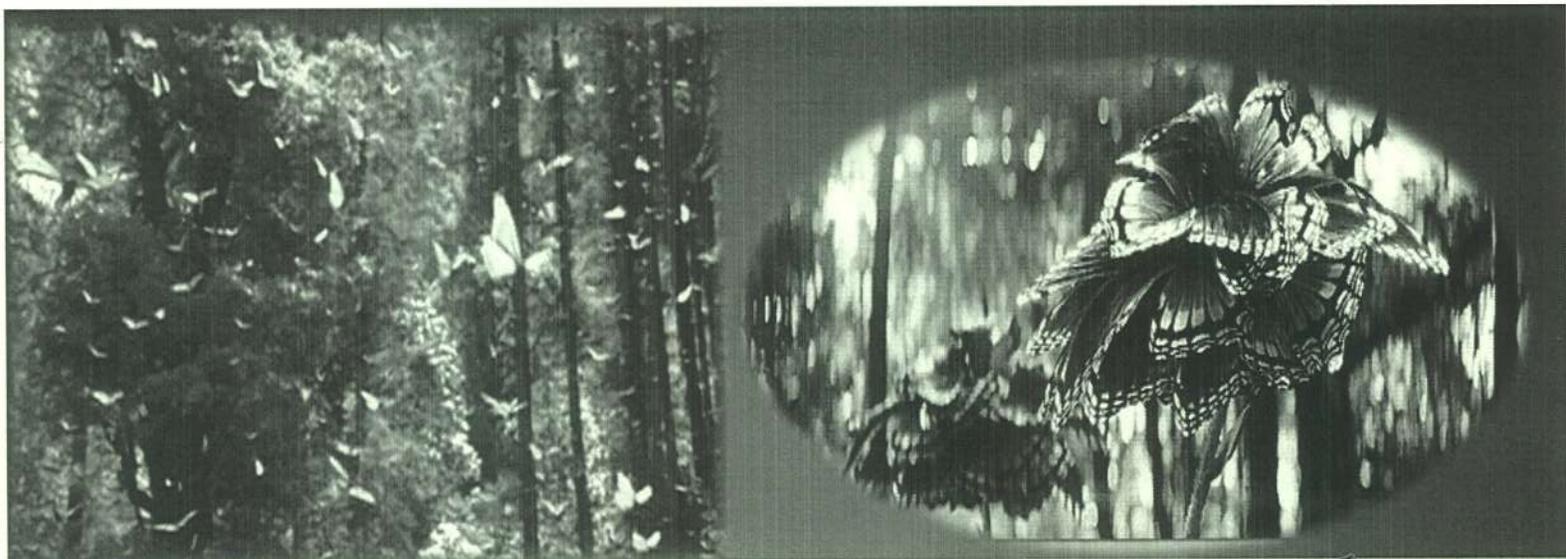
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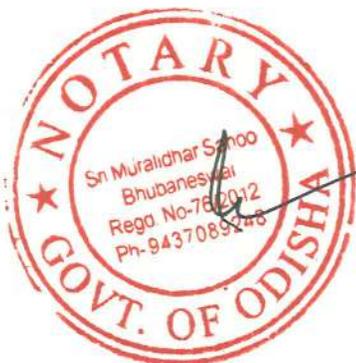
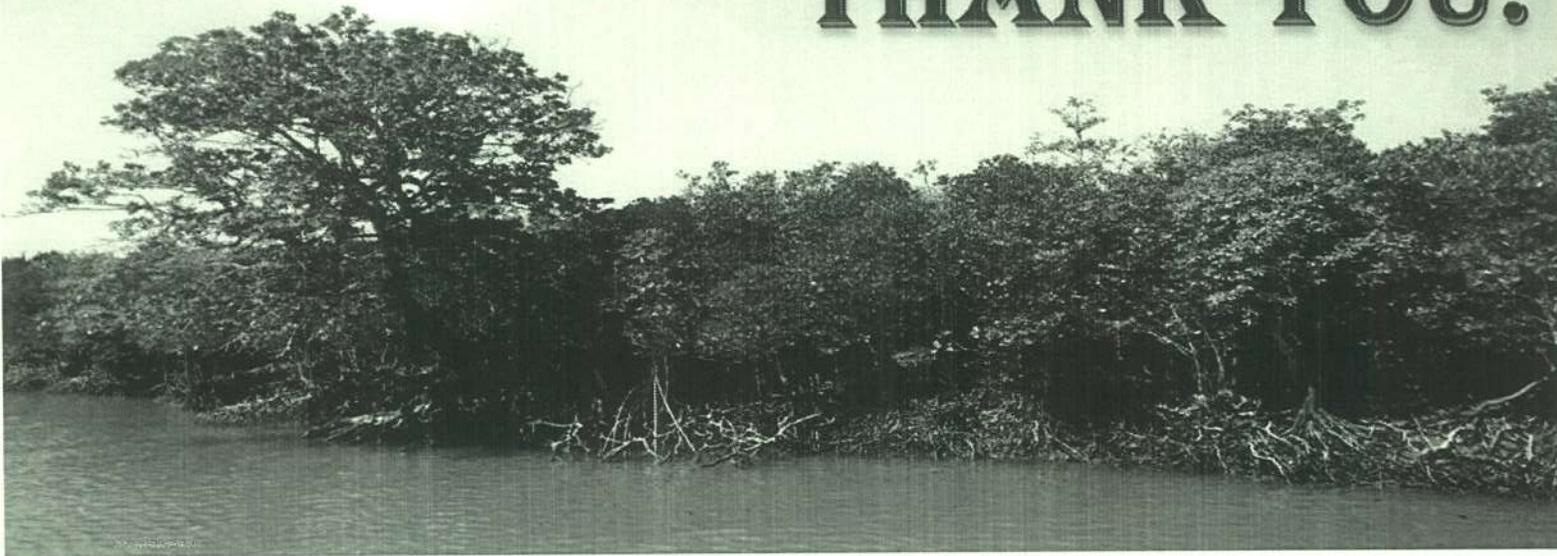


For NISARG  
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**THANK YOU.**



For NISARG  
*Ganigadhy*  
Secretary





[Home \(index.html\)](#)

( i n d e x . h t m l )

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[Aims and objectives \(aims-objective.html\)](#)

[Members of Society \(members-society.html\)](#)

[Infrastructure \(infrastructure.html\)](#)

[Contact Us \(contact-us.html\)](#)



## Welcome to Fishing Harbour Paradeep

The Integrated Fishing Harbour at Sector-21, Paradeep was established in the year 1996 at a cost of Rs.38.07 cores under assistance from Ministry of Agriculture, Govt. of India. It is the largest Fishing Harbour of the state and one of the major Fishing Harbours of the country. The boats started operating during 1998. The Harbour was initially under the management of Paradeep Port Trust (PPT) and the fishing activities were regulated by the Fisheries Department. During 2011 the harbour was transferred to Fisheries and ARD department.

[HRD](#)

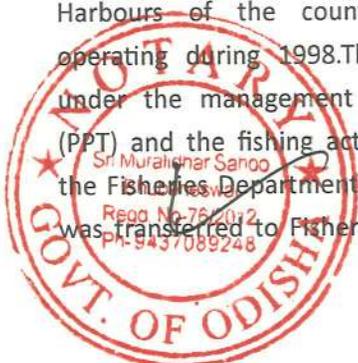
[News and Events](#)

[Tender \(tender.html\)](#)

[Statistics \(statistics.html\)](#)

[Training \(training.html\)](#)

[Gallery \(gallery.html\)](#)



Secretary  
*(Signature)*



Thereafter, the Harbour Management Society was formed which was registered under the Society Registration Act, 1860(Regd. No.JSP1790/94 of 2008-09 Dt. 21st February, 2009). The Governing Body consists of Government Officials, Users and Exporters.

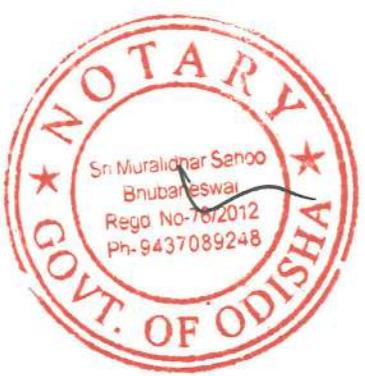
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For NISARG  
Secretary  
*Ganigopal*





Home > Our Business > Paradip Refinery > Paradip Refinery

## Paradip Refinery

Paradip Refinery, commissioned in 2016, is situated in Paradip, Jagatsinghpur district in the State of Odisha. Situated on the Eastern Coast this refinery caters to the petroleum products demand majorly across east, south and central India & is strategically located for export of petroleum products to South-East Asian countries.

Paradip Refinery is Indian Oil's first refinery with single Atmospheric Column for processing 15.0 Million Metric Tonnes Per Annum. The crude receipt is by 3 nos. Single Point Mooring (SPM) located at around 25 kms inside the sea to facilitate Crude delivery by VLCC. The refinery is designed to process 100% High Sulphur Crude and crude with TAN of 0.5.

Several first-time technological features have been installed at Paradip Refinery including Alkylation unit for producing alkylate which is a low benzene MS blend stock, Flue Gas Desulphurisation facilities for firing high Sulphur Vacuum Residue in Boilers & Vapour Recovery system from jetty loading to meet the stringent emission norms of SOx and Volatile organic emissions despite processing heavy high Sulphur Crude. The refinery is in a synergic partnership with the environment with strictly monitored liquid effluent discharge and controlled stack emissions which are uplinked on real time basis to the server of Central Pollution Control Board.

Paradip Refinery is the only PSU refinery equipped with an Alkylation unit capable of producing octane-rich low-benzene MS blend component. The refinery configuration also consists of "INDMAX" unit which is based on indigenous IOCL technology. It is capable of producing high yields of LPG, Propylene & Ethylene. The refinery can produce various petroleum products like Gasoline, HSD, SKO, Aviation Turbine Fuel, Propylene, Sulphur, and Petroleum Coke. The refinery is also designed to produce Premium quality Gasoline and HSD variants for export. Major units are AVU, INDMAX, PRU, Coker, CCRU, VGO Hydro-treater, Sulphur Recovery unit, Diesel hydro-treater, Sulphuric Acid Regeneration Unit (SARU), Alkylation Unit, ERU, MEG, PP.

To expand IOCL's petrochemical footprint a ERU (Ethylene Recovery Unit) and MEG (Mono Ethylene Glycol) unit have been installed and commissioned.

Paradip Refinery also produces various grades of PP from its Polypropylene unit and MEG, DEG & TEG from the Mono Ethylene Glycol Unit.

### Major Upcoming Projects:

Para-xylene and PTA plants are under implementation stage.

Stage-1 approval obtained for installation Paradip Petrochemical complex along with downstream petrochemical and associated facilities at Paradip.

**Major products:** Liquified Petroleum Gas (LPG), Polypropylene, Mono Ethylene Glycol (MEG), High Speed Diesel (HSD), Motor spirit (MS), Aviation Turbine Fuel (ATF), Superior Kerosene Oil (SKO), Sulphur, Light Cycle Oil (LCO), Low Sulphur Heavy Stock (LSHS), Pet Coke, Bitumen.

**Other Products:** Storm-X, Reference fuel of various grades viz. E-0, E-05, E-10, E-20.



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PTA will be produced from the refinery post commissioning of the PX-PTA project which is under implementation.

**Mode of Product Dispatch:**

Pipeline: Paradip Raipur Ranchi Pipeline (PRRPL), Paradip Hyderabad Pipeline (PHPL), Paradip Somnathpur Haldia Pipeline (PSHPL), Paradip Haldia Barauni Motihari Pipeline (PHBMPL).

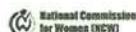
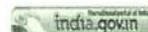
Jetty: A total 12 loading arms consisting of 8 liquid product loading, 3 vapour return and 1 crude unloading arms are provided.

