Indian Ocean Tsunami Commemoration Events in India 20 December 2024 (INCOIS, Hyderabad), 21 December 2024 (Kaitha TR Community, Odisha) and 26 December 2024 (INCOIS, Hyderabad)

News Paper Articles: in National and International Media:

1. https://www.newindianexpress.com/amp/story/states/odisha/2024/Dec/23/24-odisha-villages-certified-tsunami-ready-by-unesco
2. https://www.thehindu.com/news/national/odisha/odishas-26-villages-get-recognition-as-tsunami-ready-by-intergovernmental-oceanographic-commission-of-unesco/article69015014.ece
3. https://www.aninews.in/news/national/general-news/odishas-26-villages-get-recognition-as-tsunami-ready-by-intergovernmental-oceanographic-commission-of-unesco20241222060700/
4. https://www.iaanexpress.com/2024/12/26/20-years-of-indian-ocean-tsunami-unesco-leads-in-building-tsunami-ready-communities-across-india/
5. https://www.thestatesman.com/india/indias-tsunami-preparedness-a-beacon-of-hope-in-early-warning-systems-1503379641.html
6. https://www.thestatesman.com/india/26-villages-in-odisha-awarded-tsunami-ready-status-by-unesco-1503378854.html
7. https://www.thehindu.com/news/national/telangana/incois-to-launch-standard-operating-procedures-for-volcano-induced-tsunami/article69009874.ece
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9. https://news.webindia123.com/news/Articles/India/20241220/4268529.html
10. https://www.aninews.in/news/national/general-news/india-marks-20-years-of-tsunami-warning-system-experts-highlight-progress20241220215613/
11. https://pib.gov.in/PressReleaseIframePage.aspx?PRID=2088101
12. https://www.deccanherald.com/india/india-planning-to-send-humans-into-deep-sea-space-in-early-2026-jitendra-singh-3332742
13. http://www.uniindia.com/photoes/592070.html

Videos on National Television and Social Media:

1. https://www.instagram.com/unescoindia/reel/DEEpj6pMVgq/
2. https://youtu.be/JoEGrgGuaao?si=PRshMM-C4da6hmoi
3. https://www.youtube.com/watch?v=swB9CLC2TSs
4. https://youtu.be/MKjEYx3HFjA?si=dWpl0MsHCDAfLFSi
5. https://youtu.be/wz2xiiri4gU?si=IkjMOPpehXpZPEVW
6. https://youtu.be/s90jk9Q_zEo?si=jMajalZhLTfHo9_g
7. https://youtu.be/4zFSBC3wczo?si=lyx0q_suLCERcnG9

Photographs

Executive Secretary UNESCO-IOC Mr. Vidar Helgesen 's Video Message at the Inaugural Session of the Commemoration event on 26 Dec 2024 at INCOIS in the presence of Honorable Minister for Earth Sciences of the Government of India Dr. Jithendra Singh and Secretary MoES Dr. Ravichandran

