Training Resource Material:

Communicating Coastal and Marine Biodiversity Conservation and Management Through the Media

Module 5

Why do we not hear more about the coast?

For Media Professionals, Students and Trainers

भारतीय वन्यजीव संस्थान
Wildlife Institute of India

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On behalf of:
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Summary

This module will help media students and professionals in reflecting on the way media communicates coastal and marine conservation issues. Conservation is not in the media priority and therefore issues related to coastal and marine conservation come into news rarely and only when an event happens at the coast. The module will help the media professionals and students to understand how to integrate coastal and marine conservation issues into the mainstream media stories and products. The module is built around case studies, examples and information on successful cases where media has played a proactive and strong role in supporting coastal and marine biodiversity conservation.

Imprint

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Module 2: Setting the context: Why are the coasts important?
Module 3: Coastal and marine protected areas
Module 4: Governance, law and policy framework for coastal and marine biodiversity
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Module 6: Mainstreaming coastal and marine biodiversity into overall development and environmental planning
Module 7: Interlinkages between coastal and marine biodiversity, climate change, natural disasters and coastal livelihoods

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Acronyms

CBD	Convention on Biological Diversity
COP	Conference of Parties
CRZ	Coastal Regulation Zone
MPA	Marine Protected Area
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFCCC	United Nations Framework Convention on Climate Change


EDITOR

Learning outcomes

After completing this module, the participants are able to:

- analyse the reason for less coverage of coastal and marine biodiversity issues in the popular media
- appreciate the relevance of coastal and marine conservation issues as a topic for main-stream media coverage
- demonstrate mainstreaming of coastal and marine issues into popular media, by developing at least one example of a media product.

Key messages

- The media has topics and a certain set style in which it covers news and stories. Issues related to coastal and marine biodiversity conservation and marine protected areas (MPAs) usually do not get picked up by the media.
- A lot more needs to be reported and communicated to place the conservation issues on priority among decision-makers on one hand, and to make coastal and marine conservation a popular and common topic among the citizens, students, coastal communities and other key stakeholders.
- Only media has the potential of taking the message of conservation of coastal and marine biodiversity to the masses as well as to the decision-makers.
- The media has strengths, but also limitations. The most important limitation is that the media works with catchwords. The second limitation is that there are only certain time periods when the media has interest on coastal issues
- Media is a key stakeholder of the conservation movement, its support is pivotal for saving the biological diversity. However, many a times it does not work the way it should be for the lack of information on coastal and marine issues among the media professional and for the inabilities of the protected area managers to engage with media in a more proactive way.

- News about coastal and marine issues is usually covered when there is an event such as a tsunami or cyclone, or an oil leak in the coast. Because of this lack of coverage, the ability of media professionals to understand and report about coastal and marine biodiversity issues is also limited. There are many challenges that media professionals in the coastal region face with regard to access to information and authentication.
- Knowing and understanding issues of coastal and marine biodiversity can help media professionals communicate their stories more effectively and in a more ecologically informed way.

Key terms

Media priorities; reaching the public and policy makers through the media; media for outreach; print, electronic and online media; the Indian Readership Survey (IRS)/TRP ratings; mofussil or local reporting; editorial policies; no-go zones; pitching your story; varied presentation styles for different media; media campaigns; mainstreaming coastal and marine biodiversity conservation into media narrative.

5.1 The end of the horizon: Why is the media more interested in the land than in the seas and the coasts?

Imagine this: You are asked to pick up a newspaper, any daily newspaper that comes home. And then count the number of news items that feature the sea or the coast. You would probably first turn the pages first casually, then frantically to look for anything that has remotely, even a snippet of news, about marine issues.

Of course, there would be days when this is not true. Say, when a super-cyclone claims hundreds of lives, does irreparable damage, there is a Tsunami alert put out by an international agency, or an oil slick that has thrown up dead whales on the coast.

That means that whenever there is an 'event', the media does do its job of reporting basic facts and alerts, details of casualties, arrangements made by the administration to safeguard people and property and much later, probably a follow-up or two of the state of the region on its way to recovery. But by and large, deeper concerns related to the coastal health of one's own state or country do not figure in the media as often as they ought to be.

How then does one analyse this virtual vacuum in media coverage of the marine variety? Does it mean that marine biodiversity issues, conflicts and diminution of species are not relevant to city or non-coastal area dwellers? Or that rising sea levels or the increasing temperature do not affect those of us who do not live by the sea or live close enough to be impacted by the changing patterns? The answer is much more layered than a simple 'no'. This module will attempt to go deeper and break down some of those reasons in the Indian media scenario.

Does the media love land the more than the sea? Not necessarily. Does the media cover land issues more than sea issues? A resounding 'yes.' To understand the gap between the love for the sea versus the actual coverage of matters pertaining to the sea, it is essential to go back to where it all began for the Indian media.

The earliest form of journalism in the Indian context was the newspaper, and it had a cause attached to it: the freedom struggle of Indians against British rulers. Almost till the middle of the 20th century, the print media therefore had only one mandate. This was to aid the struggle for independence of India. Any other subject that needed the attention of the then-administration or the people was clearly given secondary treatment in the spaces within a newspaper.

The onset of television in the late 1970s, cable TV in the 1990s, and private FM radio in the early 2000s did not change it much as far as coverage of the coast is concerned.

Besides, there is another crucial factor: the issue of lack of access to authentic information regarding marine issues. From centuries, the sea has had a certain mystery, a sense of the unknown. Besides, there is no saying even for those who live by it when its calm placid waters can turn into a deathly storm. The media without exception has treated the sea therefore as an entity that is unpredictable. It's not an area easily understood by media professionals, especially those in the frontline of reporting in the coastal areas.

There have been exceptions though. Certain niche magazines—and of late television channels too—have done a stellar job in reporting even in normal times about marine species, day-to-day conflicts faced by fishing communities, changing trends in fishing and impact such as that of deep-sea trawling, besides coastal erosion leading to depletion of beaches, etc. One prime example was NDTV's 'Save India's coasts' campaign, in which a team from the channel travelled across the coast for six weeks and reported about the issues and problems being faced by the coasts.

However, all types of media such as print, electronic, new media as well as streams of media such as journalism, film-making, advertising, and mass media campaigning need a sea change in attitude towards coastal issues and its coverage. This would require media professionals and students to have a clear understanding of coastal and marine biodiversity, so that they can communicate that the ecosystem services from the coast can be economically more beneficial than its destruction.

The Media sector which is valued at one trillion rupees annually is not apparently equipped at present to cover issues and stories that pertain the coastal and marine biodiversity. The Indian media is also not trained regularly in this unfamiliar territory. The demographic target audience of the Indian media is culturally shaped through decades. This reflects on the Media company's objective and mission statement. In the recent past, initiatives by the media are on the rise. But more needs to be done in a focussed manner.

Media companies and media experts are now realizing that the future generation's scope of survival depends on the way we treat our ecosystems today. They need to now take the issue on communicating coastal and marine biodiversity among other environmental issues seriously and urgently. This way the media will be part of the solution since its potential to reach many is remarkable.


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5.2 Why is media important for communicating coastal and marine biodiversity?

"Media" is the plural of the word "medium", which the Oxford dictionary defines as "an agency or means to do something."

Only media has the potential of taking the message on conservation of coastal and marine biodiversity to the public and to the decision-makers, and therefore media is a key player in gathering public and policy support for coastal and marine conservation. Media also transcends boundaries. If a news item is interesting and important, it does not remain confined to local media alone. State-level, national and international media outlets pick it up. If the news is amenable to visual representation, TV channels pick it up and repeat it 24 X 7, thus strengthening its impact. Similarly, if a film contains a special focus on conservation, or an advertising campaigns takes coastal marine biodiversity link to the products, the awareness towards coastal and marine biodiversity will spread among masses beyond the political and cultural boundaries.

5.2.1 The media is growing in India

The media has been growing in importance in the recent years. According to the Indian Readership Survey (IRS),[1] at the end of 2012, the print media registered a cumulative annual growth rate of 0.8 per cent, TV of 5.2 per cent, cable and satellite of 8.9 per cent, radio of 1.9 per cent, cinema of 11.6 per cent and the Internet of 24.2 per cent. There has been an overall growth in media's reach in the recent years in India. A look at the latest available IRS (2014) shows further growth in media consumption in India, especially the print media (Figure 1).