Rail

Road

Toll FREE Number: 1800-2333-555  
Commercial LPG Helpline No. 1860-5991-111  
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LPG Emergency Helpline: 1906  
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Annexure - "A-5"

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Disaster Med Public Health Prep. 2020 Nov 18:1-5. doi: [10.1017/dmp.2020.451](https://doi.org/10.1017/dmp.2020.451) 

## Beirut Ammonium Nitrate Explosion: A Man-Made Disaster in Times of the COVID-19 Pandemic

[Mazen J El Sayed](#) <sup>1,2</sup> 

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PMCID: PMC7985624 PMID: [33203497](https://pubmed.ncbi.nlm.nih.gov/33203497/)

### Abstract

The largest non-nuclear blast in modern history took place on August 4, 2020, at 6:07 PM in Beirut, Lebanon, after an estimated 2750 tons of unsafely stored ammonium nitrate exploded. The physical and social impacts of this catastrophic event coinciding with the coronavirus disease (COVID-19) pandemic were massive. This article describes the national and international emergency responses to this event and highlights the impact of the explosion on the health care sector in Lebanon. Challenges noted during this response with recommendations for improving response to future disasters are also described.

**Keywords:** ammonium nitrate, Beirut, COVID-19 pandemic, disaster response, explosion

### Event

The largest non-nuclear explosion in modern history took place on August 4, 2020, at 6:07 PM in Beirut, Lebanon. This catastrophic event started 30 minutes earlier with a fire in a large hangar where fireworks and an estimated 2750 tons of ammonium nitrate were unsafely stored in an urban setting in the capital of Lebanon.<sup>1,2,3</sup> Several small explosions were followed by a

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massive explosion that resulted in over 6000 injured, 200 fatalities, and over 100 missing casualties. It also destroyed a major part of the city with an estimate of over US \$10 billion in infrastructure damage leading to over 300 000 displaced individuals. At the time of this report, the direct cause of this incident was still being investigated and theories ranged from a deliberate attack on the storage site to an accidental explosion of a large volume of explosive chemical material stored in an unsafe manner. The chemical cargo was present in the hangar for over 6 years after the Lebanese Port authorities confiscated it from a ship that entered the port to transport additional cargo but, for presumed technical reasons, the chemical cargo was unable to proceed with its journey from Georgia to Mozambique.

### Initial Response

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The fire in the hangar prompted the Beirut Fire Department to respond to the incident site with first responders unaware of the presence of explosive material in the Hangar. The fire, which was filmed by many bystanders, was followed by a large explosion and a blast wave that was felt across Beirut. The explosion was heard over 200 km in the island of Cyprus and registered seismic waves equivalent to a magnitude of a 3.3 earthquake.<sup>2</sup>

Prior to the blast, there were no notifications to public or to other agencies to allow for population protection in terms of rapid evacuation or sheltering in place.<sup>3</sup> This event immediately overwhelmed the ability of Beirut hospitals, emergency medical services (EMS) agencies, first responder agencies, and other responding agencies to mount an effective response. Casualties flooded local hospitals with the less injured arriving first by private transportation or by walking to nearby hospitals and the more injured arriving later by EMS vehicles. EMS agencies headquarters and vehicles in Beirut were also affected by the blast. Initial communication between hospitals and between hospitals and EMS was lacking since all hospitals within a 5-mile radius from the explosion site were affected at the same time. Patients presented mainly with blast injuries seen with high order explosives. These included traumatic brain injuries, penetrating and blunt injuries from glass and flying debris, globe (eye) injuries, and musculoskeletal injuries (including fractures and contusions). Very few patients presented with burns. Patients with minimal injuries visited several hospitals before being attended to.

### Scaling Up of Response

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The Government of Lebanon, realizing the massive impact of this incident, declared a state of emergency and launched an immediate appeal for disaster assistance to the international community. At the same time, the Lebanese Army formed an incident command structure that would oversee the disaster response activities, including operations, logistics, planning, and finance and administration. This response model was previously described in an article



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evaluating national emergency response to mass casualty incidents in Lebanon<sup>4</sup> and recommending the adoption of principles of the US National Incident Management System.<sup>5</sup> Drills were also conducted in previous years in collaboration with non-governmental organizations (NGOs) and the United Nations Interim Force in Lebanon.

## Initial Disaster Operations

The Lebanese Army secured the blast area perimeter to allow for investigation teams and for search and rescue operations to proceed immediately after the blast. The Beirut Municipality was tasked in coordination with the High Relief Commission to assess damages in affected areas of Beirut. The Internal Security Forces were designated as the main agency to help with searching for missing individuals and to conduct forensic/DNA identifications of unidentified victims/body parts in coordination with the Lebanese Red Cross. They were also charged with maintaining security and safety in affected areas by preventing looting and theft from partly destroyed houses and businesses.

A liaison committee was also formed between the Lebanese Army and the Ministry of Health to prioritize medical needs and to oversee donations and coordinate the timely delivery of resources.

The incident command center also asked media outlets to rely only on official communications released by designated media liaison officers. A dedicated call center was launched for all public inquiries related to the response activities. Another task force was assigned to work on disaster recovery activities, including resuming operations in the unaffected part of the port to allow for receiving international assistance. Beirut International Airport was also designated as the main site for receiving international assistance teams and resources.

## Response Priorities

### Search and Rescue Operations

Search and rescue operations for missing individuals at the blast site were the initial response priority. The initial operations were conducted by the Lebanese Civil Defense (main government agency tasked with urban search and rescue), the Lebanese Army, and other responding agencies. Several international teams arrived to Lebanon the day after the explosion and were assigned specific sectors and initiated work on-site with advanced equipment and rescue dogs. The blast site map identified at least 7 international teams from Russia, France, Poland, Qatar, Netherlands, Greece, and Czech Republic. Other teams, including the Turkish



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team, arrived a few days later and started working on the expanded blast site. An initial estimate of over 100 individuals missing was reported after the blast.

## Health Care Sector Impact Assessment

A quick assessment of the impact of the event on the health care system, addressing the needs of the injured, and regaining the pre-incident capacity of the system were the main medical priorities. The direct physical impact on the health care system consisted of damages to hospitals and to other health care entities: Three major hospitals (St. George Hospital University Medical Center, Wardieh Hospital, and Karantina Hospital) became completely nonfunctional resulting in the total loss of approximately 500 beds. Three other hospitals sustained partial damage (Geitawi Hospital, LAU Medical Centre–Rizk Hospital, and American University of Beirut Medical Center).<sup>6</sup> The largest national stock of medications was also partly affected and 17 containers of medical supplies located at the port were partly destroyed. Several medical providers were also among the blast victims with several deaths reported from hospitals that were close to the blast site. According to the Lebanese Order of Physicians, over 2000 doctors' offices and clinics were also affected by the explosion.

At the time of the blast, the health care sector in Lebanon was already experiencing tremendous challenges in terms of capacity and resources. A deepening economic and financial crisis that started in 2019 caused several health care organizations to reduce their operations and their workforce in order to cope with currency devaluation, price inflation, and capital control measures that were implemented.<sup>7</sup> Most hospitals were also prioritizing preparedness for the coronavirus disease (COVID-19) pandemic with 4022 cases registered in Lebanon 1 day before the blast.<sup>8</sup>

Despite all of these challenges, local hospitals received over 6000 casualties and depleted most of their supplies to respond to this disaster. Hospitals that were severely hit during the blast had to relocate their patients to other facilities, which resulted in increased occupancy in most hospitals in Beirut and reduced their ability to cope with a concurrent surge in COVID-19 cases requiring hospitalization. Caring for patients during this response compromised precaution practices that were implemented in most hospitals related to the COVID-19 pandemic, such as removing COVID-19 screening and testing requirements and reduced personal protective equipment (PPE) standards during advanced airway management.

Field hospitals were part of the international assistance and mutual aid delivered by other countries.<sup>9</sup> By August 12, 2020, there were at least 5 international hospitals operating in the greater Beirut area. Most were set up to operate independently and were run by military health care teams. These included the Russian, Jordanian, Moroccan, and Iranian hospitals. The Qatari



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hospital was set up to support the functions of St. George Hospital, which was located near the blast site. Most had general capabilities for treating injured victims and providing minor surgeries with few intensive care beds available in the Iranian and Qatari hospitals. Two hospitals also had laboratory COVID-19 polymerase chain reaction (PCR) testing (Russian and Jordanian) and pharmacies for chronic medications (Iranian, Jordanian, and Qatari). Treatment of mental health emergencies was also offered at the Russian hospital. None of the hospitals were designed to care for or admit patients with COVID-19.

Donations received by the Lebanese Government included large stocks of medical supplies and medications and field hospitals. International health care organizations, including the World Health Organizations, US Agency for International Development, and United Nations High Commissioner for Refugees, also dispatched emergency response teams to Lebanon to help assess the situation and address needs of both private and public entities in the health care sector.

Other NGOs and the private sector focused directly on the needs of the displaced and affected individuals. There were several donation funds established for different causes on social media outlets to support different initiatives, including treating children, rebuilding houses, and funding shelters. Support of government agencies by the private sector was non-existent for several reasons: (1) lack of trust between the Lebanese people and the government because of the financial crisis that was mainly attributed to corruption, and (2) blaming of the government for negligence in addressing the unsafe storage of the ammonium nitrate.

### Challenges During This Response

Several challenges were observed during the response to this catastrophic event that coincided with the COVID-19 pandemic.

At the mitigation level, government agencies failed to adequately identify the hazard risk associated with the storage of large volumes of explosive chemicals in an urban site. Ammonium nitrate is a fertilizer but is also used as a blasting agent and is classified as an explosive when it mixed with more than 0.2% of combustible substances. It is also known to have caused some of the most destructive accidental explosions in the past.<sup>10</sup> Despite the presence of command and control regulatory requirements for importation, storage, and transportation of chemical products in Lebanon, awareness and decisive actions to reduce the hazard risk, in this case, were missing. As a result, the Beirut Fire Department, the primary responding agency in Beirut, responded to a fire without prior knowledge of the stored material. Ten firefighters lost their lives in the blast. Additionally, an expedient emergency assessment at the start of the fire was also not adequate since no notifications were sent to the



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public to protect the population in the vulnerable zone. Bystanders were filming the fire from their houses in close proximity to the blast site for 30 minutes prior to the explosion that destroyed their homes and left many of them injured or dead. Similarly, hospitals, emergency response agencies, and other operating businesses did not receive any notification about a potential catastrophe. A disaster management authority in charge of risk assessment, hazard identification, and disaster response is missing in Lebanon because the disaster response draft law that was submitted in 2012 to the Lebanese Parliament has not been approved to date.<sup>11</sup>

At the response level, previous drills helped with the immediate establishment of the incident command center and the Lebanese army assuming command of the overall response. The immediate call for assistance launched by the government helped scale up quickly the response with much needed search and rescue teams with adequate skills and equipment arriving within hours to Lebanon and launching operations as of the next morning of the explosion. The incident command structure allowed for responding agencies to integrate into a response framework with clearly delineated roles and responsibilities. A major challenge the government faced in this response was related to the role of the private sector and the community response with several NGOs asking the international community to bypass the government agencies because of concerns for corruption and the deep political crisis that Lebanon was facing at the time of the event. In fact, the international coalition for helping Lebanon raised over US \$200 million and requested that funds go directly to the Lebanese population while mandating reform measures from the Lebanese Government.<sup>12</sup>

Challenging aspects of the medical response were many: (1) The blast affected most neighboring hospitals in Beirut, which resulted in lack of information about the functional status of hospitals and lack of initial coordination between hospitals or between EMS agencies and hospitals. Several hospitals faced difficulties with coping with the initial surge of patients immediately after the explosion and referred many patients with minor injuries to more distant hospitals; (2) fatality management was also problematic with morgues at local hospitals filled immediately by casualties. Requests were sent from hospitals to EMS agencies to define a protocol for fatality management during the response and to identify alternative locations for storage of dead bodies; (3) unconscious patients' identification was another challenge with many patients arriving with severe traumatic brain injuries or with life-threatening injuries and getting intubated or going straight to the operating rooms without the ability to identify them. Delays with fatalities' identification were also present, and by August 10, 2020, 20 out of a total of 152 fatalities were still unknown. Potential contributing factors related to this delay were the massive scale of the event and the presence of a large number of refugees in Lebanon.