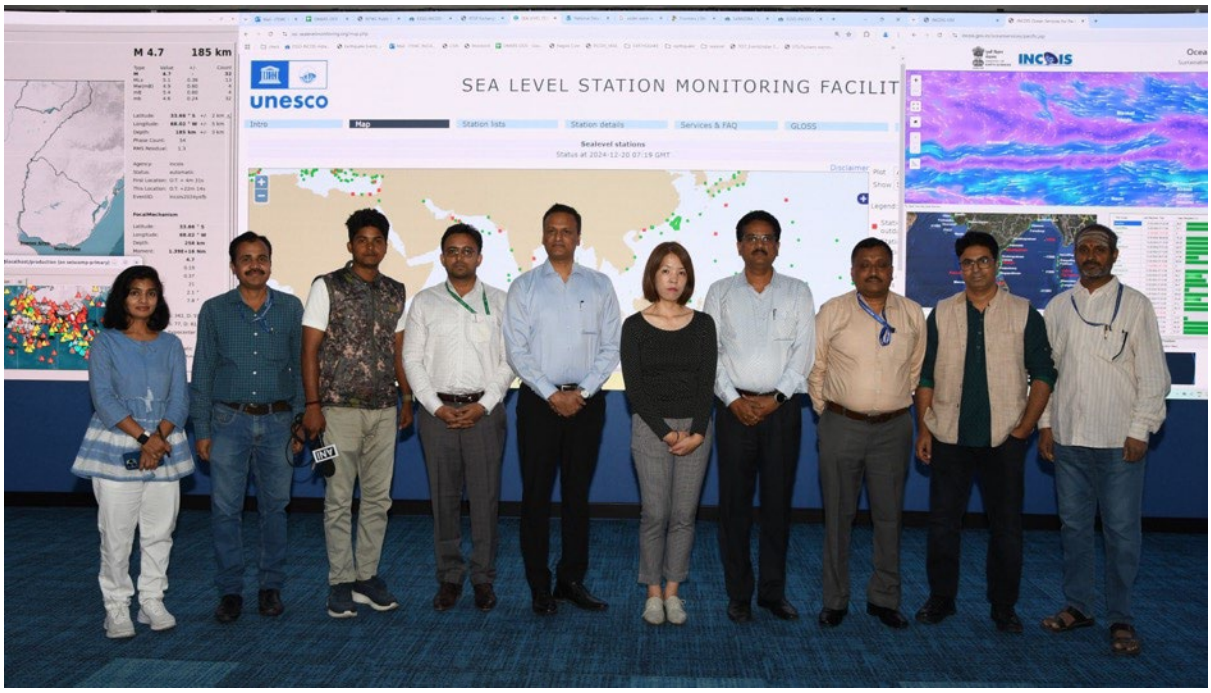
Address by Honorable Minister for Earth Sciences of the Government of India Dr. Jithendra Singh

Indian Tsunami Early Warning Centre INCOIS and Tsunami Service Provider – India

Keynote talk by Head UNESCO-IOC ICG/IOTWMS Secretariat Dr. Srinivasa Kumar Tummala

Handing over of Tsunami Ready Appreciation Certificates to Odisha State Disaster Management Authority by Honorable Minister for Earth Sciences of the Government of India Dr. Jithendra Singh

Handing over of Tsunami Ready Appreciation Certificates to Community Leaders of 26 Villages by Secretary MoES Dr. Ravichandran in the presence of Head UNESCO-IOC IOTWMS Secretariat Dr. Srinivasa Kumar



UNESCO Media Visits to Indian Tsunami Early Warning Centre INCOIS and Tsunami Service Provider – India

UNESCO Media Visits to Indian Tsunami Early Warning Centre INCOIS and Tsunami Service Provider – India

UNESCO Media Visits to Odisha State Disaster Management Authority, Bhubaneswar, India

UNESCO-IOC Media Teams witnessing the Tsunami Drill at UNESCO-IOC Tsunami Ready Community in Kaitha, Odisha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UNESCO Press Visits to Hyderabad and Odisha
unesco
Tsunamis: Alert, Prepare and Understand
20 years of action


unesco
Tsunamis: Alert, Prepare and Understand
20 years of action


Tsunami Wave Height (cm)
-20
0
20
12/26/04 8:35 AM UTC


2024-12-22 04:08:52 UTC
3 hours and 40 minutes ago
M 4.9
10 km


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New Paper Articles

26 villages in Odisha awarded 'Tsunami-ready' status by UNESCO

RAHUL GAHLAWAT
BHUBANESWAR, 23 DECEMBER

On a rainy day, residents of Kaitha village in Kendrapara district of Odisha are busy carrying out a Tsunami-response mock drill, which they do twice a year to maintain their 'Tsunami-ready' status -- an honour they have got by practising the same to protect themselves and their loved ones in case of natural calamities.

Twenty-four villages of the state will be declared Tsunami-ready by the Intergovernmental Oceanographic Commission of UNESCO (IOC-UNESCO) in Hyderabad on December 26, two decades after the 2004 devastating Tsunami that hit them.

Of these villages, three are in Kendrapara, five in Balasore, four each in Bhadrak, Jagatsinghpur, Puri, and Ganjam. The IOC-UNESCO has also renewed the Tsunami-ready recognition of Noliasahi (Jagatsinghpur) and Venkatraipur (Ganjam) which were recognized in 2020, taking the number of such villages to 26 in the state which has a coastline of 480 kms spread across six coastal districts.