1 http://www.mruc.net/

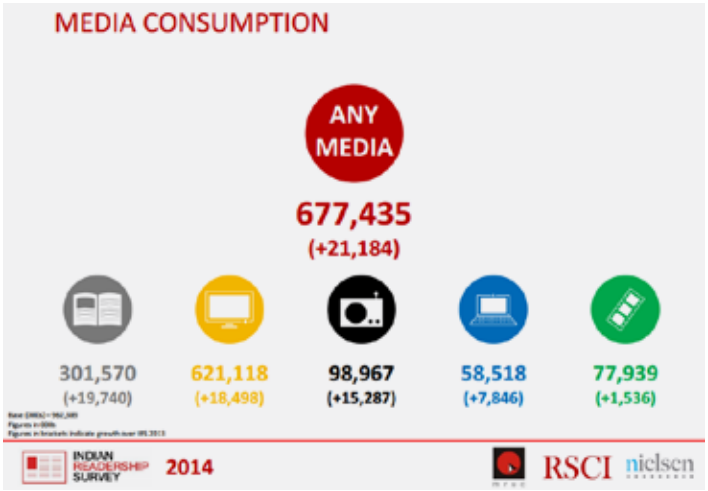


Figure 5.1: Media consumption and growth as per the Indian Readership Survey 2014

IRS report for the fourth quarter of 2012

	2012 Q2	2012 Q3	2012 Q4	% CAGR (2012 Q2 - 2012 Q5)
Literacy	649715	656259	661772	3.7
Any Media	649036	653824	659844	4.0
Press	352004	353338	353409	0.8
TV	563435	571426	578011	5.2
C&S	488642	499437	509821	8.9
Radio	158165	159820	159699	1.9
Cinema	79258	81406	83724	11.6
Internet	39944	42322	44521	24.2

The most important factor for this is the growth in literacy in the country. Census of India data relating to 2001 and 2011 show an increase in literacy in many states, especially those in the middle of the country.[2]

2 Education for all in India, http://www.educationforallinindia.com/

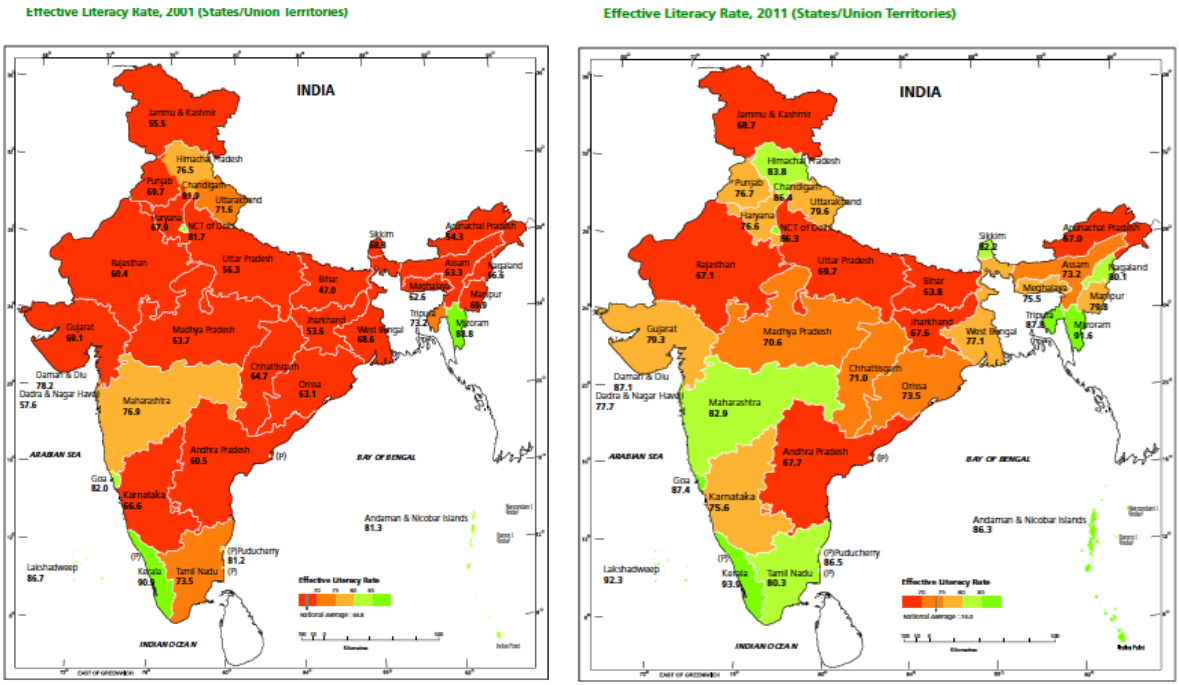


Figure 5.2: A comparison of effective literacy rates of 2001 and 2011 in different states of India

This reflects also in the fact that Hindi media registered the most growth, followed by other Indian language media.

Growth in media in the past 10 years reflects the growth in literacy in different states of India. The central Indian states had the most growth in literacy, and therefore, the Hindi and regional media registered the highest growth.

5.2.2 The media and biodiversity

The media does not report much about biodiversity directly. Though the Convention on Biological Diversity (CBD) is as important an international environment agreement as the United Nations Framework Convention on Climate Change (UNFCCC), the latter gets far more coverage than the former. That is because journalists and the public perceive the linkages between climate change and extreme weather events that have been increasing in frequency across the world. But they find it difficult to conceptualize the impact of biological diversity on the overall wellbeing of societies and economy.

Every year, the media reports about droughts, floods, typhoons, hurricanes, extreme heat and extreme cold weather conditions from across the world. In the recent years, scientific literature and the media have been linking some of these events with climate change.

The Indian media follows the same trend as the international media in terms of reporting on biodiversity. The media coverage on biodiversity is usually event or incident based. For instance, there was media coverage during the CBD Conference of Parties in Hyderabad in October 2012. Similarly, when UNESCO declared the Western Ghats as a world heritage site, there was media coverage. Human wildlife conflicts along elephant corridors are also reported. Or, when a tiger becomes a man eater, it is reported.

The media can play an important role in communicating about biodiversity conservation in coastal and marine ecosystems as well.

5.2.3 Limitations of the media

The media has strengths but also limitations. The most important limitation is that the media works with catchwords. Let us look at some of the catchwords that we see in media when reading about environment. This is a computer-generated tag cloud developed from a number of selected environment stories.

Despite the fact that India was the first country to have a Biodiversity Act in 2002, and there is an established infrastructure under the National Biodiversity Authority for conservation, sustainable use and equitable sharing of benefits, media coverage on the subject is minimal.

Thus, if you want to write in the media using keywords such as biodiversity, climate change, developing countries, conservation, Conference of Parties (CoPs to the Climate Change or Biodiversity Conventions), water and emission targets, you have greater chances of getting space. Thus, even stories on coral bleaching or dying dugongs will get better attention of the editors/readers/viewers, if they are linked to these and similar catchwords/keywords.

This means that our stories have to be linked to these keywords to get public attention. That is, coral bleaching will need to be linked to climate change, and death of dugongs will need to be linked to biodiversity loss or a CoP coverage to get higher prominence in the media.

There is another limitation with the media. Its interest is related to news events. The Centre for Science and Technology of the University of Colorado at Boulder, USA, has been carrying out a continuing research on monitoring how global media covers 'global warming' and 'climate change.' This is a continuing survey of 50 newspapers across the world, to analyse how the key-words are reported. Of the 50 newspapers, four are from India—*The Hindu, The Indian Express, The Times of India and Hindustan Times*.

A look at the global chart from 2000 to 2016 shows that there have been periods of intense coverage on climate change and global warming in the media, and periods of relative quietness.[3]

The highest peak for media coverage in all continents was in November–December 2009. It was for the CoP held at Copenhagen in Denmark, when the world attention was focussed on whether global leaders would be able to decide on an instrument to reduce greenhouse gas emissions. The other spikes also are during the end of the years, when the annual CoPs are held in different parts of the world.

Thus, it is clear that media covers news about climate change and global warming just before, during and after the annual CoPs. So, presenting the story on corals bleaching due to global warming to journalists at the time of the CoPs will have a better impact in the media, than in any other month.

The trend is similar with Indian publications.[4] The spikes are during the CoPs.