Another challenge in the overall medical response was related to the role of the field hospitals. The existing Lebanese hospitals were able to absorb quickly the surge of patients and to address over subsequent days most of the initial needs of injured patients. Patients also followed up at



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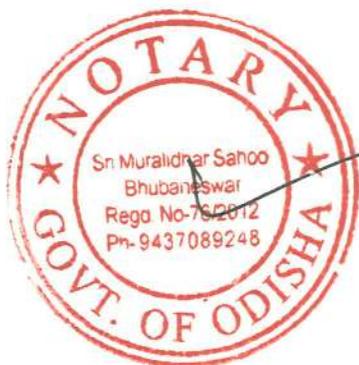


the hospitals where they were initially treated for their return visits. Independently deployed hospitals started receiving general medical visits, and only 1 hospital was paired with another existing partly destroyed hospital to support its functions. The functions and capabilities of these hospitals were not initially coordinated with existing hospitals, and their locations and services were not immediately clarified to the public. Several disaster medical assistance teams reached Lebanon and, after a quick assessment, realized that the needs were mainly in stocks, supplies, and medications rather than medical personnel or sites of care.

Coordination and deployment of resources were initially slightly delayed, especially that the call for international assistance did not identify a list of urgent medical needs. The response priorities were later clarified by the incident command center to allow for international assistance teams to deploy resources in a more effective manner. The Ministry of Health dispersed gradually medical supplies to local hospitals.<sup>13</sup> Donations also reached different entities in Lebanon from multiple international sources, despite the existing structure of the incident command center to centralize this and avoid duplication of resources.

Public information and communication remained major challenges during this disaster response. Issues ranged from missing pre-explosion notifications to the absence of official status reports on response activities, such as daily updates on rescue operations, fatalities' identification, damage assessment, international assistance, and on other disaster recovery-related activities. Multiple NGOs worked on filling this gap by launching public databases for missing individuals, unidentified victims, lists of available resources (food and shelter), and so forth.

Table 1 lists recommendations for improving response, recovery, and resilience to future disasters in Lebanon.



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Table 1.

Recommendations for improving response, recovery, and resilience for future disasters

**Prevention and Protection**

- Establish a system for intelligence- and information-sharing between agencies and hospitals.
- Formalize a mechanism for public information and warning in routine events and disasters.
- Search for and detect storage sites of hazardous materials.
- Identify vulnerable areas in the community and enforce protective measures against disasters.
- Define critical infrastructure in the health care sector and introduce protective measures against blasts and other types of disasters.

**Mitigation**

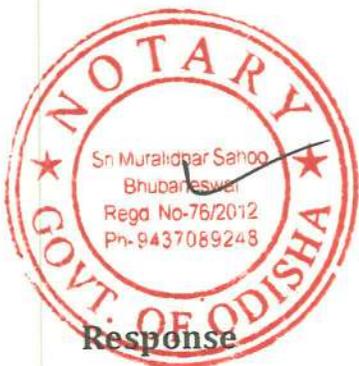
- Develop and implement a hazard-specific mitigation plan at the national level
- Test communication with public through early notifications for evacuation and or sheltering.
- Improve information-sharing system with responding agencies and hospitals
- Continue multi-agency drills for disaster response and involve stakeholders from private sectors and communities.
- Hazard risk assessment to identify storage sites of hazardous material and enforcing regulations.
- Risk stratification of zones for future events.

Develop a plan and practice tools for a rapid assessment post disaster.

Pre-define life-saving and life-sustaining activities at the community level.

Continue to improve the different branches of the incident command structure.

Identify immediate response priorities and gaps and communicate these clearly to local and international response agencies.



**Response**

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Establish a critical information network and improve efficiency of information-sharing across different levels of government and to responding agencies.

Introduce disaster notifications to the public, hospitals, and to other stakeholders.

Initiate and organize government and community search and rescue operations.

Quick assessment of the scale of the event and determine need for scaling up the response.

Quick assessment of the status of critical infrastructure and prioritize re-establishing this infrastructure.

Assess status of critical transportation channels, continuing threats, and ensure access to disaster zone for responding agencies.

Clarify mechanism for integrating international agencies into overall response framework (responding agencies and field hospitals).

Ensure ability to deliver acute care for a large number of victims, and prioritize activities to increase surge capabilities.

Clearly define roles and responsibilities and involve public sector and NGOs in a formal way.

Mobilize resources after a quick assessment to acute care facilities and to disaster victims.

Ensure ability to continue to deliver life-saving and life-sustaining activities at all levels.

Establish a system for fatality management.

Establish mechanism for identifying unconscious victims who are hospitalized.

Establish an effective system for mobilizing resources to responding agencies, facilities, and to disaster victims.

Establish information centers for the public and for disaster victims.

Define owners of different response activities, including establishing emergency shelters, reporting of, and locating missing individuals.



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Ensure protection to site and safety (person, property, and environment, including assessment for residual threats related to CBRNE\* incidents).

Clarify a transparent mechanism for receiving aid and donations and for distributing donations.

Create a formal vetting mechanism for old and new NGOs involved in the response.

## Recovery

Define a recovery plan that covers all sectors.

Establish integrated leadership for all recovery activities with clear goals and time lines.

Prioritize recovery of the health care sector and other health/social services.

Improve communication and information dissemination about the recovery status of affected services.

Clarify access to information-related and all types of recovery activities.

Create a feedback mechanism about the overall status of recovery operations for involved stakeholders.

Define mechanisms for ensuring sustainability in recovery activities in terms of balancing needs and availability of resources.

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\*CBRNE = chemical, biological, radiological, nuclear, and high yield explosives.

This catastrophic explosion occurred during the COVID-19 pandemic. The number of COVID-19 cases was starting to rise quickly in July after the reopening of different sectors, including the Beirut International Airport. The health care system capacity, however, was being challenged by the financial crisis, the reduction in workforce, and closure of COVID-19-dedicated wards and intensive care units (ICUs) in private hospitals because of difficulties in securing resources, such as PPE, ventilators, and dialysis equipment. The main challenge of the health care system after the explosion was the reduction in capacity to cope with the surge of COVID-19 cases, especially that 2 large, affected hospitals were also treating COVID-19 patients. In fact, the number of COVID-19 cases rose to reach 10 347 total cases by August 19, 2020, with post-explosion cases accounting for around 61% of total cases. Several factors may explain this



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surge: (1) Injured patients were treated at different hospitals, and precaution standards were compromised during the response; (2) mass gatherings were frequent to help with urban search and rescue operations and riots started immediately after the explosion, holding the government accountable for negligence; and (3) The natural progression of the pandemic since the weekly COVID-19 reproduction rate average exceeded 1.5 in the pre-explosion phase. This surge in COVID-19 cases required that the priorities of the response be shifted back to the COVID-19 response with the decision to reimplement a partial lockdown while allowing recovery operations to continue. Requests for help and for resources are also prioritizing the COVID-19 response in terms of building ICU capabilities in different Lebanese hospitals and modifying field hospitals to be able to accommodate COVID-19 patients. An official assessment of the status of the health care sector in Lebanon post-Beirut explosion is still pending.

In summary, the emergency response to the ammonium nitrate explosion in Beirut on August 4, 2020, was the first reported international response to a man-made disaster during the COVID-19 pandemic. Its physical impacts (casualties and damage) and social impacts (psychological, economic, and political) are massive. The government responded with a clear incident command structure, and gaps were filled by the private sector and the community. Man-made disasters are unfortunately very frequent in Lebanon, and the time for preparedness and mitigation seems to not be enough. Lebanon needs all the help from the international community to be able to recover fast from this disaster and to mount an effective response against the most imminent threat, which is the COVID-19 pandemic.

### Conflict(s) of Interest

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The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this paper.

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Beirut Ammonium Nitrate Explosion: A Man-Made Disaster in Times of the COVID-19 Pandemic - PMC

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08/07/2025, 15:53

Texas Fertilizer Plant Blast Killed Several, Injured Dozens : The Two-Way : NPR

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## The Two-Way

AMERICA

# Texas Fertilizer Plant Blast Killed Several, Injured Dozens

APRIL 18, 2013 · 6:30 AM ET

By Scott Neuman, Mark Memmott



1 OF 10

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LM Otero/AP

After a fire and explosion at a fertilizer plant in West, Texas, that killed as many as 15 people and injured more than 160 others, rescue workers on Thursday are still sifting through the smoldering rubble hoping to find survivors.

Here's what we know at this hour:

- The explosion occurred about 8 p.m. with the force of a small earthquake, leveling a four-block radius around the plant, including dozens of homes.
- Anywhere from 5 to 15 people, including some first responders, have been killed. Others remain missing. More than 160 are injured, The Associated Press reports.
- Police say there is no immediate indication that the blast was anything other than an industrial accident.

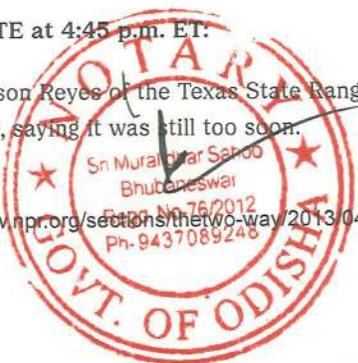
We will be updating the story as the day goes along.

### Update at 7:59 p.m. ET. Search And Rescue Continues:

The Dallas Morning News quotes West Mayor Tommy Muska as saying that search and rescue teams have combed through "80 percent of the devastated areas, including a nursing home and 50-unit apartment complex, have been searched so far. Teams have found eight to 10 bodies and expect to find at least a half dozen more at the West Fertilizer Co. facility when they can search those grounds."

### UPDATE at 4:45 p.m. ET:

Sgt. Jason Reyes of the Texas State Rangers, declined to give any new casualty figures, saying it was still too soon.



KHORDA  
 Secretary



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08/07/2025, 15:53

Texas Fertilizer Plant Blast Killed Several, Injured Dozens : The Two-Way : NPR

Chief Deputy of the McLennan Co. Sheriff's Department, Matt Cawthorn that the area where the explosion took place is "highly populated ... It is devastated."

He said the cause of the initial fire has not yet been determined.

**UPDATE at 4:30 p.m. ET:**

NPR's Daniel Zwerdling reports that there's nothing in the history of the fertilizer plant that could have predicted Wednesday's disaster. Even so, it's record was not spotless:

"First, the Texas Commission on Environmental Quality got a complaint in 2006 — the person who filed it said the ammonia smell around the plant was 'very bad.' State regulators inspected and they found that the company didn't have a proper permit. Then the federal EPA inspected and they found that the company didn't have a formal written maintenance plan. It had failed to consider potential hazards properly and plan how to deal with them," Zwerdling says.

**UPDATE at 12:55 p.m. ET: Governor Perry Makes Disaster Declaration**

Gov. Rick Perry has declared McLennan County, where West is located, a disaster.

"Last night was truly a nightmare scenario for that community," he said at a news conference.

"This tragedy has most likely hit every family, has touched nearly everyone in that town," he said.

He said the scene of the explosion was still an "active search and rescue mission" and that the state would offer resources as long as they were requested and needed.

**UPDATE at 12:15 p.m. ET: Anhydrous Ammonia Vs. Ammonium Nitrate**

NPR science reporters Christopher Joyce and Dan Charles have weighed in to help clarify the difference between these two chemical compounds:

Anhydrous ammonia is harmful to skin and very dangerous to breathe, but it's not the same as ammonium nitrate, used in the explosive at the 1995 Oklahoma City bombing, they point out.

"Anhydrous ammonia is a popular fertilizer, used directly by many farmers. It can also be used as a raw material to produce other kinds of nitrogen fertilizer — including, but not limited to, ammonium nitrate," our science team says.