Talking to The Statesman, T Srinivasa Kumar, Head, Secretariat, ICG, IOTWMS, UNESCO asserted that the recognition is based on 12 global standard indicators, and 36 such IOC-UNESCO certified communities are being added to the list in the Indian ocean, out of which 24 lie in India, while 12 lie in Indonesia.

He added that The Intergovernmental Coordination Group for the Indian Ocean Tsunami Warning and Mitigation System (ICG/IOTWMS) manages tsunami-risk-related affairs across 27 Member States with access to the Indian Ocean basin and was established in 2005 as a response to the 2004 Indian Ocean tsunami.

There are three pillars of IOTWS that includes Risk assessment, Detection of Tsunami, warnings and Community awareness and preparedness. Out of which Indian National Centre for Ocean Information Services (INCOIS) takes care of detecting tsunami through world class equipment and it sends the alerts to the respective state disaster management which further spreads it to the communities living in the vulnerable areas, Srinivasa elaborated. The Kaitha village, located about 150 kms from Bhubaneswar, the capital city of Odisha has several volunteers who are trained by the ODRF, and have knowledge of providing first aid, CPR and other life saving techniques which they utilize in case of a tsunami or cyclone. The village also houses a building having all the necessary equipment such as ropes, life jackets among other equipment which are used in case of emergency for the safe evacuation of citizens. Odisha also has installed 122 Alert sirens at various locations throughout the coast which are used for alerting the citizens. These towers are self sufficient which run on renewable energy sources and can operate in the bad weather too.

The state has a dedicated centre for spreading awareness about the natural disasters such as Tsunami, Cyclone among others in Bhubaneswar.

"To safeguard the people, the EWDS project was undertaken. We dispense the information through Digital mobile radio, Alert tower sirens, mass message system; satellite based mobile data voice terminals and using Universal Communication Interface systems", Lipso Ranjan Parida, Project Engineer Early Warning Dissemination System (EWDS) told The Statesman.

Dr Ajay Kumar, INCOS scientist said, "We warn the states about the probability of it being hit by a disaster through continuous and real time data monitoring. Based on the data, INCOS sent warnings to the state as well as district centers as well as to all the 27 member states in the Indian Ocean".

As part of its outreach programme, INCOS also trains the

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New Delhi: Dr. Manmohan Singh, India's former...

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India National

20 Years of Indian Ocean Tsunami : UNESCO leads in building 'tsunami ready' communities across India

By **Ayush Garg** - December 26, 2024

Tsunami evacuation drills being demonstrated by residents of Kaitha village, Kendrapara district of Odisha, India

Imagine you were a small child or an adult living in a rural coastal village in eastern India when the 2004 Indian Ocean Tsunami struck. Giant waves of tsunami water flooded your home and destroyed everything and everyone you know... forever. Now fast forward to 2024. There is a small child in the same coastal village. Only now, the village is armed with a tsunami early warning alert system, rehearsed evacuation plans and community-wide awareness and training of what to do when a tsunami strikes.

In these two contrasting realities – lies the story of a small revolution that is sweeping the nation – India's journey towards becoming 'Tsunami Ready'.

This significant revolution is possible thanks to UNESCO, a specialised agency of the United Nations, which stands for the United Nations Educational, Scientific and Cultural Organisation, and its 20 years of Action in alerting, preparing and understanding tsunamis.

A Catastrophe that Changed the World

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20 Years of Indian Ocean Tsunami : UNESCO leads in building 'tsunami ready' communities across India

Drone Attacks Target Kazan, Russia, Spark Fires and Evacuations

Odisha sets example with tsunami-ready villages as 20 years pass since 2004 tragedy

BY RAVINDRA SINGH SHEORAN

NEW DELHI: Two decades after the devastating tsunami of December 26, 2004, Odisha has emerged as a leader in disaster preparedness. Twenty-four villages across six coastal districts of the state have been officially declared "Tsunami Ready" by UNESCO's Intergovernmental Oceanographic Commission (IOC), making Odisha the first state in India to achieve this milestone.

Dr. T. Srinivas Kumar of UNESCO explained that this international initiative aims to raise awareness about tsunamis and is based on 12 key indicators. Among the 24 villages, three are in Kendrapara, five in Balasore, and four each in Bhadrak, Jagatsinghpur, Puri, and Ganjam districts. Additionally, the "Tsunami Ready" certificates for Noliasahi (Jagatsinghpur) and Venkatraipur (Ganjam), which were first recognized in 2020, have been renewed, bringing the total to 26 villages.