3 http://sciencepolicy.colorado.edu/icecaps/research/media_coverage/world/index.html
4 http://sciencepolicy.colorado.edu/icecaps/research/media_coverage/india/index.html

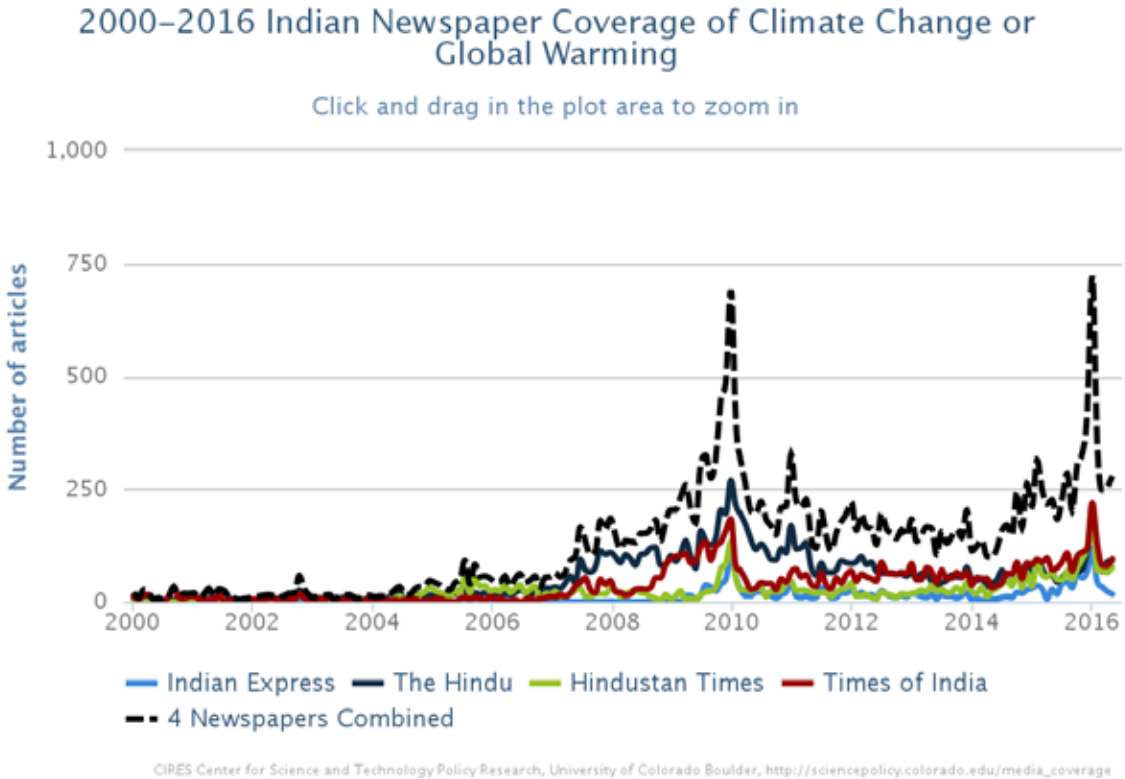


Figure 5.3: 2000-2016 Indian Newspaper Coverage of Climate Change or Global Warming. Source: Daly et al 2016

So the first limitation is that the media works with catchwords. The second limitation is that there are certain time periods when the media has interest in environmental issues, and you need to catch those periods to ride in with the public attention.

Case study: Impact of Media on Whale Shark Conservation in India

Whale Sharks are the largest fishes in the world. The lifestyle of these warm water giants is an enigma to man. Largely found in the warm waters of Australia, they migrate to India in summers. Every year, hundreds of these gentle giants were slaughtered on the shores of Gujarat, western India.

The reason is liver oil for waterproofing boats and trawlers and over the past few years money for exporters in the form of shark meat, fat and fin. This special marine species, which was already at risk because of its slow regeneration, was put further under pressure due to mindless slaughter.

The film "Shores of Silence" is a conservation effort to gather support to protect these enigmatic giants while offering the fishing community an alternative in the form of Whale Shark tourism. The film is used along the coast to create awareness among the fishermen, who have now become the guardians of Whale Sharks. This film brought about legislative reforms both nationally and internationally. It was the first marine species to be protected under Indian law.

Shot under extreme conditions, the film took 3 years to complete. This is the first ever and only video documentation of the massacre of Whale Sharks on the Indian coast. This film moved the Government of India into bringing in legislation and banning the killing of Whale Sharks on Indian shores. The Whale Shark was declared protected under the Indian Wildlife Act- 1972, bringing it on par with the Tiger and the Rhino. This was a landmark move. In November 2002, at the CITES meet in Chile, Santiago, a negative voting changed into an overwhelming positive after this film was shown to the delegates - affording the Whale Shark global protection and giving the largest fish in the world a new lease of life.

The film has also been greatly successful in bringing about change in the attitude of the fisherfolk along the Gujarat coast.

Watch the film: https://www.youtube.com/watch?v=6ZVZ_jOoaWk

Source: Riverbank Studios Retrieved on 01st October 2015 from http://www.riverbankstudios.com/doc_shores_of_silence.htm

5.3 What the media wants for covering coastal and marine biodiversity

5.3.1 What reporters want

In the field, where the MPAs are located, the first line of communication is through the reporters. These are usually the local staff reporters, or more often freelance reporters who write for newspapers or shoot for TV channels and are paid on a per-piece basis (in journalistic parlance, these professionals are called 'stringers').

For these local reporters, the main focus is on political stories from their area of operation. Their normal beats consist of the district collectorate or the local revenue office, the local police office, the press club, etc. They are usually not accustomed to covering forest offices, unless there is a human-wildlife conflict or a major forest fire. And if they are not well aware of covering terrestrial forest issues, they are even less aware of coastal and marine conservation issues. It is difficult for them to understand why conserving corals is important for the ecosystem, or why dead dugongs are not a good indication.

The reporters in the far end of the field are usually young and inexperienced. They work on multiple stories at the same time. They are hard-pressed for time and energy and constantly trying hard to market their story ideas with their media gatekeepers. They work long hours, at least six days a week.

To do their work effectively, the young media professionals need to understand the importance of conserving coastal and marine biodiversity. For this, the following modules from this handbook can be referred to:

- Module 1—What is biodiversity? The economic gains from the ecosystem services of this biological diversity are more than the economic gains from its destruction.

- Module 2—The historical, social and economic importance of the coasts.
- Module 3—What is the concept of marine protected areas?
- Module 4—The legal framework—policy, law and case law related to the conservation of coastal and marine biodiversity.
- Module 6—Mainstreaming biodiversity concerns into national development—environment impact assessment, strategic environmental assessment and marine spatial planning. This includes the cycles of development projects and the tools being used for the assessment of ecological impact.
- Module 7—The impact of climate change and natural disasters on the coasts.

5.3.2 What editors want

Thus, it would help if we can understand the compulsions and priorities of editors.

Any story will appear in the publication or will be telecast only if the editor is convinced of its merit.

Improving the circulation of his/her publication or improving the TRP of a channel is of prime importance for an editor. He/she is a packager who gets the most interesting stories that increase the impact of the media outlet. So he/she has to be convinced that the story will increase visibility for his/her outlet. With visibility comes higher income for the publication/channel, and that means less pressure for the editor from the owners and managers.

In this scheme of priorities for the editor, issues relating to conservation and environment are not likely to be high on the list. The editor, who is beholden to his proprietor for his job, also deals with multiple issues at the same time, and is very likely to have a short attention span for story ideas on these subjects.

However, marine conservation and issues related to species, habitat, threat, impact—all these need long-term sustained coverage by the media which ought to be able to track the progress—or continued deterioration—of that area after the issue is brought to light. This kind of detailed coverage needs a longer engagement not just with the reporter but with the editor and other senior staff. Advocacy is something that needs to embrace the length of the editorial line as every journalist, cameraperson, subeditor, page layout person and graphic artist needs to collaborate with others to bring out the best in coverage. It is especially important to have a buy-in from the editors on the issue as it would then be possible for the effect to trickle down from the senior level.

For media like TV and films, visuals hold a very significant role in communicating the story. However, in the era of animation and digital technology, many times the real images can be very well replaced by animation and graphics. The present day story-telling therefore uses multiple media which make it not only interesting and vivid but also more appealing to different segments of audiences.

Figure 4: What makes news?

Overseeing the presence of multiple channels of communication, the ideal news/story-telling emerging in the current times is a combination of

the story on multiple platforms. For example, we see an online story with a short video and link to a related print or pictorial story of the same. This not only unfolds the different dimensions of the coverage but gives an opportunity to the journalist/filmmaker to slightly tweak the story and present new versions of the story.

For an event to become news, there have to be answers to five Ws and one H: who, what, where, when, why and how.

For an editor, the coastal and marine biodiversity has to link the larger economic development narrative of the country. For the television media, the story should have the possibility of projecting good visuals. And since many editors are thinking multimedia these days, the story should be amenable to being projected through multiple media outlets.

5.4 Communicating coastal and marine biodiversity conservation issues as media professionals

Kunda Dixit, editor of Nepali Times has strong views against classifying environment journalism as a separate category. He writes: 'One of the greatest disservices we have done to the cause of environmental protection is to invent a separate category of reporting called 'environmental journalism'[5]. Interestingly, these are the words with which Dixit opened his chapter in a book on environmental journalism in South Asia, titled The Green Pen (Sage Publications, 2010).

Another senior journalist, Kalpana Sharma, echoes similar sentiments in the same book: "Journalists are good or bad, professional or unprofessional. I am not sure if other labels such as 'environmental' or 'developmental' ought to be tagged on to journalists[6]."

Even when these senior journalists are raising the debate as to whether there is a need to have a tag for 'environmental journalists,' there can be no case either for having a separate tag for journalists specializing on coastal and marine biodiversity, an even smaller subset of environmental journalism. The truth in Dixit and Sharma's words is two-fold.

One, the basic principles of journalism remain the same, irrespective of which topic it covers. Two, the very strength of journalism is that it has the ability to cut across disciplines, and when journalists and their work get tagged in watertight compartments, this strength is lost.