[Note: Since we posted the 12:15 p.m. update above, Matt Cawthorn, chief deputy of the McLennan Co. Sheriff's Department, has told reporters that the situation remained volatile because ammonium nitrate had been found at the scene.]

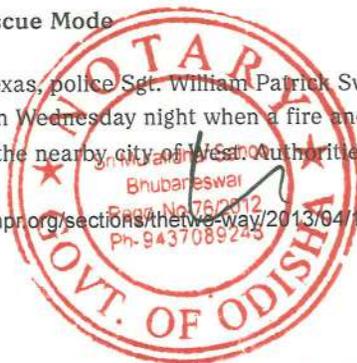
**UPDATE at 10:20 a.m. ET: President Obama Offers Condolences**

"West is a town that many Texans hold near and dear to their hearts, and as residents continue to respond to this tragedy, they will have the support of the American people," President Obama said in a statement.

He said federal emergency agencies are in close contact with state and local officials in Texas and thanked first responders who worked through the night to contain the blaze.

**UPDATE at 9:30 a.m. ET: Firefighters Among The Missing; Still In Search-And-Rescue Mode**

Waco, Texas, police Sgt. William Patrick Swanton says the threat was "significantly less" than Wednesday night when a fire and explosion ripped through a fertilizer plant in the nearby city of West. Authorities have no new casualty figures, he says.



*Ganapati*  
Secretary



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08/07/2025, 15:53

Texas Fertilizer Plant Blast Killed Several, Injured Dozens : The Two-Way : NPR

"I have heard five to 15 people and three to five firefighters, but none of that is verified," Swanton said at a morning news conference, adding that it was based on "very limited intel" and secondhand reports.

He said firefighters "are there on the ground still and still in what they call a search-and-rescue mode."

Authorities still have no word on what caused the fire, Swanton says.

Here's our original post:

Raw: Texas Blast Caught on Cellphone



AP YouTube

The massive explosion Wednesday night at a fertilizer plant near Waco, Texas, killed an estimated 5 to 15 people, injured more than 160 others and devastated the town of West, officials said Thursday morning as they tried to piece together what happened.

There are fears that the death toll could be even higher.

West Mayor Tommy Muska, who warned Wednesday night that "there are a lot of people that will not be here tomorrow," said at a brief news conference early Thursday morning that "I ask for your prayers." The mayor had earlier described the explosion as being "like a nuclear bomb ... [a] big old mushroom cloud." The force of the explosion was picked up by the U.S. Geological Survey's earthquake monitors — it was the equivalent of a 2.1 magnitude temblor.

The cause of the blast, which as we reported Wednesday night happened as local firefighters were battling a blaze at the plant, had not yet been determined. Waco Police Sgt. William Patrick Swanton told reporters Thursday morning, "We're not indicating it was a crime, but we don't know. ... Until we know that it was an industrial accident, we will work it as a crime scene."

NPR's John Burnett, who got to the area of the explosion early Thursday, tells our Newscast Desk. "I spoke to one woman. Her son was playing football at the middle school there and he was lifted up in the air by the force of the explosion. They said they could see glass and debris flying through the air like shrapnel. They said it was the most terrifying experience of their lives." Burnett also spoke to *Morning Edition*.



For NISARG

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-124'

08/07/2025, 15:53

Texas Fertilizer Plant Blast Killed Several, Injured Dozens : The Two-Way : NPR

The explosion destroyed or damaged dozens of homes, businesses and a nursing home.

Erick Perez, 21, of West was using his cellphone to record the scene from a distance as firefighters tried to put out the blaze. The Associated Press has posted a copy of that video here.

We'll follow this story as the day continues and post updates.

Among other news outlets following the news closely:

- *Waco Tribune*
- KUHf
- KUT
- *Dallas Morning News*

**Note:** As happens when stories such as this are developing, there will likely be reports that turn out to be mistaken. We will focus on news being reported by NPR, other news outlets with expertise, and statements from authorities who are in a position to know what's going on. And if some of that information turns out to be wrong, we'll update.

texas waco west, texas texas explosion

### The White House is one step closer to defunding public radio.

The House has voted to claw back all federal funding for public media, and the proposal now moves to the Senate.

We're running out of time to protect public radio's essential news, music, and emergency broadcast services to communities across the nation. Those in rural areas — with few other options to get their news and information — will likely be the hardest hit.

But you can still stand up for public radio.

Spend 10 seconds at the link below.

The consequences of this vote fall directly on the Americans who rely on local, independent stations serving communities across the country. Take action.

**SAVE PUBLIC MEDIA**

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## Tianjin chemical blast: China jails 49 for disaster

9 November 2016



EPA

A huge crater was created in the aftermath of the explosion

**A Chinese court has handed a suspended death sentence to the head of a chemical factory for his role in blasts that killed 173 people last year.**

Ruihai Logistics chairman Yu Xuewei was also fined more than 700,000 yuan (about \$100,000) over the disaster in the eastern port city of Tianjin.

<https://www.bbc.com/news/world-asia-china-37927158>



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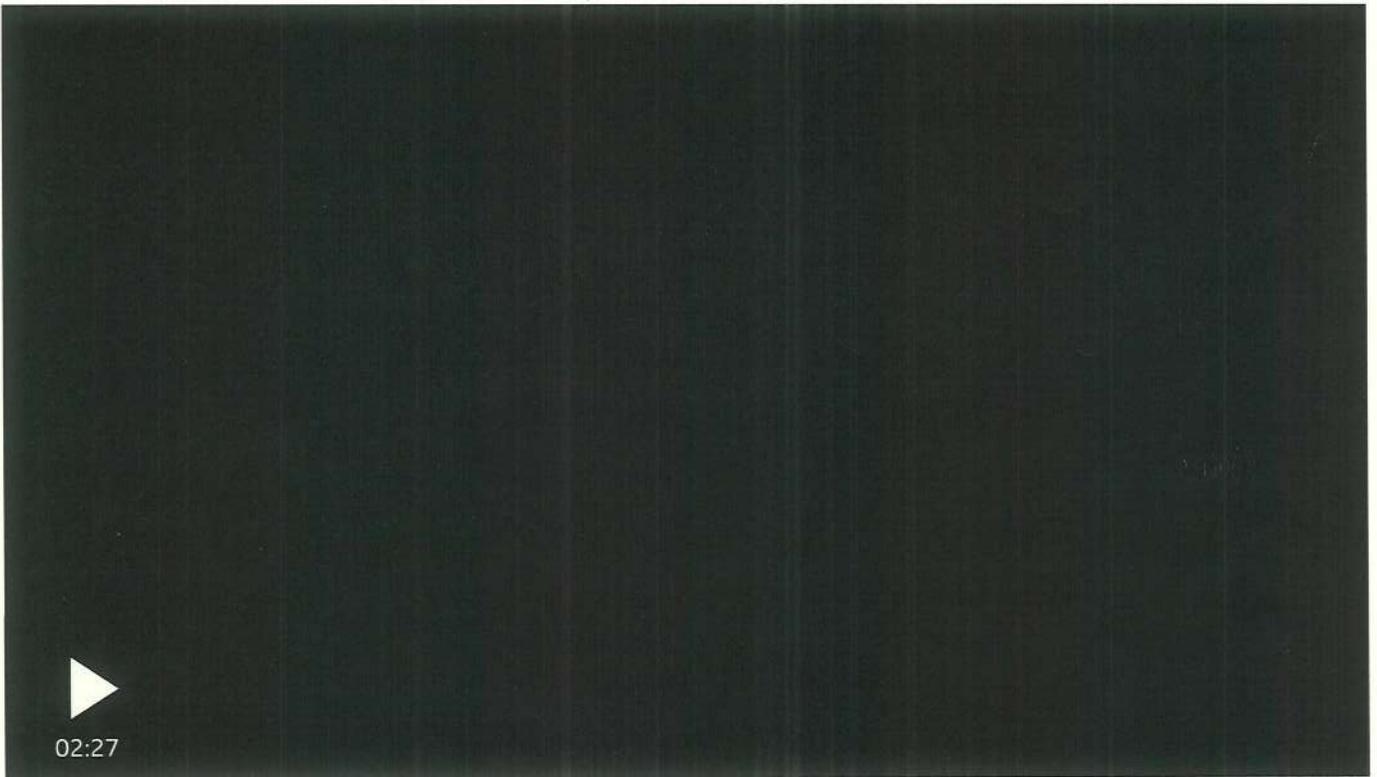
He is among 49 staff and government officials jailed for their role in the firm's illegal operations.

Most of the dead were firefighters and police. Eight bodies were never found.

The explosion was one of the deadliest industrial accidents in Chinese history and caused more than \$1bn in estimated economic losses.

The Ruihai Logistics chairman was found guilty of paying bribes allowing his company to sidestep safety regulations when storing sodium cyanide and other dangerous chemicals.

**Deadly disaster marked one year on**



▶  
02:27

| Zhang Mengfan says the public deserves to know what happened in the Tianjin blasts

Others sentenced were found guilty on charges ranging from abuse of power to storing dangerous substances illegally.

An investigation found that stocks of flammable nitrocellulose - a chemical used in nail polish - had caught fire and spread to illegal stores of the fertiliser ammonium nitrate.

The blasts that were triggered ripped through an industrial port area in the city, destroying buildings, shipping containers and thousands of new cars.



For NISARG  
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- 127 -

- Approximate blast location: Ruihai International Logistics warehouse
- Rows of cars completely burnt



### More on this story



**Muted commemoration of deadly Tianjin blast**

12 August 2016



**'The blast that killed my team'**

12 August 2016



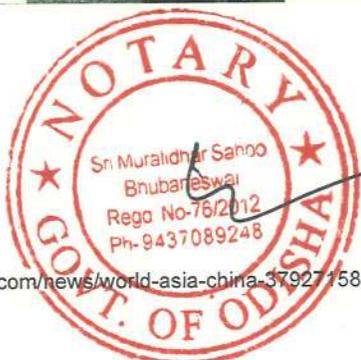
**Drone footage shows aftermath**

13 August 2015



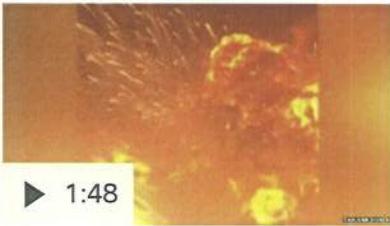
**Inside the blast zone**

13 August 2015



For NISARG  
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### Deafening sound of China explosions

▶ 1:48

13 August 2015



### Massive blasts hit north China city

13 August 2015



### Travelling into Tianjin blast zone

13 August 2015



### Story of the blasts as told by witnesses

13 August 2015



### Tianjin pictures reveal destruction

13 August 2015

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7.2k viewing

Norman Tebbit, key Thatcher ally, dies aged 94

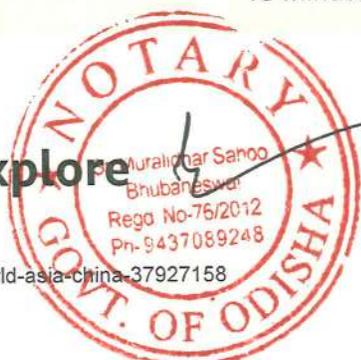
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Families demand answers as Southport inquiry opens

5 hours ago

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<https://www.bbc.com/news/world-asia-china-37927158>



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How King Charles will help rebuild the shaken UK-France friendship during the state visit



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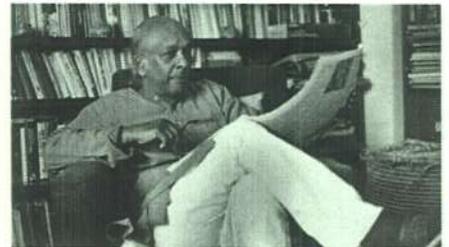
The doctor fighting for women's health on Ukraine's front line



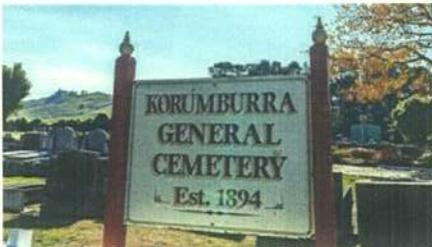
Norman Tebbit: Outspoken hero of the Conservative political right