This success is credited to the collaborative efforts of the Indian National Centre for Ocean Information Services (INCOIS) in Hyderabad and the Odisha State Disaster Management Authority (OSDMA). Through training and capacity-building initiatives, these villages have been equipped with essential skills for emergency response, risk awareness, and tsunami preparedness. The program also includes identifying evacuation routes, establishing safe pathways, conducting mock drills, and installing educational resources, hoardings, and signage to guide residents during emergencies.

INCOIS, which monitors the Indian Ocean round the clock, plays a pivotal role in ensuring quick response capabilities. Dr. Kumar highlighted the importance of this initiative, stating that it can save countless lives in coastal areas through effective training and awareness. The 2004 tsunami claimed the lives of millions, but with these measures in place, Odisha is setting an example for other regions to follow in mitigating such disasters.

JNI Photo

HYDERABAD, DEC 26 (UNI):- Union Minister of State for Earth Sciences (MoES) Jitendra Singh handing over of UNESCO-IOC Tsunami Ready Appreciation Certificate to OSDMA, during participating in the Conclave to Commemorate 20th Anniversary of 2004 Indian Ocean Tsunami at the Indian National Centre for Ocean Information Services (INCOIS), Ocean Valley, in Hyderabad on Thursday. UNI PHOTO-14U

The officials attended a live evacuation drill in Kaitha village under Rajnagar block in Kendrapara district on Saturday. Photo | Express

Odisha

24 Odisha villages certified 'Tsunami Ready' by UNESCO

According to Dr T Srinivasa Kumar of UNESCO, the recognition was based on 12 indicators achieved through a series of activities seeking to build resilience against tsunamis.

Ashis Senapati

Updated: 23rd Dec, 2024 at 7:25 AM

KENDRAPARA: Twenty-four villages across six coastal districts of the state have been officially designated 'Tsunami Ready' by the Intergovernmental Oceanographic Commission of UNESCO (IOC-UNESCO).

Odisha has become the first state to achieve this vital milestone. According to Dr T Srinivasa Kumar of UNESCO, the recognition was based on 12 indicators achieved through a series of activities seeking to build resilience against tsunami.

Of the 24 villages, three are in Kendrapara, five in Balasore, four each in Bhadrak, Jagatsinghpur, Puri and Ganjam. The IOC-UNESCO also renewed 'Tsunami Ready' certificates of Noliasahi (Jagatsinghpur) and Venkatraipur (Ganjam) which were recognised in 2020, taking the total number to 26.

SATURDAY INTERVIEW

'Tsunami Ready equips people'

Dr. T. Srinivasa Kumar is a seasoned expert with over 25 years of experience in ocean observation, information systems, and advisory services, including the development of tsunami and storm surge early warning systems. He has held senior techno-managerial roles at premier institutions such as the Indian National Centre for Ocean Information Services (INCOIS), the Indian Space Research Organisation (ISRO), and the Intergovernmental Oceanographic Commission (IOC-UNESCO).

As the Head of the Indian Ocean Tsunami Warning and Mitigation System (IOTWMS) Secretariat based in Perth, Australia, Dr. Kumar has led impactful international initiatives. He has successfully managed large-scale scientific projects involving collaboration with national and international institutions, scientists, and stakeholders. In an exclusive interview with Rahul Gahlawat of The Statesman, Dr Kumar talked about the Intergovernmental Coordination Group for the Indian Ocean Tsunami Warning and Mitigation System.

Q: What was UNESCO's role in setting up the tsunami warning system after the 2004 tsunami?

A: When the devastating tsunami struck on 26 December 2004, there was no tsunami warning system in the Indian Ocean region. This tragic event claimed around 230,000 lives, displaced many more, and caused billions of dollars in economic losses. This prompted the United Nations to mandate UNESCO's Intergovernmental Oceanographic Commission (IOC) in 2005 to establish a system to detect and warn about tsunamis and prepare communities in the region. This system is known as the Indian Ocean Tsunami Warning and Mitigation System (IOTWMS) and functions under the coordination of the Intergovernmental Coordination Group (ICG).