5 Dixit, K. 2010. This separate category. In: The Green Pen, Acharya, K., Noronha, F. (eds). Sage Publications.
6 Sharma, K. 2010. Good journalism, that's all. In: The Green Pen, Acharya, K., Noronha, F. (eds). Sage Publications

If the media has to effectively communicate on coastal and marine biodiversity to the reading/viewing/listening public, then it is imminent that they link its significance to the social and economic development and growth in the country, as well as to their overall well-being.

Within this framework, following are some skills that will help a media professional in communicating coastal and marine biodiversity.

5.4.1 You need a peg to hang your story idea

If you try hanging your shirt on the wall, it will fall. But then, if there is a peg (a long nail) on the wall, you can hang your shirt on it. Similarly, a media product story cannot exist in vacuum. It will appear in a newspaper, radio or TV news bulletin only if there is a news reason to it. It will be accepted as an advertisement or news report.

For example, a media professional may be very much convinced and concerned about the damage to coastal and marine biodiversity due to oil pollution at a port city, but it might not make a news or interest any advertising campaign unless and until it can be linked to the sever impacts the seafood from such areas can have on the human health. It's much easy for public to relate to their food than to species underwater, and therefore human-health can be used as a peg to bring out the story of oil-pollution impact on coastal and marine biodiversity.

A media professional with an interest in ecological issues is always collecting background information and filing it for use when the news peg arrives. In the olden days, media professionals maintained files with paper clippings. In the present day, information is usually stored digitally, to be used as and when required.

So what are some of the pegs that can be used?

5.4.1.1 ECONOMIC CONTEXT OF COASTAL AND MARINE CONSERVATION

Since 1991, when economic reforms were initiated, a major theme of media reporting has been economic development in the country. Thus, to present the importance of coastal and marine conservation, there is a need to emphasize that conservation has positive economic impacts.

The most difficult threshold that a young journalist or a freelancer writing on environment faces is to get his/her idea past the gatekeeper, i.e., the editor or the page in-charge. The journalist's pitch has to be accepted by the editor even before he/she is allowed to do research or travel for a story. Thus, it becomes easier to pitch a coastal and marine biodiversity story if relevance can be found for it within contemporary development.

The concept that links coastal and marine biodiversity conservation with the economic development is that of the "ecosystem services", which are the benefits arising out of biodiversity, and serve as the foundation for all the natural resources that are used in our manufacturing, construction, food, medicines etc. Refer to Module 1 for more details on the concept of ecosystem services. A further in-depth analysis of the economic value of biodiversity can provide an estimate of the economic losses being incurred by the society due to loss of biodiversity. Refer to Module 2 for more details on economic valuation methods and examples.

5.4.1.2 CONNECTING THE DOTS WITH REFERENCE TO TRADE

Besides the event-based reportage that one has emphasized in the earlier parts of this segment such as tsunami, super cyclones, oil spill and international border disputes, the media is of late catching on to certain issues pertaining to the sea. With environmental media gathering pace in the past decade, there has been quite a shift in spotlight onto global warming, climate change and what seems the natural corollary—rise in extreme events.

Also on the subject of environment and ecosystems, a few media houses have begun joining the dots, and reporters have done pieces on rising prices of seafood varieties owing to a threat

to some of the species. A business programme on CNN did a seamless connection on one of its business shows a couple of years ago, on the brutal killing of sharks in the Middle Eastern seas owing to the direct demand from countries like China for shark fin soup, a delicacy. When the media does programmes like these, it directly drives home the point that the threat of extinction of certain species is not just of interest to the marine biologists who study it or the fisherfolk who live off the sea, but is directly related to everyone who consumes seafood in faraway lands as well.

5.4.1.3 ISSUES RELATED TO FISHERIES

In India, the other issue that is 'newsworthy' is of fisherfolk conflicts, both inter-state and with neighbouring countries, sometimes even inter-district. Environment does not follow political boundaries, but environment journalists usually use political pegs while following environment stories. And this is especially so when dealing with coastal and marine environment stories from areas that are close to two or more state and national boundaries. A media capacity needs assessment study[7] showed that the fishworker's conflict between India and Sri Lanka was the main news peg for journalists to write about coastal and marine biodiversity issues. Through the fishworker conflict stories, the media has looked at stories on the social and economic significance of the ecosystem and the biological diversity of the Palk Bay. It has reported stories on the threats to the population of unique species of the region such as the dugong[8] and threats to corals due to a species of seaweed, *Kappaphycus alvarezii*, turning into an invasive species[9]. The media reported about the discovery of new coral patches[10] and increased smuggling of marine species[11].

7 Khera, N., Mathur V. B., Sivakumar, K., Yadava, Y., D'monte, D., Warrier, S. G., Dave, S., Mukherjee, R., & Hariprakash, V. (2013). Capacity development needs for sustainable management of marine and coastal protected areas in India: a cross-sector assessment. In Sivakumar, K. (ed) Coastal and Marine Protected Areas in India: Challenges and Way Forward, ENVIS Bulletin: Wildlife & Protected Areas. Vol. 15. Wildlife Institute of India, Dehradun-248001, India. 264- 273 pp.

8 Scott, D.J.W. Dugong under threat in Gulf of Mannar. The Hindu. 8 October 2013.

9 Oppili, P. Invasive seaweed destroying coral colonies in Gulf of Mannar. The Hindu. 18 March 2011.

10 Live patch corals discovered in Palk Bay. The Hindu. 5 September 2014.

11 Vashishtha, A. Illegal trade of marine species on a sharp rise. Mail Today. 27 April 2014.

There is an ecological basis for the Rann of Kachchh issue[12]. As in the conflict in the Palk Bay, the fishermen conflict in the Rann of Kachchh is related to a decline in fish catch and marine resources. Too many people fishing too much has resulted in the resource crisis. Growing level of pollution, mechanized fishing and aquaculture have also contributed to this. Destruction of mangroves, changes in salinity and water temperature have further added adverse impact.

5.4.1.5 COASTAL TOURISM

There is something about the sea that is compelling, awe-inspiring no matter how many times you look at it. And for those who live far away from its shores, the sea can be a magnet. In the media there are many stories on tourism, and also on the resource conflicts that tourism generates. Tourism peg can be used to bring forth the concepts of ecological carrying capacity and its relation with the economic sustainability of the tourism operations itself[13], to bring in awareness on the negative impact tourism activities might be generating and looking for possible solution.

A media professional can wear an ecological lens while writing the story on nature tourism and can go deeper and look into ecological aspects of the dependence of tourism activities on the ecosystem services, current and potential pressures on the ecosystem, any major damage/ benefit to a particular species or habitat in the area etc.

5.4.1.6 ISSUES RELATED TO HUMAN-HEALTH IN COASTAL AREAS

Human-health is probably the most interlinked issue with the coastal marine biodiversity, first because any amount of pollution that goes in the sea will come back via seafood, and second because marine plants, animals, and microbes produce compounds that have great potential as pharmaceuticals. From time immemorial, traditional healers have been using species to make medicines and cure diseases.

12 Gupta, C., Sharma, M. Blurred borders: coastal conflicts between India and Pakistan. Economic and Political Weekly. 3 July 2004.

13 http://timesofindia.indiatimes.com/city/goa/Water-bodies-under-threat/articleshow/52594609.cms

According to a study, undiscovered cancer treatments from marine organisms could be worth between US$563 billion (€428.5 billion) and US $5.69 trillion (€4.33 trillion), according to a recent study. The researchers estimate that there may be as many as 594,232 novel compounds waiting to be discovered in unstudied marine species, and that these could lead to between 55 and 214 new anticancer drugs. The study only accounted for anti-cancer drug revenues. In reality, these chemicals from the sea can have numerous other biomedical applications including antibacterial, antifungal, antiviral and anti-inflammatory uses[14]. India is rich in such marine resources that can be used for medicine purposes[15].

While covering the hot topics of human-health, any disease outbreak, drug discoveries etc, it would be very appropriate and relevant to put little spotlight on the coastal and marine species that are the origin of those medicines. It might be newsworthy to report on the population status and threats to such species, because provision of such life-saving drugs by the marine species is a powerful reason for putting in our best efforts to protect them from degradation and overexploitation and for managing them in sustainable ways.

5.4.1.7 ISSUES RELATED TO NATURAL DISASTERS, URBAN FLOODING AND CLIMATE CHANGE IMPACTS IN COASTAL AREAS

Natural disasters in coastal areas is the most important topic to be covered by media because it is directly related to human lives and safety of the human habitation, industries, ports and other infrastructure on the coast. Climate change is one of the most popular topic for media as far as environmental and global issues are concerned. And it is not very difficult for any media professional, who has imbibed the basics of their interrelationship (please refer to Module 7) to link these two with the overall health of the coastal and marine ecosystem and species. Media can play an important role in bringing awareness on the role of healthy coastal and marine habitats in mitigating the impacts of such coastal disasters; e.g. mangrove forests, common along tropi-

14 http://www.marinebiotech.eu/sites/marinebiotech.eu/files/public/library/MBT%20publications/2013%20EC%20What%20is%20the%20medical%20value%20of%20marine%20biodiversity.pdf

15 http://nopr.niscair.res.in/bitstream/123456789/5658/1/NPR%207%282%29%20139-145.pdf

cal coasts, can provide a protective shield against destructive cyclones and reduce deaths[16] ; climate change and the threat to our marine heritage[17]; how conserving coastal marine biodiversity is the key solution for adapting to climate change for the coastal communities[18]; the concept of 'blue carbon' to highlight the relevance of coastal wetlands, while talking about global climate change debates[19]; and the relevance of Marine Protected Areas to fight against climate change[20].