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Morecambe and Wise's formative

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Annexure - "A-6"

P. 6

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To,

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**Government of India,**  
Parivahan Bhavan, 1,  
Parliament Street,  
New Delhi - 110011.  
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2. **Secretary, Ministry of Environment, Forests and Climate Change, Government of India**  
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The Forest, Environment and Climate Change  
Department  
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Kharavel Bhavan, Bhubaneswar, Odisha, India  
Email: [fesec.or@nic.in](mailto:fesec.or@nic.in)**
8. **Chairman, Odisha State Pollution Control Board  
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Unit-8, Bhubaneswar – 751012, Odisha.  
Email: [chairman@ospcb.org](mailto:chairman@ospcb.org)**
9. **Chairman, Paradip Port Authority  
Administrative Building,  
Paradip Port, Jagatsinghpur – 754142, Odisha  
Email: [chairman@paradipport.gov.in](mailto:chairman@paradipport.gov.in)**

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10. Chief Controller of Explosives,  
Petroleum and Explosives Safety Organization  
A-Block, CGO Complex, Seminary Hills,  
Nagpur – 440006, Maharashtra.  
Email: [explosives@explosives.gov.in](mailto:explosives@explosives.gov.in)

16 June 2025

**Ref:** Import of Ammonium Nitrate in bagged form through sea at the Paradip Port, Odisha

Sir

***Representation in respect of alarming increase in import of Ammonium Nitrate through the Paradip Port in bagged form through sea and associated dangers and risks***

1. Natural Institute of Social Change and Resource Generation (“**NISARG**”) is a non-profit organisation, established in 1989 and registered under the Societies Registration Act (No. XXI of 1860). NISARG has been primarily involved in social work in the domain of education, health, senior citizens, disaster management, employment, art & culture, water, agriculture, governance, gender, child & youth development, technology, food & nutrition, energy & environment, animal & wildlife and livelihood.
2. This representation is submitted to express grave concerns regarding the substantial and growing volume of Ammonium Nitrate (“**AN**”) being imported in bagged form through Paradip Port, Odisha. AN is a highly hazardous chemical substance, classified as a *Special Category Explosive* under the Explosive Substances Act, 1908 (vide notification dated 15 December 2008). It is a powerful

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oxidiser, shock-sensitive when contaminated with organic matter, and capable of violent detonation under specific conditions.

3. While AN has legitimate applications in agriculture and industry, it presents severe risks to the environment and public safety, especially when improperly stored or handled, considering its extremely volatile nature. These include:
  - a. AN has a high explosive capacity:
    - i. AN is not explosive by itself under normal conditions, but it is a powerful oxidizer. When mixed with combustible materials (e.g., fuel, organic matter, or certain metals), it can form highly explosive mixtures.
    - ii. High temperatures, open flames, or contamination can cause violent detonations.
  - b. Fire hazard:
    - i. While not flammable itself, ammonium nitrate can accelerate combustion of other materials by providing oxygen.
    - ii. In a fire, it can decompose to produce toxic gases, including nitrogen oxides (NO<sub>x</sub>) and ammonia.
  - c. Hygroscopic Nature:
    - i. Absorbs moisture from the air, forming clumps that can destabilize storage and handling systems.
    - ii. Moisture can also lead to corrosion of containers and accidental mixing with incompatible substances.
4. The catastrophic scale of risk associated with the storage, possession, and transport of AN is underscored by the Beirut explosion of August 2020, involving just 2,750 tonnes of AN, resulted in over 200 deaths, 6,500 injuries, and damages of USD 4.5 billion. In comparison, Paradip Port routinely receives consignments of

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over **15,000 tonnes**, which remain docked for up to two weeks—without regulatory oversight on safety thresholds.

5. Individual consignments of 15,000 to 25,000 MT are regularly received and remain aboard vessels berthed at Paradip Port for extended durations, without adequate regulatory oversight. This effectively converts such vessels into floating storage units. Odisha's coastal region, including urbanizing zones near Paradip, home to over 4.5 crore people and sensitive ecological areas. The strategic importance and dense habitation in the region make such storage practices extremely perilous in view of the toxic nature of Ammonium Nitrate, which is emphasized below.

a. Toxicity:

- i. Inhalation of AN dust can irritate the respiratory tract.
- ii. Chronic exposure to ammonia emissions causes respiratory issues.
- iii. Decomposition products like nitrogen dioxide (NO<sub>2</sub>) are highly toxic and can cause delayed pulmonary edema.

b. Environmental Hazard:

- i. Can cause waterway pollution by promoting eutrophication (overgrowth of algae due to nitrogen) which leads to depletion of oxygen levels and poses threat to aquatic life and ecosystem.
- ii. Groundwater contamination with nitrates can affect human health (e.g., blue baby syndrome).

6. Despite these risks, the current regulatory framework permits such practices. Port is currently exempt under Rule 3(2)(c) of the Ammonium Nitrate Rules, 2012, from key provisions—including Rule 12(6) which limits storage to 5,000 MT per licensed storehouse. This exemption allows unrestricted quantities to be brought into and stored at Paradip Port, irrespective of the identical hazard posed inland or offshore.

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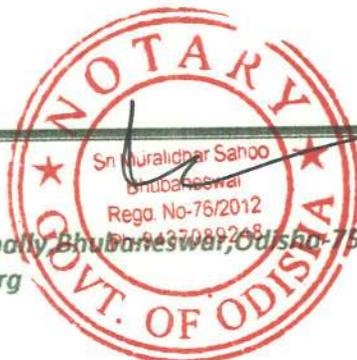
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7. While Rule 6(4)(d) of the AN Rules prohibits the storage of AN within port premises, the extended berthing durations by vessels carrying AN and slow offloading processes effectively circumvent this prohibition, resulting in de facto storage of AN in highly vulnerable coastal and populated areas. The same would be clear from the photographs enclosed herewith.
8. Alarming, there has been an exponential increase in AN imports at Paradip Port. From 38,734 MT in FY 2022–23, volumes rose by 126.6% to 87,767 MT in FY 2023–24 and further escalated to 314,430 MT in FY 2024–25 (up to November)—a staggering 258.3% year-on-year increase. The data showing increase of Import year on year from FY 2021-22 to FY 2023-24 are enclosed herewith and marked as **Annexure-I**.
9. The port's location near ecologically sensitive zones, combined with rapid industrialisation in Jagatsinghpur, Kendrapara, and Khordha districts, exacerbates the potential for catastrophe. There has been no transparent public consultation, risk assessment, or safety audit process to justify such massive imports through the Paradip Port, nor has any assessment been carried out.
10. This regulatory inconsistency—wherein the same hazardous material is subject to strict inland limits but exempt in coastal ports—constitutes a grave legal anomaly and endangers public and environmental safety.
11. In light of the foregoing, NISARG respectfully urges the following immediate steps:
  - a. Imposition of quantitative limits on the import and storage of AN at Paradip Port in line with inland norms;

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- b. Immediate suspension of further import permissions or clearances for AN through Paradip Port until a revised safety framework is adopted;
- c. Comprehensive risk assessment, including public consultation and expert review;
- d. Revocation or amendment of Rule 3(2)(c) to ensure port authorities are not exempt from essential safety regulations.

12. We trust that your good offices will treat this representation with the seriousness it warrants and initiate urgent regulatory and policy action to prevent irreversible harm.

Yours sincerely

Natural Institute of Social Change  
and Resource Generation

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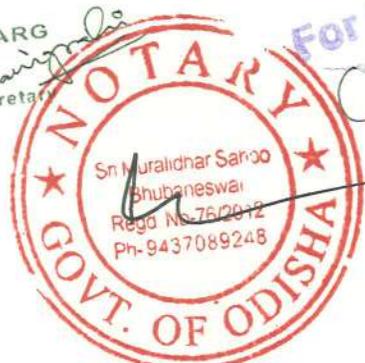
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Ammonium Nitrate - Import Volume in MT: FY 21-22 to FY 23-24

Month	Port of Destination	Vessel	Importer Name	Volume (MT)		
Apr-21	Vizag	MV MALCOM	IDL EXPLOSIVES LIMITED	4,200		
			SOLAR INDUSTRIES INDIA LIMITED	8,000		
		MV NOMADIC MILDE	AKS EXPO CHEM PVT LTD	225		
			IDL EXPLOSIVES LIMITED	4,500		
		MV VF GLORY	SOLAR INDUSTRIES INDIA LIMITED	5,225		
			BLACK DIAMOND EXPLOSIVES PRIVATE LIMITED	3,250		
			CDET EXPLOSIVE INDUSTRIES PVT LTD	249		
			IDL EXPLOSIVES LIMITED	1,751		
			INDIAN EXPLOSIVES PRIVATE LTD	249		
			SALVO EXPLOSIVES AND CHEMICALS PVT LTD	1,499		
May-21	Vizag	MV HELVETIA	AKS EXPO CHEM PVT LTD	495		
			BLACK DIAMOND EXPLOSIVES PRIVATE LIMITED	2,550		
			SOLAR INDUSTRIES INDIA LIMITED	4,710		
			SPECIAL BLASTS LIMITED	750		
		MV Fairwind Legion	A P EXPLOSIVES PVT LTD	300		
			CDET EXPLOSIVE INDUSTRIES PVT LTD	110		
			IDEAL INDUSTRIAL EXPLOSIVES LTD	5,300		
			PREMIER EXPLOSIVES LIMITED	375		
			REGENESIS INDUSTRIES PRIATE LIMITED	3,300		
			SALVO EXPLOSIVES AND CHEMICALS PVT LTD	205		
			SASAN POWER LIMITED	735		
			SRI VISHNU EXPLOSIVES PVT LTD	330		
			JOGNIYA EXPLOSIVES PRIVATE LIMITED	245		
			STRANEX INDUSTRIES PRIVATE LIMITED	250		
		THE SINGARENI COLLIERIES COMPANY LIMITED	250			
		MV LEO	SPECIAL BLASTS LIMITED	7,190		
		MV ROSLANA	AKS EXPO CHEM PVT LTD	985		
			KELTECH ENERGIES LTD	1,000		
			ORISSA EXPLOSIVES	500		
			SOLAR INDUSTRIES INDIA LIMITED	3,764		
		MV GUANA	VETRIVEL EXPLOSIVES PVT LTD	550		
			AKS EXPO CHEM PVT LTD	400		
			CDET EXPLOSIVE INDUSTRIES PVT LTD	250		
			IDL EXPLOSIVES LIMITED	7,200		
			ORISSA EXPLOSIVES	500		
			REGENESIS INDUSTRIES PRIATE LIMITED	2,000		
			SALVO EXPLOSIVES AND CHEMICALS PVT LTD	1,500		
			SOLAR INDUSTRIES INDIA LIMITED	1,650		
		Jun-21	Vizag	MV DIANA	BLACK DIAMOND EXPLOSIVES PRIVATE LIMITED	3,900
					CDET EXPLOSIVE INDUSTRIES PVT LTD	330
IDL EXPLOSIVES LIMITED	3,025					
PREMIER EXPLOSIVES LIMITED	375					
RAJA EXPLOSIVES P LTD	220					
SOLAR INDUSTRIES INDIA LIMITED	1,800					
JOGNIYA EXPLOSIVES PRIVATE LIMITED	1,500					
MV ULTRA DURBAN	MAHANADI METALS CHEMICALS PVT LTD			300		
	SASAN POWER LIMITED			990		
	SBL ENERGY LIMITED			1,000		
MV KEMET STAR	SPECIAL BLASTS LIMITED	10,800				
	SRI KRISHNA EXPLOSIVES ACCESSORIES COMPANY	300				
Jul-21	Vizag	MV MILENA	IDL EXPLOSIVES LIMITED	5,225		
			AKS EXPO CHEM PVT LTD	500		