Currently, 27 member states and territories collaborate through this system. Over the past 20 years, efforts under UNESCO's IOC have focused on establishing technical components, setting standards, deploying sensors, and building regional and national tsunami warning frameworks. The system now includes detection and warning mechanisms, data sharing, and a dissemination network to generate and communicate warnings effectively.

Q: How does the Indian Ocean Tsunami Warning and Mitigation System (IOTWMS) operate?

A: The IOTWMS is built on three main pillars, the first is Hazard and Risk Assessment. This involves identifying areas prone to tsunami threats. For the Indian Ocean region, studies have identified hazard zones such as the Sunda subduction zone, the Makran subduction zone, and areas in the Bay of Bengal. These assessments rely on historical studies, paleotsunami data, and probabilistic hazard evaluations. Communities are then informed about potential threats, and vulnerability and risk assessments are developed accordingly.

The second pillow is Detection, Warning, and Dissemination. This pillar focuses on technical systems such as seismic stations to detect earthquakes, sea-level monitoring systems (including tsunami buoys and tide gauges), and modeling systems that predict tsunami impact. Once a threat is identified, dissemination systems use internet protocols, satellite communication, and global telecommunication systems to share warnings in real-time.

The third is Public Awareness and Response. This pillar emphasizes community preparedness. UNESCO's Tsunami Ready programme trains communities to respond effectively to warnings by meeting specific criteria, such as having hazard maps, evacuation plans, and regular drills.

Q: What are UNESCO-certified Tsunami Ready communities?

A: Tsunami Ready communities are those that meet the requirements of 12 specific indicators established by UNESCO's IOC. For example, a community must understand its tsunami risk, have hazard maps, evacuation plans, and safe shelters, and maintain multiple modes of receiving warnings. These communities must also conduct regular drills and have disaster response plans. In the Indian Ocean region, 48 communities are currently recognized as Tsunami Ready - 26 in Odisha, India, and 22 in Indonesia. These communities demonstrate a high level of preparedness to respond to tsunami warnings effectively.

Q: How does the Indian Ocean system differ from other regional tsunami warning systems?

A: After the 2004 tsunami, regional systems were established globally, including the Pacific Tsunami Warning System, the Northeast Atlantic and Mediterranean System, and the Caribbean Early Warning System. All these systems operate under UNESCO's IOC as a "global system of systems," adhering to standardized practices and coordinated by a high-level body.

Each region has its own mechanisms, working groups, and experts, but all follow harmonized approaches to risk assessment, detection, warning dissemination, and community preparedness. This ensures consistency in addressing tsunami hazards worldwide.

Q: Can you share examples of how the system has helped during disasters, such as cyclones or other coastal hazards?

A: The infrastructure and preparedness developed for tsunamis also benefit other coastal hazards like cyclones and storm surges. For instance, tide gauges used for detecting tsunamis are equally useful for monitoring storm surges. Similarly, seismic stations detect earthquakes, which can precede tsunamis.

The preparedness fostered by programmes like Tsunami Ready equips communities to respond more effectively to other hazards as well. For example, the warning dissemination protocols and communication systems used for tsunamis are adaptable to cyclones, ensuring timely responses and saving lives.

Q: Why are tsunamis considered more devastating compared to other natural disasters?

A: Tsunamis are uniquely challenging due to their unpredictability and scale. Large tsunamis can be triggered by various sources, including seismic events, volcanic eruptions, and landslides. For instance, the Hunga Tonga volcanic eruption in the Pacific and the Anak Krakatau event in the Indian Ocean demonstrated the complexity of tsunami generation.

The sudden onset of tsunamis, often with limited warning time, makes preparedness critical. While significant progress has been made in the past 20 years, continued investment in early warning systems, hazard assessments, and community preparedness is essential to mitigate future risks.