5.4.1.8 IDENTIFYING FLAGSHIP SPECIES FROM COASTAL AND MARINE ECOSYSTEMS

In January 2015, there were news reports about the tiger population in India growing by 30 per cent. These reports caught the media's and the nation's attention. There were editorials on this achievement in many newspapers. This success reflected positively on Project Tiger that was launched by the government of India in 1973. However, subsequent reports have also questioned whether the methodology was correct and this has led to an overestimate of tiger numbers. Despite these doubts, identifying tiger as a flagship species has flagged media attention on the species.

What Project Tiger did was to identify a flagship species that the common public could identify, and worked on species conservation through that of the habitat. The big cats caught the nation's imagination. Similarly, stories identifying coastal and marine flagship species can communicate about the environment and habitat.

A case in point is the impact that stories on Olive Ridley turtles had on the conservation of beach habitats. Stories about dolphins and dugongs, and international stories on whales[21] and sharks, have had similar impact.

16 https://www.theguardian.com/environment/2009/apr/22/mangoves-offer-cyclone-protection
17 http://www.irishtimes.com/news/environment/climate-change-and-the-threat-to-our-cultural-heritage-1.2688982
18 http://3blmedia.com/News/Living-Breakwaters-Conference-House-Park-Project-Ambitious-Regenerative-Proportions
19 http://www.carbonbrief.org/explainer-10-ways-negative-emissions-could-slow-climate-change
20 http://www.huffingtonpost.com/entry/the-melting-arctic-ice-ca_b_10712006.html?section=india
21 http://www.firstpost.com/india/fishermen-rescue-whale-shark-pup-off-gujarat-coast-757217.html

5.4.2 Ability to link the micro to the macro and *vice versa*

Most often, the reporter who gets access to a coastal and marine biodiversity story is a local or district reporter, or even a local stringer. The story is local, say the beaching of two whales in a week at Mumbai coast and neighboring coastal areas. If this story is reported as just an event or a happening, it would appear only in the district pages of the newspaper or the local news bulletin.

However, if the reporter makes a bit of extra effort to reach a national expert—say somebody from the Wildlife Institute of India or the Wildlife Trust of India—then he/she could add further information on the trend of such happenings. For instance, the expert could say that similar beaching has been observed in other parts of the coast, or in the Andaman and Nicobar Islands, and the organization believes that this is due to unexpected change in coastal and marine environment due to climate change. Presto, there is a national story. This story may be picked up by international wire services, and the minor development at the local beach is an international coastal marine conservation story.

Similarly, relevance to international policy-level developments can be found at the local level. For instance, at the 12th CBD-CoP, held at Pyeongchang, Republic of Korea, in October 2014, the Nagoya Protocol on access to genetic resources and fair and equitable sharing of benefits arising from their use came into effect[22]. A story linking this development with the access and benefit-sharing programmes being thought of by the Gulf of Mannar Biosphere Reserve Trust could have linked an international story to local relevance.

5.4.3 Anecdotal and peer reviewed

Journalists, film-makers and writers have their ear to the ground. That is how they get news leads and story ideas. However, when communicating on coastal and marine biodiversity issues, they get news leads or see developments that can be falsely construed to be indicators of change, or may

22 Dias, Braulio F.D.S. Closing remarks to CoP-12 by the Executive Secretary of the Convention on Biological Diversity. 17 October 2014.

require an entirely different interpretation. These developments need to be verified with scientific experts /institutions before the news/ blog/ column is published or the documentary is finalized.

A classic example that is seen across the coast is that of coastal erosion. The interface between water and land in the coast is dynamic in nature. Depending on the predominant wind direction and the currents during a season, the sea is constantly eating into the coast and building the soil back elsewhere. Shoreline changes induced by erosion and accretion are natural processes that take place over a range of time scales. Most coastlines are naturally dynamic, and cycles of erosion are often an important feature of their ecological character. Wind, waves and currents are natural forces that easily move the unconsolidated sand and soils in the coastal area, resulting in rapid changes in the position of the shoreline. Human activities along the coast (land reclamation, port development, shrimp farming), within river catchments and watersheds (river damming and diversion) and offshore (dredging, sand mining) in combination with these natural forces often exacerbate coastal erosion in many places and jeopardize opportunities for coasts to fulfill their socio-economic and ecological roles in the long term at a reasonable societal cost (Gegar Prasetya, FAO[23]).

Now, some of the shoreline changes can occur in response to smaller-scale (short-term) events, such as storms, regular wave action, tides and winds, or in response to large-scale (long-term) events such as glaciation or orogenic cycles that may significantly alter sea levels (rise/fall) and tectonic activities that cause coastal land subsidence or emergence. But more often, any such phenomena will be liked to sea-level rise and climate change. Therefore, a media professional should be able to ascertain the causality of a particular action on ground.

There are specialist institutions in the country that work on different aspects of shoreline changes, coastal and marine ecosystem changes, coastal disasters etc, and might be able to provide clarity on the possible reasons for a particular coastal erosion event. A telephone call or an email can confirm whether coastal erosion at a particular site is part of a routine phenomenon or an

23 http://www.fao.org/docrep/010/ag127e/AG127E09.htm#fn1

indicator of sea level rise due to climate change, or can be attributed to human-induced land-use changes and infrastructure development.

Media professionals are among the few professionals who have access to all stake-holders in a story. Thus, it is important not to ignore the local community's reports about the sea coming in. This is anecdotal evidence. However, a cross-check with a scientific institution or peer-reviewed research will confirm whether this is part of routine change or an environmental change of a greater magnitude.

Good Practices: Specialized portals providing information on coastal and marine ecosystems

ENVIS Centre on Wildlife & Protected Areas
Hosted by Wildlife Institute of India, Dehradun

WII ENVIS centre provides updated information on Marine Protected Areas, and important coastal and marine biodiversity areas. This ENVIS Centre deals with general matters concerning "Wildlife" and specifically those related to "Protected Areas".
http://wiienvis.nic.in/Home.aspx

ENVIS - Centre for Coastal Zone Management and Coastal Shelter Belt
Hosted by Institute for Ocean Management, Anna University Chennai

This ENVIS centre provides conventional and non-conventional data and information on various aspects of the coastal zone and oceans
http://iomenvis.nic.in/

Australian Marine Biodiversity Hub:

The Australian Marine Biodiversity Hub provides a onestop shop for relevant scientific information and advice to support decision-making in the marine environment, specifically in implementing and monitoring marine bioregional plans and marine protected areas such as the Great Barrier Reef. It is supported through funding from the Australian government's National Environmental Research Program, administered by the Department of the Environment.
http://www.nerpmarine.edu.au/ u/

5.4.4 Telling the story as it evolves

Science is evolving. And this is especially so when dealing with subjects like coastal and marine ecosystems, where there is so little known and the ecosystem itelf is highly dynamic.

When the science itself is unknown and evolving, what can media professionals do who communicate on this? Do they wait to inform the public till the entire dataset or information is available on the ecosystem or a particular species, or do they report science as it happens? Many a time communicating the process of how scientific understanding is unravelling is itself an interesting story. Remember, stories can end with a question mark rather than a conclusion, but still be interesting.

Is it a good idea to increase the infrastructure and habitat-dependent livelihood activities on the coast? Or a strategic impact assessment would be good at an eraly stage to visualize the possible scenarios? what would be the impact of each scenario on the coastal and marine biodiversity and ultimately on the long-term survival of the communities and livelihoods dependent on these ecosystem? There are many such stories where science has not yet said the last word. This should not prevent the media professional to do the story as it is evolving. But care needs to be taken to inform the reader/viewer/listener that there is no conclusive evidence yet on this line of scientific thinking.

A way to deal with future situation in coastal and marine ecosystems is to articulate the present conditions and try to adopt sustainable options.

5.5 Linking to the world through films

5.5.1 Films and TV and their role in spreading awareness:

Having completed 100 golden years in 2013, the Indian film industry has come a long way—from the first motion pictures brought to India by Lumiere Brothers in the form of soundless short films in 1896, to India's first silent feature film *King Harishchandra* in 1913, to Indian filmmakers making films in English such as *Delhi Belly*.