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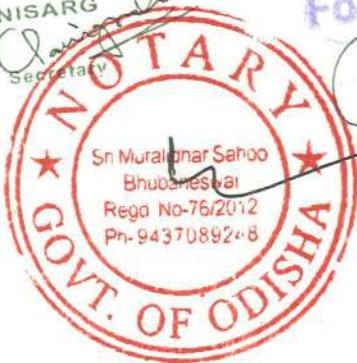


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Month	Port of Destination	Vessel	Importer Name	Volume (MT)		
			IDL EXPLOSIVES LIMITED	1,760		
			PREMIER EXPLOSIVES LIMITED	360		
			REGENESIS INDUSTRIES PRIATE LIMITED	755		
			SASAN POWER LIMITED	420		
			SOLAR INDUSTRIES INDIA LIMITED	3,170		
		MV KEMET STAR	AKS EXPO CHEM PVT LTD	980		
			BLACK DIAMOND EXPLOSIVES PRIVATE LIMITED	600		
			CDET EXPLOSIVE INDUSTRIES PVT LTD	281		
			IDEAL INDUSTRIAL EXPLOSIVES LTD	1,500		
			KELTECH ENERGIES LTD	1,000		
			REGENESIS INDUSTRIES PRIATE LIMITED	2,175		
			SASAN POWER LIMITED	335		
			SOLAR INDUSTRIES INDIA LIMITED	1,200		
			VETRIVEL EXPLOSIVES PVT LTD	500		
			NAVBHARAT FUSE COMPANY LTD	205		
		MV AL GRACE	BLACK DIAMOND EXPLOSIVES PRIVATE LIMITED	1,900		
			IDL EXPLOSIVES LIMITED	7,500		
			INDIAN EXPLOSIVES PRIVATE LTD	500		
			ORISSA EXPLOSIVES	50		
			REGENESIS INDUSTRIES PRIATE LIMITED	2,100		
Oct-21	Vizag	MV RAINBOW SYMPHONY	SOLAR INDUSTRIES INDIA LIMITED	7,574		
		MV VF GLORY	SOLAR INDUSTRIES INDIA LIMITED	7,014		
Nov-21	Vizag	MV ULTRA DURBAN	MAHANADI METALS CHEMICALS PVT LTD	500		
			SBL ENERGY LIMITED	1,500		
			SOLAR INDUSTRIES INDIA LIMITED	4,989		
			SPECIAL BLASTS LIMITED	5,900		
			SRI KRISHNA EXPLOSIVES ACCESSORIES COMPANY	500		
Dec-21	JNPT	Container Vessel	IDEAL INDUSTRIAL EXPLOSIVES LTD	913		
			KELTECH ENERGIES LTD	913		
			PREMIER EXPLOSIVES LIMITED	351		
			SALVO EXPLOSIVES AND CHEMICALS PVT LTD	1,427		
			JOGNIYA EXPLOSIVES PRIVATE LIMITED	211		
			NAVBHARAT FUSE COMPANY LTD	772		
Jan-22	JNPT	Container Vessel	SALVO EXPLOSIVES AND CHEMICALS PVT LTD	562		
	Vizag	MV RAINBOW SYMPHONY	JOGNIYA EXPLOSIVES PRIVATE LIMITED	281		
			BLACK DIAMOND EXPLOSIVES PRIVATE LIMITED	1,449		
			IDL EXPLOSIVES LIMITED	4,832		
			ORISSA EXPLOSIVES	249		
			SALVO EXPLOSIVES AND CHEMICALS PVT LTD	1,236		
			MV ULTRA CAPE TOWN	SBL ENERGY LIMITED	700	
Feb-22	JNPT	Container Vessel	SPECIAL BLASTS LIMITED	9,000		
	Vizag	MV VF GLORY	SALVO EXPLOSIVES AND CHEMICALS PVT LTD	94		
Mar-22	Vizag	MV GOLDEN SEA	ORISSA EXPLOSIVES	288		
			SOLAR INDUSTRIES INDIA LIMITED	6,650		
			JNPT	Container Vessel	IDL EXPLOSIVES LIMITED	204
			BLACK DIAMOND EXPLOSIVES PRIVATE LIMITED	2,300		
			CDET EXPLOSIVE INDUSTRIES PVT LTD	200		
			IDEAL INDUSTRIAL EXPLOSIVES LTD	3,100		
KELTECH ENERGIES LTD	600					
REGENESIS INDUSTRIES PRIATE LIMITED	500					
SALVO EXPLOSIVES AND CHEMICALS PVT LTD	400					



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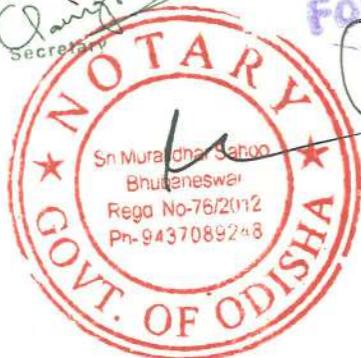


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Month	Port of Destination	Vessel	Importer Name	Volume (MT)
			SASAN POWER LIMITED	700
			SOLAR INDUSTRIES INDIA LIMITED	4,500
			JOGNIYA EXPLOSIVES PRIVATE LIMITED	230
			NAVBHARAT FUSE COMPANY LTD	400
		MV AL HADBAA	IDL EXPLOSIVES LIMITED	6,492
			SOLAR INDUSTRIES INDIA LIMITED	6,500
		MV MOONLIGHT	SPECIAL BLASTS LIMITED	3,000
		MV BASEL ATHENA	BLACK DIAMOND EXPLOSIVES PRIVATE LIMITED	1,500
			CDET EXPLOSIVE INDUSTRIES PVT LTD	300
			IDEAL INDUSTRIAL EXPLOSIVES LTD	1,500
			IDL EXPLOSIVES LIMITED	10,200
			INDIAN EXPLOSIVES PRIVATE LTD	1,000
			ORISSA EXPLOSIVES	300
			REGENESIS INDUSTRIES PRIATE LIMITED	1,000
SALVO EXPLOSIVES AND CHEMICALS PVT LTD	700			
<b>FY 21-22 Total</b>				<b>2,41,576</b>
Apr-22	Vizag	MV GAZIBEY	A P EXPLOSIVES PVT LTD	300
			BLACK DIAMOND EXPLOSIVES PRIVATE LIMITED	2,500
			IDL EXPLOSIVES LIMITED	5,500
			ORISSA EXPLOSIVES	500
			SALVO EXPLOSIVES AND CHEMICALS PVT LTD	1,100
			SOLAR INDUSTRIES INDIA LIMITED	3,600
			STRANEX INDUSTRIES PRIVATE LIMITED	400
			NAVBHARAT FUSE COMPANY LTD	400
		MV CANGA STAR	SBL ENERGY LIMITED	800
		SPECIAL BLASTS LIMITED	3,000	
May-22	Vizag	MV BASRAH	IDEAL INDUSTRIAL EXPLOSIVES LTD	2,500
			INDIAN EXPLOSIVES PRIVATE LTD	1,000
			KELTECH ENERGIES LTD	1,100
			SALVO EXPLOSIVES AND CHEMICALS PVT LTD	550
			SASAN POWER LIMITED	1,650
			SBL ENERGY LIMITED	1,000
			SPECIAL BLASTS LIMITED	2,000
			BLACK DIAMOND EXPLOSIVES PRIVATE LIMITED	2,200
			PREMIER EXPLOSIVES LIMITED	1,000
			REGENESIS INDUSTRIES PRIATE LIMITED	550
JOGNIYA EXPLOSIVES PRIVATE LIMITED	117			
Jun-22	Vizag	MV W YANG PU	BLACK DIAMOND EXPLOSIVES PRIVATE LIMITED	1,500
			IDEAL INDUSTRIAL EXPLOSIVES LTD	1,000
			IDL EXPLOSIVES LIMITED	7,878
			ORISSA EXPLOSIVES	300
			REGENESIS INDUSTRIES PRIATE LIMITED	2,100
			SALVO EXPLOSIVES AND CHEMICALS PVT LTD	300
			SOLAR INDUSTRIES INDIA LIMITED	2,615
			NAVBHARAT FUSE COMPANY LTD	400
Jul-22	Vizag	MV GOLDEN SEA	BLACK DIAMOND EXPLOSIVES PRIVATE LIMITED	1,200
			IDL EXPLOSIVES LIMITED	8,800
		MV VF GLORY	SOLAR INDUSTRIES INDIA LIMITED	7,013
Sep-22	Paradip	MV RAINBOW SYMPHONY	IDL EXPLOSIVES LIMITED	7,634
	Vizag	MV ATALANTE	BLACK DIAMOND EXPLOSIVES PRIVATE LIMITED	4,611
			CDET EXPLOSIVE INDUSTRIES PVT LTD	1,000
			IDEAL INDUSTRIAL EXPLOSIVES LTD	1,000



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Month	Port of Destination	Vessel	Importer Name	Volume (MT)	
			KELTECH ENERGIES LTD	1,000	
			ORISSA EXPLOSIVES	750	
			PREMIER EXPLOSIVES LIMITED	600	
			RAJA EXPLOSIVES P LTD	250	
			REGENESIS INDUSTRIES PRIATE LIMITED	3,000	
			SALVO EXPLOSIVES AND CHEMICALS PVT LTD	1,709	
			SBL ENERGY LIMITED	500	
			SPECIAL BLASTS LIMITED	1,000	
			VETRIVEL EXPLOSIVES PVT LTD	750	
			JOGNIYA EXPLOSIVES PRIVATE LIMITED	800	
			STRANEX INDUSTRIES PRIVATE LIMITED	400	
			NAVBHARAT FUSE COMPANY LTD	500	
Oct-22	Vizag	MV ABILITY	SOLAR INDUSTRIES INDIA LIMITED	13,195	
Nov-22	Vizag	MV TRANSOCEAN	IDEAL INDUSTRIAL EXPLOSIVES LTD	1,000	
			INDIAN EXPLOSIVES PRIVATE LTD	1,500	
			MAHANADI METALS CHEMICALS PVT LTD	300	
			SBL ENERGY LIMITED	3,550	
			SPECIAL BLASTS LIMITED	8,495	
			VETRIVEL EXPLOSIVES PVT LTD	750	
		SASAN POWER LTD H BLOCK 1ST FLOOR DHIRUBHAI	1,500		
		MV LADY DEMAT	BLACK DIAMOND EXPLOSIVES PRIVATE LIMITED	4,000	
			ORISSA EXPLOSIVES	500	
			SALVO EXPLOSIVES AND CHEMICALS PVT LTD	500	
			SOLAR INDUSTRIES INDIA LTD	15,000	
			IDL EXPLOSIVES LIMITED	15,100	
A P EXPLOSIVES PVT LTD	301				
Dec-22	Paradip	MV WM CRYSTAL	IDEAL INDUSTRIAL EXPLOSIVES LTD	1,800	
	Vizag	MV HAN HE	KELTECH ENERGIES LTD	470	
			PREMIER EXPLOSIVES LIMITED	1,000	
			RAJA EXPLOSIVES P LTD	750	
			VETRIVEL EXPLOSIVES PVT LTD	1,000	
			JOGNIYA EXPLOSIVES PRIVATE LIMITED	1,000	
			STRANEX INDUSTRIES PRIVATE LIMITED	401	
		MV USG ZURICH	BLACK DIAMOND EXPLOSIVES PRIVATE LIMITED	8,768	
			SOLAR INDUSTRIES INDIA LIMITED	13,198	
			CDET EXPLOSIVE INDUSTRIES PVT LTD	1,650	
			KELTECH ENERGIES LTD	1,500	
			REGENESIS INDUSTRIES PRIATE LIMITED	2,749	
Jan-23	Vizag	MV TROPICAL STAR	SOLAR INDUSTRIES INDIA LIMITED	16,492	
			SOLAR INDUSTRIES INDIA LIMITED	16,500	
		MV AL GRACE	IDEAL INDUSTRIAL EXPLOSIVES LTD	1,500	
			IDL EXPLOSIVES LIMITED	3,000	
			INDIAN EXPLOSIVES PRIVATE LTD	1,000	
			MAHANADI METALS CHEMICALS PVT LTD	300	
			SASAN POWER LIMITED	1,000	
			SBL ENERGY LIMITED	1,655	
			SPECIAL BLASTS LIMITED	8,995	
			VETRIVEL EXPLOSIVES PVT LTD	500	
			MV TRANSARCTIC	IDEAL INDUSTRIAL EXPLOSIVES LTD	2,500
				INDIAN EXPLOSIVES PRIVATE LTD	1,000
Feb-23	Vizag	MV TRANSARCTIC	MAHANADI METALS CHEMICALS PVT LTD	210	
			SASAN POWER LIMITED	1,000	
			SBL ENERGY LIMITED	4,350	
			SPECIAL BLASTS LIMITED	9,000	