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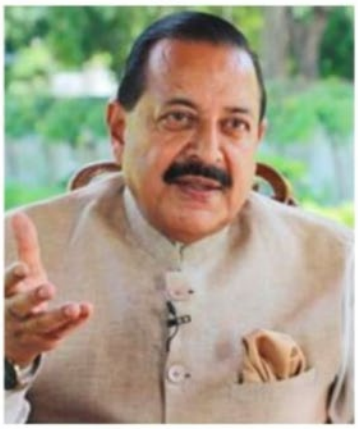
MRUNAL WRAPS UP DACOIT SCHEDULE 11

India emerges as global leader in "disaster warning": Jitendra Singh

Hyderabad, Dec.26 (NSS): Union Minister of State for Science & Technology; Earth Sciences and Minister of State for PMO, Department of Atomic Energy, Department of Space, Personnel, Public Grievances and Pensions, Dr Jitendra Singh, while commemorating the 20th anniversary of the 2004 Indian Ocean Tsunami at INCOIS (Indian National Centre for Ocean Information Services), said India today has emerged as a global leader in "disaster warning" and his catering to other nations as well across the world. The Minister recalled that the INCOIS was conceptualised following the tragic Tsunami of 2004 and after 2014, with an unflinching support and priority



received from Prime Minister Narendra Modi, it made rapid strides to be recognised as the world's most state-of-the-art institute of its kind. Dr Jitendra Singh lauded PM Modi's pathbreaking ocean initiatives, including the 'Deep Sea Mission' which he had announced in his Independence Day address. He also highlighted India's quantum progress in ocean research and disaster preparedness. The Minister emphasized the nation's emergence as a global leader in providing world-class disaster warning systems, underscoring the pivotal role of scientific advancements in fostering safety and sustainability. Reflecting on the catastrophic tsunami that claimed over 230,000 lives worldwide, including 10,749 in India, Dr Jitendra Singh remarked on the invaluable lessons learned and the transformative policies that followed. "The tragedy served as a catalyst for establishing institutions like INCOIS, which now stands as a testament to India's commitment to safeguarding lives and livelihoods," he said.

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Two Decades After the Tsunami: India's Pioneering Path in Tsunami Preparedness and Resilience

By Samudrala Kiran Medchal-Malkajgiri , December 26, 2024: The Indian National Centre for Ocean Information Services (INCOIS) marked the 20th anniversary of the devastating 2004 Indian Ocean Tsunami with a significant conclave in Hyderabad. This event underscored India's evolution from vulnerability to becoming a global leader in tsunami preparedness and resilience. The catastrophic tsunami of 2004 claimed over 230,000 lives across 14 countries, serving as a wake-up call for enhanced global disaster preparedness. Today, the Indian Ocean region, with India at the forefront, is vastly better equipped to anticipate and respond to such natural calamities. The Indian Tsunami Early Warning Centre (ITEWC), established by INCOIS under the Ministry of Earth Sciences, stands as a testament to this progress.

Revolutionizing Tsunami Detection and Response

Since its inception on October 15, 2007, ITEWC has been pivotal in detecting tsunamigenic earthquakes within 10 minutes of occurrence. As a designated Tsunami Service Provider by the IOC-UNESCO, it ensures timely dissemination of tsunami advisories to national and state disaster management authorities. This rapid response capability is supported by an advanced network of seismometers, sea level stations, GNSS, and Strong Motion Accelerometers, which have transformed India's disaster management landscape.

INCOIS's efforts extend beyond detection. The development of a robust numerical model scenario database and a sophisticated Decision Support System ensures that advisories are generated and disseminated efficiently. The integration of multiple communication channels, including SMS, websites, and mobile apps, guarantees that warnings reach all relevant stakeholders promptly.

Community-Based Preparedness: The Tsunami Ready Programme

A cornerstone of INCOIS's achievements is the UNESCO-IOC Tsunami Ready Recognition Programme. India has been a trailblazer in this initiative, with Odisha leading the way. In 2020, Venkatraipur and Noliasahi became the first Tsunami Ready communities in the Indian Ocean region. Today, 26 villages in Odisha have been recognized, thanks to collaborative efforts with the Odisha State Disaster Management Authority (OSDMA) and the National Disaster Management Authority (NDMA). This community-based program is crucial for building local resilience, emphasizing preparedness and risk mitigation. It represents a significant step towards safeguarding vulnerable populations and ensuring that coastal communities are equipped to face potential oceanic threats.