Over 1000 films are produced every year in more than 20 languages. Regional cinema—Tamil, Telugu, Malayalam and Kannada—constitutes a large chunk of these. A key 2001 policy initiative by the government has been granting 'industry' status to the entertainment segment as a whole, allowing the film industry to access institutional finance for new projects.

Television plays a major role in the flow of information and is equipped with the power to influence people, their beliefs and their opinions. Being a visual medium, its impact transcends the social and educational background of its viewers, more so, in a diverse country like India, where TV dominates the media and entertainment landscape as the preferred choice of entertainment. India has the third largest television market, in terms of number of viewers after China and the USA.

TV has played a great role in redefining how we look at films by enabling the accessibility of films—mainstream and off beat cinema and documentaries—to a larger audience. Though the impact of digitalization can be seen across the film value chain, the level of impact varies at different

Figure 5.5: Size of Film Industry in India

Source: Industry estimates

stages of the value chain. The digital revolution is visibly impacting the distribution and exhibition of films in India.

Social issue documentarians are now moving to a new level of civic engagement. Reaching 'beyond the choir' and across borders of opinion, they are developing digital tools to attract, engage and mobilize increasingly diverse public.

Documentary films are serving as the core for innovative spaces and practices that mark a new kind of public media—accessible, participatory and inclusive. The multimedia platform with the onset of digital technologies helps to create sustainable network infrastructures for participatory public media that extend from local communities to transnational circuits and from grassroots communities to policy makers. This work is made possible by a dynamic but fragile support web of broadcasters, funders, nonprofit groups, service organizations and citizens—all contributors to an emergent 'public media 2.0,' which aims to enable public to recognize and understand the problems they share, to know each other, and to act.

Case Study: Timeless Traveller - The Horeshoe Crab

A film on one of the oldest living fossils on Earth and possibly the world's most spectacular scientific breakthrough, which could rewrite the pages of modern medical history - benefiting nearly 2.5 billion people. A relative of the spider and the scorpion, this spaceship-like creature, with blue blood, holds some of the most fantastic secrets. The Horseshoe Crab dates back to 562 million years back and has remained unchanged. Research on the Horseshoe Crab has revealed that its blood holds the cure for osteoporosis, cancer and diabetes, has the potential to regenerate the tissues of the heart and eyes and can even neutralize HIV and tuberculosis-infected cells.

Today the Horseshoe Crab is facing extinction. Conservation is the prime theme, and the film is an effort to gather support and create awareness to protect this endangered species from extinction. The film generated interest, and new research started in India after news snippets were shown. It was used to fight and lobby for the species, and now it is protected under Schedule IV of the Wildlife Protection Act, 1972.

Riverbank Studios, retrieved on 1 October 2015 from
http://www.riverbankstudios.com/doc_timeless_traveller.htm

5.5.2 Conservation messages through animation films for coastal and marine biodiversity

The use of animation characters in the media is a powerful tool in driving conservation interest, and can form the starting point of biodiversity and conservation knowledge.

The concept of animation films with conservation themes is not new and dates back to the 1940s with Walt Disney's Bambi to the pivotal screening of FernGully: The Last Rainforest at the 1991 Earth Summit in Rio de Janeiro, which became an icon of the global environmental movement. While many of these animations had implicit ecological nuances, others explicitly draw attention to the environmental issues as their primary focus, including Avatar, Kungfu Panda and Madagascar.

Use of songs to convey conservation messages by well-known singers and animal mascots have also shown considerable success, highlighting their effectiveness. For instance, Finding Nemo has appealed well to students in the United States and has even been used in development of teaching materials for marine biology themed science lessons[24] using tropical reefs as the focus.

Despite the mass appeal of the media products, one of the commonest criticisms of the mass media in communicating conservation or biodiversity-related messages is that it misrepresents, inaccurately depicts contents or in cases, sensationalises[25] [26]. For example, the settings portrayed in animations too often are idealised such as in Rio and Madagascar, it was shown that the Atlantic forests of Brazil and Madagascar's native vegetation remained in their pristine state

24 Kieff, J. 2005. Creating an interest in learning science. Childhood Education 81:220.
25 Whitley, D. 2008. The idea of Nature in Disney animation. Ashgate Publishing Limited, London, UK.
26 Bradshaw, C.J.A., Brook, B.W. and McMahon, C.R. 2007. Dangers of sensationalizing conservation biology. Conservation Biology 21:570-571.

when deforestation and fragmentation has reduced natural habitats in these hotspots into small patches in a mosaic of a larger human-modified landscape[27] [28] [29]!

Clearly, the issue of misrepresentation is real, frequent and sets the educational value of many animations a major step backwards considering the fact that a large proportion of the audience are likely to have limited prior knowledge of natural history, biodiversity or conservation biology. Developing their knowledge base on biodiversity issues will significantly help the media professionals in making high-impact films with real educational value.

A recent study[30] also found that while the potential to develop animation films into effective biodiversity and conservation education tools is undoubted, there is a crucial need to complement them with supporting educational materials, campaigns and activities.

Partnerships between the animation studios, conservation NGOs and local stakeholders will be integral to make this happen collaborative efforts between Conservation International and Dreamworks Animation to produce animations like Kungfu Panda and Madagascar indicate that conservation NGOs can form successful partnerships with animation studios to educate movie-viewers on biodiversity[31,32].

In India, animation films have a significant reach, yet are not fully capitalised by conservationists and film-makers, and there remains great potential in developing partnership between conservationists and film makers.

27 Myers, N., Mittermeier, R.A., Mittermeier, C.G., Fonseca, G.D. and Kent, J. 2000. Biodiversity hotspots for conservation priorities. Nature 403:853-858.

28 Harper, G.J., Steininger, M.K., Tucker, C.J., Juhn, D. and Hawkins, F. 2007. Fifty years of deforestation and forest fragmentation in Madagascar. Environmental Conservation 34:325-333.

29 Ranta, P., Blom, T., Niemela, J., Joensuu, E. and Siitonen, M. 1998. The fragmented Atlantic forest of Brazil: size, shape and distribution of forest fragments. Biodiversity and Conservation 7:385-403.

30 Yong, D. L., Fam, S. D. and Lum, S. 2011. Reel conservation: Can big screen animations save tropical biodiversity? Tropical Conservation Science Vol. 4(3):244-253. Available online: www.tropicalconservationscience.org

31 Conservation International. 2008. DreamWorks visit Sichuan province. Available at http://www.conservation.org/FMG/Articles/Pages/welcome_to_the_panda_base.aspx

32 Conservation International. Corporate partners. http://www.conservation.org/ discover /partnership/corporate/Pages / dreamworks animation.aspx

Communicating coastal and marine biodiversity conservation issues through short films, by a set of 'informed' media students

The curriculum on 'communicating coastal and marine biodiversity conservation and management through media' was implemented by the Indo-German CMPA project at the partner training institutes during December 2014 – May 2015, as part of the post-graduate and graduate curriculum for media students.

Developing media products on various coastal and marine biodiversity conservation issues was agreed upon as one of the key evaluation benchmark. The purpose of the media assignment was to demonstrate the achievement of learning outcomes of the curriculum and integration of relevant knowledge, skills and values on coastal and marine biodiversity into the learnings of the media students.

The students developed the following short films as part of their course:

Fisherwomen

Documentary film 'Fisherwomen' depicts the life of fisherwomen and their work. They perform most of the post-fishing activities after fishermen bring dish from sea. Their work and contribution is ignored most of the time in fishing industry. Fisherfolk community is mentioned as Fishermen community where term 'Fisherwomen' gets remains unnoticed. Fisherwomen are more in preservation of marine animals and they are also equally concerned about under numbering marine animals. Their fishery skills are their strength. They should come on participatory platform of decision making.

https://www.youtube.com/watch?v=gAgDZj_1in4

A film on Ecosystem Services

People all around the world have taken Mother Nature for granted. What we casually term air, water and food etc. are Ecosystem Services Mother Nature provides. This film's narrative delves into the services mother nature provides which we take for granted. This film also provides a hint of a dystopian period.

Watch this film https://www.youtube.com/watch?v=K6IcdOR8gII

A film on MEDIA reporting on coastal and marine biodiversity:

Media is the most powerful entity on earth because they control minds of the masses. The dereliction in media towards nature has led to limited awareness among us, which has had a dreadful impact. Nature is the most precious gift to us and its significance is experienced every day. If media decides to prioritize the nature's momentousness, mountains can be moved for affinity towards nature. The movie talks about the same.

https://www.youtube.com/watch?v=DKHdqMgf848

The Mariner

From food to fantasy we humans are dependent on sea, but what see Is not only sea. The films aim at communicating and spreading awareness among the audience about the coastal and marine biodiversity. It contains information on the facts and makes you relate each point with your daily lives. The importance of many elements of the coastal ecosystem like Mangroves, Turtles, Fishes, Corals etc have been explained in this movie. The film showcases the voices of the people which urge us to help them in conservation of our father sea.