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Month	Port of Destination	Vessel	Importer Name	Volume (MT)	
		MV LADY BEGUM	CDET EXPLOSIVE INDUSTRIES PVT LTD	550	
			IDEAL INDUSTRIAL EXPLOSIVES LTD	3,151	
			RAJA EXPLOSIVES P LTD	1,650	
			REGENESIS INDUSTRIES PRIATE LIMITED	2,600	
			SASAN POWER LIMITED	550	
			SOLAR INDUSTRIES INDIA LIMITED	11,085	
		MV LUCKY TRADER	VETRIVEL EXPLOSIVES PVT LTD	1,000	
			IDEAL INDUSTRIAL EXPLOSIVES LTD	2,000	
			IDL EXPLOSIVES LIMITED	2,499	
			ORISSA EXPLOSIVES	500	
			PREMIER EXPLOSIVES LIMITED	824	
			SALVO EXPLOSIVES AND CHEMICALS PVT LTD	1,500	
			SOLAR INDUSTRIES INDIA LIMITED	10,000	
			JOGNIYA EXPLOSIVES PRIVATE LIMITED	531	
			STRANEX INDUSTRIES PRIVATE LIMITED	440	
			NAVBHARAT FUSE COMPANY LTD	500	
SHANKAR EXPLOSIVES INDUSTRIES	200				
Mar-23	Paradip	MV ABILITY	IDL EXPLOSIVES LIMITED	16,000	
	Vizag	MV AKSON SANDRA	A P EXPLOSIVES PVT LTD	275	
			BLACK DIAMOND EXPLOSIVES PRIVATE LIMITED	3,300	
			IDEAL INDUSTRIAL EXPLOSIVES LTD	4,000	
			KELTECH ENERGIES LTD	1,100	
			ORISSA EXPLOSIVES	1,000	
			PREMIER EXPLOSIVES LIMITED	550	
			REGENESIS INDUSTRIES PRIATE LIMITED	4,950	
			SALVO EXPLOSIVES AND CHEMICALS PVT LTD	3,408	
			SASAN POWER LIMITED	750	
			SRI VISHNU EXPLOSIVES PVT LTD	330	
			VETRIVEL EXPLOSIVES PVT LTD	1,500	
			STRANEX INDUSTRIES PRIVATE LIMITED	275	
			NAVBHARAT FUSE COMPANY LTD	500	
			MV BSL NORDIC	IDEAL INDUSTRIAL EXPLOSIVES LTD	2,000
			SOLAR INDUSTRIES INDIA LIMITED	14,500	
<b>FY 22-23 Total</b>				<b>3,55,997</b>	
Apr-23	Vizag	MV BC VANESSA	INDIAN EXPLOSIVES PRIVATE LTD	1,000	
			MAHANADI METALS CHEMICALS PVT LTD	300	
			SASAN POWER LIMITED	1,500	
			SBL ENERGY LIMITED	2,693	
May-23	Paradip	MV BC RAEDA	SPECIAL BLASTS LIMITED	12,500	
	Vizag	MV OCEAN ANNY	IDL EXPLOSIVES LIMITED	13,500	
			A P EXPLOSIVES PVT LTD	100	
			BEEZAASAN EXPLOTECH PRIVATE LIMITED	500	
			CDET EXPLOSIVE INDUSTRIES PVT LTD	850	
			IDEAL INDUSTRIAL EXPLOSIVES LTD	1,000	
			KELTECH ENERGIES LTD	200	
			NALLABOLU INDUSTRIES PVT LTD	719	
			ORISSA EXPLOSIVES	500	
			PREMIER EXPLOSIVES LIMITED	600	
			RAJA EXPLOSIVES P LTD	500	
			REGENESIS INDUSTRIES PRIATE LIMITED	3,300	
			SALVO EXPLOSIVES AND CHEMICALS PVT LTD	1,500	
			SRI VISHNU EXPLOSIVES PVT LTD	250	
			VETRIVEL EXPLOSIVES PVT LTD	1,675	
JOGNIYA EXPLOSIVES PRIVATE LIMITED	825				



For NISARG  
*Chaitanya*  
 Secretary



For NISARG  
*Chaitanya*  
 Secretary

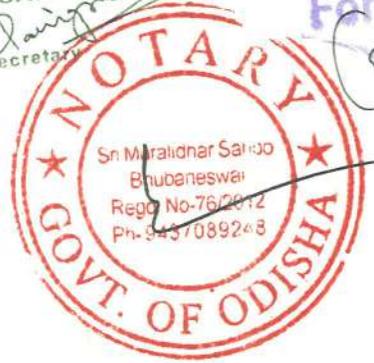


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Month	Port of Destination	Vessel	Importer Name	Volume (MT)
		MV DEVBULK DEMET	STRANEX INDUSTRIES PRIVATE LIMITED	500
			NAVBHARAT FUSE COMPANY LTD	500
			IDEAL INDUSTRIAL EXPLOSIVES LTD	2,000
			IDL EXPLOSIVES LIMITED	3,000
			MAHANADI METALS CHEMICALS PVT LTD	300
			SASAN POWER LIMITED	2,995
			SPECIAL BLASTS LIMITED	7,878
			SHANKAR EXPLOSIVES INDUSTRIES	300
			INDIAN EXPLOSIVES PRIVATE LTD	1,000
			PREMIER EXPLOSIVES LIMITED	500
Jun-23	Vizag	Vessel Name Unknown	SOLAR INDUSTRIES INDIA LIMITED	16,500
Jul-23	Paradip	MV RAINBOW SYMPHONY	IDL EXPLOSIVES LIMITED	7,700
	Vizag	MV BC LARA	IDEAL INDUSTRIAL EXPLOSIVES LTD	4,000
Aug-23	Vizag	MV LUCKY TRADER	MAHANADI METALS CHEMICALS PVT LTD	300
			SASAN POWER LIMITED	2,990
		MV NBA STAR	SBL ENERGY LIMITED	1,993
			SPECIAL BLASTS LIMITED	7,891
			SHANKAR EXPLOSIVES INDUSTRIES	300
			SOLAR INDUSTRIES INDIA LIMITED	19,800
			BLACK DIAMOND EXPLOSIVES PRIVATE LIMITED	4,500
			IDEAL INDUSTRIAL EXPLOSIVES LTD	2,108
			ORISSA EXPLOSIVES	750
			SASAN POWER LIMITED	500
			SALVO INDUSTRIES PRIVATE LIMITED	1,250
			NAVBHARAT FUSE COMPANY LIMITED	500
			RAJA EXPLOSIVES PRIVATE LIMITED	1,500
			CDET EXPLOSIVE INDUSTRIES PRIVATE LIMITED	1,500
			KELTECH ENERGIES LIMITED	500
			VETRIVEL EXPLOSIVES PRIVATE LIMITED	2,500
		REGENESIS INDUSTRIES PRIVATE LIMITED	2,500	
		MV DSM CASTOR	IDEAL INDUSTRIAL EXPLOSIVES LTD	3,500
			PREMIER EXPLOSIVES LIMITED	700
			SASAN POWER LIMITED	931
			STRANEX INDUSTRIES PRIVATE LIMITED	525
			SALVO INDUSTRIES PRIVATE LIMITED	2,000
			RAJA EXPLOSIVES PRIVATE LIMITED	1,000
			CDET EXPLOSIVE INDUSTRIES PRIVATE LIMITED	1,501
			VETRIVEL EXPLOSIVES PRIVATE LIMITED	2,000
			REGENESIS INDUSTRIES PRIVATE LIMITED	5,000
			NALLABOLU INDUSTRIES PRIVATE LIMITED	200
			A.P. EXPLOSIVES PRIVATE LIMITED	416
SRI VISHNU EXPLOSIVES PRIVATE LIMITED	500			
Sep-23	Paradip	MV VF GLORY	IDL EXPLOSIVES LIMITED	7,000
		MV GREY SAKER	IDL EXPLOSIVES LIMITED	6,781
	Vizag	MV DEVBULK DENIZ	BLACK DIAMOND EXPLOSIVES PRIVATE LIMITED	6,000
			IDEAL INDUSTRIAL EXPLOSIVES LTD	4,410
			INDIAN EXPLOSIVES PRIVATE LTD	980
			MAHANADI METALS CHEMICALS PVT LTD	290
			ORISSA EXPLOSIVES	300
			PREMIER EXPLOSIVES LIMITED	690
			SALVO EXPLOSIVES AND CHEMICALS PVT LTD	1,170
			SASAN POWER LIMITED	1,960
SBL ENERGY LIMITED	3,138			



For NISARG  
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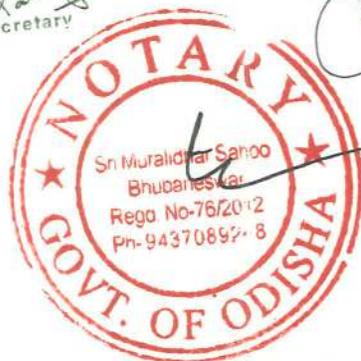
Month	Port of Destination	Vessel	Importer Name	Volume (MT)	
Oct-23	Vizag	MV BASEL ATHENA	SPECIAL BLASTS LIMITED	4,504	
			SHANKAR EXPLOSIVES INDUSTRIES	200	
		MV CAPRICON	SOLAR INDUSTRIES INDIA LIMITED	17,154	
			MV BC RAEDA	SOLAR INDUSTRIES INDIA LIMITED	19,796
			BLACK DIAMOND EXPLOSIVES PRIVATE LIMITED	6,000	
			IDEAL INDUSTRIAL EXPLOSIVES LTD	4,400	
			PREMIER EXPLOSIVES LIMITED	300	
			STRANEX INDUSTRIES PRIVATE LIMITED	580	
			SALVO INDUSTRIES PRIVATE LIMITED	2,475	
			NAVBHARAT FUSE COMPANY LIMITED	825	
			RAJA EXPLOSIVES PRIVATE LIMITED	1,500	
			CDET EXPLOSIVE INDUSTRIES PRIVATE LIMITED	1,800	
			KELTECH ENERGIES LIMITED	825	
			VETRIVEL EXPLOSIVES PRIVATE LIMITED	2,500	
			REGENESIS INDUSTRIES PRIVATE LIMITED	3,300	
NALLABOLU INDUSTRIES PRIVATE LIMITED	500				
Nov-23	Vizag	MV RAINBOW SYMPHONY	A.P. EXPLOSIVES PRIVATE LIMITED	350	
			AKS EXPO-CHEM PRIVATE LIMITED	655	
			IDEAL INDUSTRIAL EXPLOSIVES LTD	2,502	
		MV JAOHAR ADAM	PREMIER EXPLOSIVES LIMITED	603	
			SPECIAL BLASTS LIMITED	4,026	
			SHANKAR EXPLOSIVES INDUSTRIES	500	
			IDEAL INDUSTRIAL EXPLOSIVES LTD	2,000	
			SOLAR INDUSTRIES INDIA LIMITED	15,940	
			HIRALAL INDUSTRIES PRIVATE LIMITED	1,500	
		MV NASREENA	RAJASTHAN EXPLOSIVES CHEMICALS LTD	360	
			INDIAN EXPLOSIVES PRIVATE LTD	500	
			MAHANADI METALS CHEMICALS PVT LTD	300	
			SBL ENERGY LIMITED	2,500	
			SPECIAL BLASTS LIMITED	13,683	
			A P EXPLOSIVES PVT LTD	320	
Dec-23	Vizag	MV BC LARA	AKS EXPO CHEM PVT LTD	2,100	
			BLACK DIAMOND EXPLOSIVES PRIVATE LIMITED	2,750	
			CDET EXPLOSIVE INDUSTRIES PVT LTD	1,500	
			IDEAL INDUSTRIAL EXPLOSIVES LTD	4,550	
			KELTECH ENERGIES LTD	1,100	
			NALLABOLU INDUSTRIES PVT LTD	500	
			ORISSA EXPLOSIVES	200	
			PREMIER EXPLOSIVES LIMITED	600	
			RAJA EXPLOSIVES P LTD	1,500	
			REGENESIS INDUSTRIES PRIVATE LIMITED	5,500	
			SALVO EXPLOSIVES AND CHEMICALS PVT LTD	2,498	
			SASAN POWER LIMITED	799	
			VETRIVEL EXPLOSIVES PVT LTD	2,500	
			STRANEX INDUSTRIES PRIVATE LIMITED	520	
			NAVBHARAT FUSE COMPANY LTD	700	
NAVBHARAT EXPLOSIVE COMPANY LIMITED	250				
Jan-23	Paradip	MV EAGLE TRADER	IDL EXPLOSIVES LIMITED	16,500	
	Vizag	MV LADY AYANA	SOLAR INDUSTRIES INDIA LIMITED	19,800	
Feb-23	Paradip	MV LUCKY TRADER	SOLAR INDUSTRIES INDIA LIMITED	19,800	
			SBL ENERGY LIMITED	4,000	
		MV BC LARA	SPECIAL BLASTS LIMITED	10,586	
			INDIAN EXPLOSIVES PRIVATE LIMITED	1,000	
			SRI KRISHNA EXPLOSIVES AND ACCESSORIES COMPANY	600	