Innovative Initiatives for Future Preparedness

The conclave also saw the launch of two groundbreaking initiatives: the Standard Operating Procedures for Tsunamis generated by Volcanoes and the Tsunami Service for NAVAREA Stakeholders. The former provides a structured framework for monitoring and responding to volcanic activities that might trigger tsunamis, while the latter ensures timely communication of warnings to key maritime stakeholders, including shipping companies and ports. These initiatives highlight India's commitment to comprehensive tsunami threat management, addressing both seismic and volcanic origins. They also underscore the importance of protecting the blue economy, which is vital to the nation's economic health.

A Vision for the Future

Dr. Jitendra Singh, Minister of State for the Ministry of Earth Sciences, praised INCOIS's contributions towards India's ambitious vision for 2047. He emphasized the importance of sustainable resource management and the exploration of uncharted ocean territories. The event brought together national and international thought leaders who reflected on past achievements and set the stage for future innovations in disaster preparedness. As India continues to lead in global tsunami preparedness, the lessons learned from the past two decades serve as both a tribute to the lives lost in 2004 and a commitment to protecting future generations. Through technological advancements and strategic collaborations, India is not only safeguarding its own shores but also contributing to a safer and more resilient world.

大津波 薄れる記憶

インド洋20年

スマトラ 防災教育2%

2004年のインド洋大津波で最大の被害が出たインドネシア・スマトラ島北部アチェ州の州都バンダアチェは復興が進んでいる。20年の歳月とともに防災意識は薄れ、教訓や記憶の継承が課題となっている。（バンダアチェ 作田裕紀、本文記事2面）

砂浜が広がるバンダアチェのアルナガ地区には、海岸線から100㍍ほど離れた場所に50軒ほどの復興住宅が並んでいた。海辺の屋台で出会ったジャワ島出身のフィトリアナさん（41）は「職を求め、1年前に家族5人でこの土地に引っ越してきた」と明かす。海沿いの地区は賃料が安く、経済的な理由で移住する人が多いとされる。

バンダアチェの人口は03年時点で約26万人と震災前と同じ規模まで回復した。復興に伴い移住者も増えているという。被災の経験がない上に「災害＝神の行為」と信じる人も少なくない。

フィトリアナさんも「何よりも大切なのは日々の生活だ。私たちの運命を決めるのは神で津波への恐怖はない」と話した。

■訓練こく一部

バンダアチェの海岸に近い同州はインド洋大津波の被害は免れたが、1999年のサイクロンで約1万人が犠牲になり、今後の津波リスクも抱える。沿岸から1㌔・㍍の集落は海抜10㍍に満たず、自治体や住民が主体でサイレン塔の整備や避難経路の選定を進めてきた。これを受け、国連教育・科学・文化機関（ユネスコ）の政府間海洋学委員会は今年11月、「津波対策地域」に指定した。

12月21日には避難訓練が行われ、住民約100人が避難所に向かう手順を確認。参加したアシャスミン・パリクさん（16）は「津波は少し怖いが、訓練を繰り返しているので、安全に逃げる自信がある」と話した。ボランティアの学生が、負傷者の搬送や手当ての方法も実演した。

ただ、インドにある津波対策地域は同州の28集落にとどまる。自治体予算の制約や住民意識の低さにより、防災啓発が遅れている地域が多いという。（ハイデラバード 浅野友美）

■増える移住者

■インド洋大津波　2004年12月26日、インドネシア・スマトラ島沖で起きたマグニチュード（M）9・1の地震に伴い発生した。インドネシアのほか、スリランカ、インド、タイ、アフリカ東部ソマリアなど10か国以上に津波が押し寄せ、約23万人が死亡・行方不明となった。

興住宅が並んでいた。海辺の屋台で出会ったジャワ島出身のフィトリアナさん（41）は「職を求め、1年前に家族5人でこの土地に引っ越してきた」と明かす。海沿いの地区は賃料が安く、経済的な理由で移住する人が多いとされる。

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フィトリアナさんも「何よりも大切なのは日々の生活だ。私たちの運命を決めるのは神で津波への恐怖はない」と話した。

■訓練こく一部

バンダアチェの海岸に近い同州はインド洋大津波の被害は免れたが、1999年のサイクロンで約1万人が犠牲になり、今後の津波リスクも抱える。沿岸から1㌔・㍍の集落は海抜10㍍に満たず、自治体や住民が主体でサイレン塔の整備や避難経路の選定を進めてきた。これを受け、国連教育・科学・文化機関（ユネスコ）の政府間海洋学委員会は今年11月、「津波対策地域」に指定した。