Watch the film here https://www.youtube.com/watch?v=mWy4f90NKcM

All the above films are also available on the website of the Indo-German Biodiversity Programme at http://www.indo-germanbiodiversity.com/

5.6 Linking to the world with online media

India is the third biggest country in terms of Internet users in the world, with a highly social and mobile audience. This snapshot takes a closer look at India's digital consumer, and the key trends driving the country towards a digital future. It is estimated that 34.8 percent of Indians are logged onto the Internet.[33]

India's Internet

Some estimates put the total number of Internet users in India at as many as 550 million—40 percent of the population—in 2018. We expect the Internet to contribute $200 billion to India's GDP (5 percent of total GDP) by 2020.[34]

Aside from access and reach, the other big change when it comes to India and the Internet is how people are using the Web. With better connections, mobile phones and computers, Indians are increasingly using the Internet for more than just checking their email. In both rural and urban areas, social networking is a key driver of use.

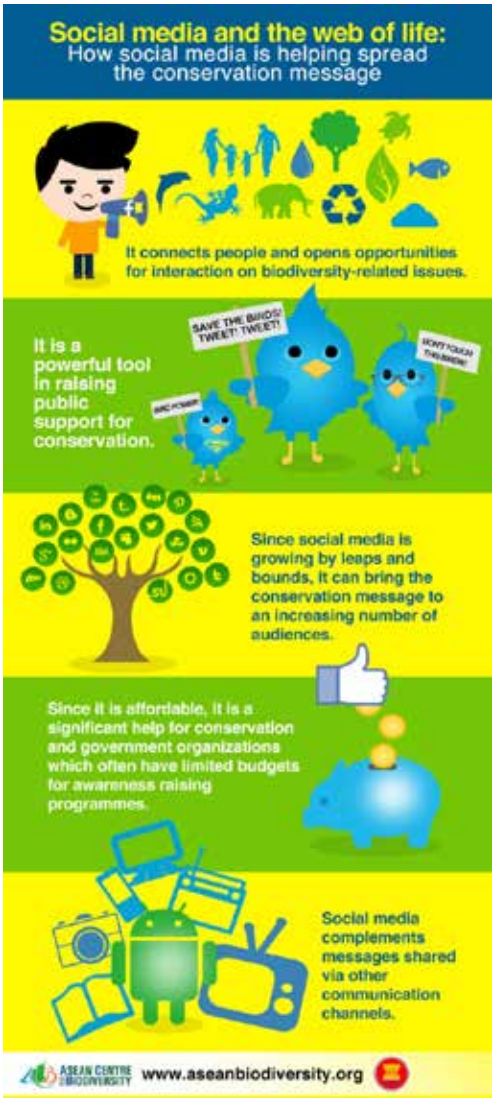
33 http://www.internetlivestats.com/internet-users/india/
34 https://www.bcgperspectives.com/content/articles/center-consumer-customer-insight-marketing-changing-connected-consumer-india/

The most popular site in India is now Facebook, with over 1,590 million active users, it holds an 18% market share, 7% more so than its closest competitor, the Facebook-owned, WhatsApp.

Blogs, Twitter, Facebook and LinkedIn have become common terms used in communication in the present day. Each of these social media tools have their strength and weaknesses for reaching out to the media and outreach. They overcome the limitation of time and space, i.e., they can be used to reach across continents, and they also stay in cyberspace for a long time, so can be referred to by journalists and others who are interested in coastal and marine biodiversity years later.

Blogs are very personal communication narratives, which can be used to tell stories informally. Stories can be told that can move across themes and specializations—science, environment, society, politics, economy, etc. Blogs can be promoted on Facebook, LinkedIn and Twitter.

Twitter is a microblogging site that has become internationally important in the recent years. Tweets are short messages—140 characters long. Their brevity is their impact. Hyperlinks for



blogs can be tweeted. In the recent years, tweets have become a source of information for many journalists.

Facebook permits creation of closed groups that can bring together experts and journalists who are interested in knowing about coastal and marine biodiversity. Through these groups, experts and journalists can exchange stories and story ideas.

Images uploaded to social media websites hold valuable data that could be used to help protect or manage natural spaces:

Geotagged images provided a precise location of where the photo was taken and how people were interacting with the environment. This data could be collated to provide information that could help inform the management of ecosystems.
[Source: Selfie-help for conservation areas, By Mark Kinver Environment reporter, BBC News, 11 December 2014. From the section- Science & Environment, See this link for full article http://www.bbc.com/news/science-environment-30435350

Use of social media for effective management planning

What do people think of Singapore's mangroves? Singapore is a small island city-state in South-east Asia. 13% of the island was historically covered with mangrove forests, which are coastal forests that grow in shallow, muddy water. Since Singapore became independent in 1965, rapid population growth and urbanization has led to the loss of 90% of the original mangroves. Only a few small patches of mangrove forest now remain in Singapore, which are only accessible through managed interactions in nature reserves and public parks.

In the 700 photographs from the four mangrove areas we examined. It was found that there were significant differences in the types of photographs taken at each mangrove. The type of photograph taken at each mangrove site depended largely on the surrounding animals, plants, and the presence of man-made features such as rest shelters and boardwalks. For example, there was a higher percentage of wildlife and plant photographs at Sungei Buloh. This makes sense given that of the studied areas, Sungei Buloh has the largest continuous area of continuous mangrove and holds a Nature Reserve and several shelters for viewing wildlife.

The high precision of geo-tagging also allowed the researchers to investigate how people interacted with the environment within one mangrove area. At Chek Jawa, a mangrove that is maintained by the National Parks Board, photographs of wildlife were rarely taken on the ocean boardwalk. This was surprising, since the boardwalk was constructed to allow people to see animals like crabs and mudskipper fish at low tide. This led researchers to ask why visitors may not be taking photographs of these rare organisms—are they not aware of them or just not interested?

The research inspired them to increase the interactions between visitors and these animals by improving the habitat to increase the abundance of organisms, updating signs and information boards that draw attention to the relevant species, or providing facts and information that help visitors better appreciate the animal diversity.

Wildlife managers can likewise use data mined from social media to better plan and run nature areas by providing the infrastructure to allow visitors to interact with the types of nature that they are most interested in—the method described here is just as suitable for New York's Central Park as it is for Singapore's Sungei Buloh Wetland Reserve.

[Source: HIPPO Reads http://read.hipporeads.com/social-media-as-a-conservation-tool/]

Some Biodiversity Blogs:

[Source: The Pimm Group http://thepimmgroup.org/919/best-biodiversity-blogs/]

The Sticky Tongue
http://thestickytongue.com

The Sticky Tongue is a quirky, imaginative approach to informing and educating about biodiversity and conservation. The blog focuses on herpetology. But its Biodiversity Photo of the Day can be anything from the Vancouver Island Marmot (one of the rarest animals in North America) to the critically endangered Lord Howe Island Stick Insect. The blog's author is Candace Hansen. She has "a passion not just for reptiles but also for all forms of wildlife conservation and animal rights." In particular, her blog does not preach environmentalism and activism. Rather, she presents the issues, often with a touch of humor, to inform and educate. It's only been online a short while, but its traffic has grown fast.

The Artful Amoeba
http://theartfulamoeba.com

Jennifer Frazer is a science writer living in Boulder, Colorado. She dislikes the term "biodiversity" because "it turns people off to the subject" and "It's too often used for boring platitudes about species richness." Jennifer has a bachelor's degree in biology with a concentration in systematics and biotic diversity from Cornell University. She also has a master's degree in plant pathology with a concentration in mycology (also from Cornell), and a master's degree in science writing from MIT.

Island Biodiversity Race
http://islandbiodiversityrace.wildlifedirect.org

Island Biodiversity Race highlights the vulnerability of island biodiversity due to the relatively rapid loss of species from islands. The blog focuses on islands in the Gulf of Guinea, primarily São Tomé. The contributors provide an account of expeditions funded by the California Academy of Sciences, the Republic of São Tomé and Príncipe government and others. The blog is hosted by WildlifeDirect, a Kenya and US registered charitable organization founded and chaired by African conservationist Dr Richard Leakey.

Agricultural Biodiversity Weblog
http://agro.biodiver.se

Mostly, talk of biodiversity concerns natural species and habitats. The Agricultural Biodiversity Weblog highlights biodiversity in a non-natural system — agriculture. This is important because an oft-cited reason for preserving natural biodiversity is to provide a source for new genetic material that could have practical applications, primarily in agriculture. The site's authors are Luigi Guarino and Jeremy Cherfas, both professionally involved in biodiversity. Their goal is to collect in one place anything they find on the Internet that relates somehow to the notion of agricultural biodiversity. Luigi Guarino is Senior Science Coordinator at the Global Crop Diversity Trust and served as a consultant for the FAO and IBPGR from 1984 to 1988. Jeremy Cherfas is responsible for public relations at Biodiversity International. He has extensive experience as a science writer and editor, for print, radio and TV.