For NISARG  
*Chairman*  
 Secretary

For NISARG

*Secretary*



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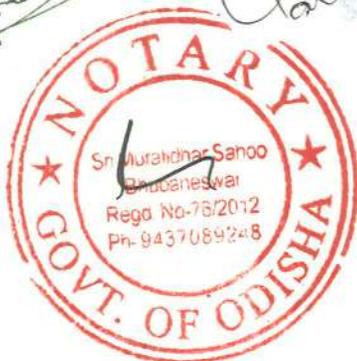
Month	Port of Destination	Vessel	Importer Name	Volume (MT)
			MAHANADI METALS AND CHEMICALS PRIVATE LIMITED	300
FY 23-24 Total				4,06,106



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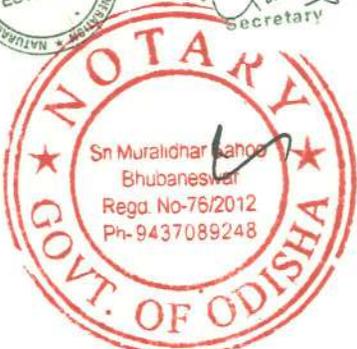
Vessel-wise Import Volume: FY 21-22 to FY 23-24

FY	Month	Port of Destination	Vessel	Total
FY 21-22	Apr-21	Vizag	MV MALCOM	12,200
			MV NOMADIC MILDE	9,950
			MV VF GLORY	6,998
	May-21	Vizag	MV HELVETIA	8,504
			MV Fairwind Legion	11,400
			MV LEO	7,190
			MV ROSLANA	6,799
			MV GUANA	13,500
			MV DIANA	11,150
	Jun-21	Vizag	MV ULTRA DURBAN	13,390
			MV KEMET STAR	5,225
	Jul-21	Vizag	MV MILENA	6,965
			MV KEMET STAR	8,775
	Oct-21	Vizag	MV AL GRACE	16,000
			MV RAINBOW SYMPHONY	7,574
	Nov-21	Vizag	MV VF GLORY	7,014
			MV ULTRA DURBAN	13,389
	Dec-21	JNPT	Container	4,586
			Container	842
	Jan-22	Vizag	MV RAINBOW SYMPHONY	7,766
MV ULTRA CAPE TOWN			9,700	
Feb-22	JNPT	Container	94	
		Vizag	MV VF GLORY	6,938
Mar-22	Vizag	JNPT	Container	204
		MV GOLDEN SEA	12,930	
		MV AL HADBAA	12,992	
		MV MOONLIGHT	3,000	
		MV BASEL ATHENA	16,500	
<b>FY 21-22 Total</b>				<b>2,41,576</b>
FY 22-23	Apr-22	Vizag	MV GAZIBEY	14,300
			MV CANGA STAR	3,800
	May-22	Vizag	MV BASRAH	9,800
			MV BASRAH	3,867
	Jun-22	Vizag	MV W YANG PU	16,093
			MV GOLDEN SEA	12,625
	Jul-22	Vizag	MV VF GLORY	7,013
			MV RAINBOW SYMPHONY	7,634
	Sep-22	Paradip	MV ATALANTE	17,870
			Vizag	MV ABILITY
	Oct-22	Vizag	MV TRANSOCEAN	17,095
			MV LADY DEMAT	20,000
Nov-22	Vizag	MV WM CRYSTAL	15,100	
		MV HAN HE	6,720	
Dec-22	Vizag	MV USG ZURICH	21,966	



For NISARG  
Secretary

For NISARG  
Secretary



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	Jan-23	Vizag	MV TROPICAL STAR	22,390
			MV AL GRACE	16,500
			MV NAVI MOON	17,950
	Feb-23	Vizag	MV TRANSARCTIC	18,060
			MV LADY BEGUM	20,586
			MV LUCKY TRADER	18,995
	Mar-23	Paradip	MV ABILITY	16,000
		Vizag	MV AKSON SANDRA	21,938
			MV BSL NORDIC	16,500
<b>FY 22-23 Total</b>				<b>3,55,997</b>
FY 23-24	Apr-23	Vizag	MV BC VANESSA	17,993
	May-23	Paradip	MV BC RAEDA	13,500
		Vizag	MV OCEAN ANNY	13,519
				MV DEVBULK DEMET
	Jun-23	Vizag	Vessel Name Unknown	16,500
	Jul-23	Paradip	MV RAINBOW SYMPHONY	7,700
		Vizag	MV BC LARA	17,474
	Aug-23	Vizag	MV LUCKY TRADER	19,800
			MV NBA STAR	18,108
			MV DSM CASTOR	18,273
	Sep-23	Paradip	MV VF GLORY	7,000
			MV GREY SAKER	6,781
		Vizag	MV DEVBULK DENIZ	23,641
				MV BASEL ATHENA
	Oct-23	Vizag	MV BC RAEDA	19,796
			MV CAPRICON	26,010
	Nov-23	Vizag	MV RAINBOW SYMPHONY	7,630
			MV JAOHAR ADAM	19,800
			MV NASREENA	16,983
	Dec-23	Vizag	MV BC LARA	27,887
	Jan-24	Paradip	MV EAGLE TRADER	16,500
		Vizag	MV LADY AYANA	19,800
	Feb-24	Paradip	MV LUCKY TRADER	19,800
			MV BC LARA	16,486
<b>FY 23-24 Total</b>				<b>4,06,106</b>



For NISARG  
*[Signature]*  
 Secretary

For NISARG  
*[Signature]*  
 Secretary



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BEFORE THE NATIONAL GREEN TRIBUNAL  
EASTERN ZONE BENCH AT KOLKATA



(Application under Sections 14 and 15 read with Sections 17 and 18 of the  
National Green Tribunal Act, 2010)

ORIGINAL APPLICATION NO. \_\_\_ OF 2025

IN THE MATTER OF:

Natural Institute of Social Change	and	]	
Resource Generation		]	...Applicant
<i>Versus</i>			
Ministry of Shipping, Ports and Waterway,		]	
Government of India & Ors.		]	...Respondents

KNOW ALL to whom these presents shall come that I, Chitaranjan Panigrahi, secretary and authorised representative of the Applicant, having address at NISARG N3/213, IRC village, Nayapally, Bhubaneswar-751012, the abovenamed Applicant, do hereby appoint Suryanil Das, Advocate (herein after called the advocate/s) to be my/our Advocate in the above noted case authorized her/him: -

To act, appear and plead in the above-noted case in this Tribunal or in any other Tribunal/ Court in which the same may be tried or heard and also in the appellate Tribunal/ Court including High Court subject to payment of fees separately for each Tribunal/ Court by me/ us.

To sign, file verify and present pleadings, appeals cross objections or petitions for execution review, revision, or other petitions or affidavits or other documents as may be deemed necessary or proper for the prosecution of the said case in all its stages.

To file and take back documents to admit and/or deny the documents of opposite party.

To submit to arbitration any differences or disputes that may arise touching or in any manner relating to the said case.

To take execution proceedings.

To deposit, draw and receive money, cheques, cash and grant receipts thereof and to do all other acts and things which may be necessary to be done for the progress and in the course of the prosecution of the said case.



For NISARG  
*[Signature]*  
Secretary



To appoint and instruct any other Legal Practitioner, authorizing him to exercise the power and authority hereby conferred upon the Advocate whenever he may think it to do so and to sign the Power of Attorney on our behalf.

And I/we the undersigned do hereby agree to ratify and confirm all acts done by the Advocate or his substitute in the matter as my/our own acts, as if done by me/us to all intents and purposes.

And I/we undertake that we or my /our duly authorized agent would appear in the Court on all hearings and will inform the Advocates for appearance when the case is called.

And I /we undersigned do hereby agree not to hold the advocate or his substitute responsible for the result of the said case. The adjournment costs whenever ordered by the Court shall be of the Advocate which he shall receive and retain himself.

And I /we the undersigned do hereby agree that in the event of the whole or part of the fee agreed by me/us to be paid to the Advocate remaining unpaid he shall be entitled to withdraw from the prosecution of the said case until the same is paid up. The fee settled is only for the above case and above Court. I/we hereby agree that once the fee is paid. I /we will not be entitled for the refund of the same in any case whatsoever. If the case lasts for more than three years, the advocate shall be entitled for additional fee equivalent to half of the agreed fee for every addition three years or part thereof.

IN WITNESS WHEREOF I/We do hereunto set my /our hand to these presents the contents of which have been understood by me/us on this 10<sup>th</sup> day of October 2025.

Accepted subject to the terms of fees.

*Suryaneel Das*  
ADVOCATE

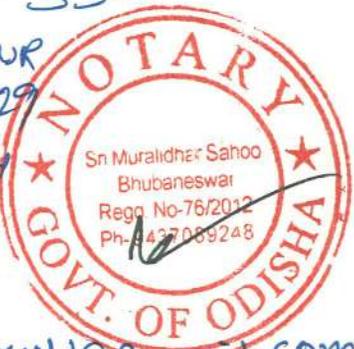
SURYANEEL DAS  
ADVOCATE  
HIGH COURT, CALCUTTA  
CHAMBER- 33K,  
MANAHARPUKUR  
ROAD, KOL- 700029



For NISARG

*[Signature]*  
CLIENT

CLIENT



M- 8902268134  
F- 547210/2018

Email: *Suryaneeldas@gmail.com*



Enrolment No. F/547/10/2018

Advocate



Solemnly affirmed before me on this the \_\_\_\_\_ day of October 2025.

For NISARG  
*[Signature]*  
Sig Secretary

I certify that all annexures are legible

*[Signature]*  
Advocate

xx Notary

IDENTIFIED BY ME

*[Signature]*  
10/10/25

ADVOCATE, BHUBANESWAR  
Name \_\_\_\_\_

deponent being ei  
of B. Padhi .., Advoc  
Solemnly affirmed before 10.10.25  
day at 4:45 A M/P.M

NOTARY, Regd. 76/20  
BHUBANESWAR

*[Signature]*  
10/10/2025