12月21日には避難訓練が行われ、住民約100人が避難所に向かう手順を確認。参加したアシャスミン・パリクさん（16）は「津波は少し怖いが、訓練を繰り返しているので、安全に逃げる自信がある」と話した。ボランティアの学生が、負傷者の搬送や手当ての方法も実演した。

ただ、インドにある津波対策地域は同州の28集落にとどまる。自治体予算の制約や住民意識の低さにより、防災啓発が遅れている地域が多いという。（ハイデラバード 浅野友美）

インド南部ハイデラバードの国立海洋情報サービスセンターでは、津波の予測に関する情報を即時に受信し、画面に表示している（20日）＝浅野友美撮影

インド 警戒システム構築

インド洋大津波で1万人以上が死亡したインドでは、津波警戒システムの構築や住民避難の取り組みが進んでいる。

南部ハイデラバードにある国立海洋情報サービスセンターの巨大画面には、インド洋の潮流やうねり、地震動の振幅が表示されていた。職員が24時間体制で監視しており、パラクリシュナン・ナイル所長は「インド沿岸部全てで津波への備えを万全にしたい」と話す。

同センターは漁場環境の調査を主に担い、津波の検知や予測を即時に行う仕組みがなかった。04年の大津波を受け、水圧などのデータを衛星を介して集約し、津波を検知する通信網を築いた。13年からは、センターを起点に各州や沿岸自治体へ警戒情報を送り、首長が避難指示などを出せるようになった。

約930㌔離れた東部オディシャ州ケンドラパラの集落も、警戒情報を受信している。

沿岸集落にサイレン塔

21日、インドネシア・スマトラ島北部バンダアチェで避難訓練に参加する子供たち＝作田裕紀撮影

スマトラ島沖地震・インド洋大津波による各国の死者・行方不明者数　※国連資料を基に作成

タイ「みちびき」活用構想

日本版GPS 海上災害対策で連携

日本人28人が犠牲になったタイでは、日本政府とタイの政府機関などが「日本版GPS」と呼ばれる準天頂衛星システム「みちびき」を活用して連携し、津波をはじめ海上での災害対策を強化する構想がある。

観光客や、観光客を乗せた船が、専用の端末を通じて海上で災害情報を受ける仕組みを想定している。

みちびきは日本や東南アジアの上空を周回する。現在の4基から来年には7基に増える見通しだ。日本政府筋は「7基あれば情報を24時間安定して得る」と説明している。

日本政府は、タイの宇宙開発に携わる政府機関「地理情報・宇宙技術開発機関（GISTDA）」とともに「みちびき」を活用し、タイ北部チェンマイで頻発する森林火災を防いでいる。太平洋島嶼国では、現地政府が発表した地震や津波などの災害情報を地元住民に「みちびき」を活用し配信する仕組みの構築に乗り出している。

26、27日には津波被害にあった南部プーケットなどで慰霊祭や津波対策のセミナーなどが開催される予定だ。（バンコク 佐藤友紀）

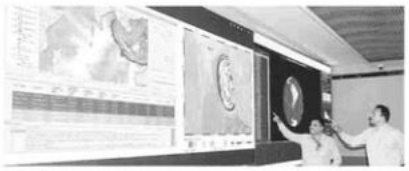
■「次世代に」

バンダアチェのシャクアラ大で防災学を研究するムザイリン・アファンさん（34）は「被災経験のない子供、孫へと津波の記憶をつないでいかなければ、再び多くの命が失われる」と警鐘をならす。自身も被災し、両親ときょうだい4人を失った。「当時は地震の後に津波が来るという知識がなかった」と自戒の念を込めて話す。

東北大への留学経験もあるムザイリンさんは、日本のように巨額を投資して防波堤を建設することが難しいインドネシアは、被害を抑える減災教育がより重要なのだと説いている。

意識した訓練内容で、参加した子供たちは「慌てずに準備をすることが大切」と語った。

ただ、定期的にこうした訓練に取り組んでいる学校はごく一部とみられる。民間財団の調査によると、アチェ州で10～23年に防災教育が行われた学校は約150校で全体の約2%にすぎないという。



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