Ohio birds and biodiversity
http://jimmccormac.blogspot.com

You don't think of Ohio as a biodiversity hotspot, but Jim McCormac does a nice job of highlighting his state's natural beauty and biodiversity. McCormac has made a study of natural history since the age of eight. His goal is to get more people interested in nature. In doing so, he says, "The more of us who care, the more likely that our natural world will survive."

David Without Borders
http://www.davidwithoutborders.com

Blog authors David Aimé and David Fabrega call themselves explorers of biodiversity. They use images and video to "gather the most current information from local entrepreneurs, scientists, and communities on biodiversity and sustainable development topics." They're blogging during their around the world trip planned to be completed in July 2011.

Biodiversity Media Alliance
http://biodiversitymedia.ning.com

This social network site was created IIED, IUCN and Internews to help connect journalists with the biodiversity scientists. Its goal is to increase the quantity and quality of coverage of biodiversity issues in the media. You need to register to become a member. Members can use the blog section to share news, thoughts, ideas and publications, as well as include photos and links to other websites or attachments.

2010 International Year of Biodiversity Australia
http://www.biodiversity2010.org.au

The site is a "biodiversity hub" for events in Australia. It is a part of the Council of Australasian Museum Directors (CAMD) International Year of Biodiversity project. The site is a venue for others to promote biodiversity news and events, showcase stories, and share ideas and fi nd events and resources. Although it is not a blog in the strict sense, it is a great site!

Mongabay.com
http://www.mongabay.com

Mongabayis the most popular website in our list. Since 1999 it has been dedicated to rainforest conservation news and activism. It has done a good job reporting on biodiversity loss.Founder Rhett A. Butler does not have a biology background but he has authored or co-authored several papers published in peer-reviewed scientifi c journals. According to the site's About page, the site has been featured in the San Francisco Chronicle, Time Magazine, The Wall Street Journal and has provided advice and assistance to numerous other organizations.

Migrations
http://migration.wordpress.com

This blog is the work of Dan Rhoads, an American molecular biologist who has moved to the Republic of Cyprus and now works in the biotech sector. As a longtime birdwatcher, Dan is an ardent supporter of the work of BirdLife Cyprus, and this blog now focuses mostly on topics relating to the nature of Cyprus. Dan frequently covers biodiversity issues in his posts.

The Biodiversity crew @ NUS
http://nusbiodiversity.wordpress.com

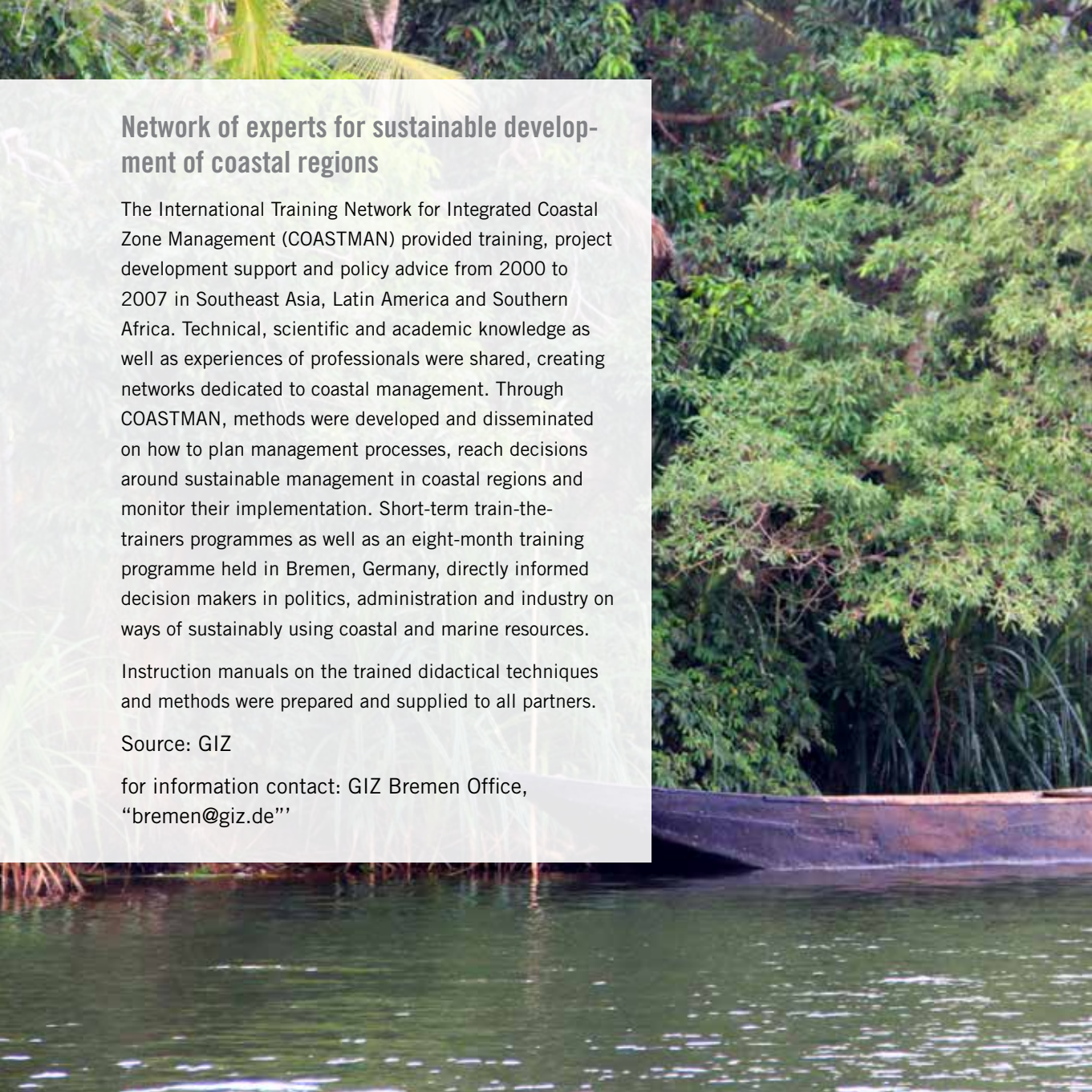
A news site about staff and students in the biodiversity research focus group at the Department of Biological Sciences, National University of Singapore.

Biodiversity Heritage Library
http://biodiversitylibrary.blogspot.com

Twelve major natural history museum libraries, botanical libraries, and research institutions have joined to form the Biodiversity Heritage Library. Posts are a hotchpotch of quirky insights into the literature and history of biodiversity, such as Book of the Week and links to archives such as Memoirs of the Torrey Botanical Club. 1899-1902 and Journal of the Asiatic Society of Bengal. v.3 (1907).

Zero Race
http://www.zero-race.com

The Zero Race Blog follows zero emission cars in an around the world in 80 days race. The blog is not about biodiversity as such, but the race aims to 'raise awareness for Biodiversity Protection. "Each car has the name and the logo of a species that is threatened by climate change," to show "that electric cars and renewable energies provide a solution to help protect biodiversity."



Network of experts for sustainable development of coastal regions

The International Training Network for Integrated Coastal Zone Management (COASTMAN) provided training, project development support and policy advice from 2000 to 2007 in Southeast Asia, Latin America and Southern Africa. Technical, scientific and academic knowledge as well as experiences of professionals were shared, creating networks dedicated to coastal management. Through COASTMAN, methods were developed and disseminated on how to plan management processes, reach decisions around sustainable management in coastal regions and monitor their implementation. Short-term train-the-trainers programmes as well as an eight-month training programme held in Bremen, Germany, directly informed decision makers in politics, administration and industry on ways of sustainably using coastal and marine resources.

Instruction manuals on the trained didactical techniques and methods were prepared and supplied to all partners.

Source: GIZ

for information contact: GIZ Bremen Office, “bremen@giz.de”’

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About the CMPA project

The Project –'Conservation and Sustainable Management of Existing and Potential Coastal and Marine Protected Areas (CMPA)', under the Indo-German Biodiversity Programme, is a technical cooperation project jointly implemented by the Governments of India and Germany (2012-17). The Project is commissioned by the German Federal Ministry for Environment, Nature Conservation, Building and Nuclear Safety (BMUB) with funds provided under the International Climate Initiative (IKI), in partnership with the Ministry of Environment, Forests and Climate Change (MoEFCC), Government of India.

The project aims at contributing to conservation of biodiversity through participatory approaches in the management of existing and potential coastal and marine protected areas in India. Project activities are implemented together with the Forest Departments of the project partner states - Gujarat, Goa, Maharashtra and Tamil Nadu, as well as with premier national training institutions.

Our partners

भारतीय वन्यजीव संस्थान
Wildlife Institute of India

The Wildlife Institute of India (WII), Dehradun

WII has a mandate to train Indian Forest Service officers, State Forest Service officers and other key stakeholders such as the Coast Guard and Customs and has recently initiated a one-week refresher course exclusively addressing issues related to integrated management of coastal and marine biodiversity that is targeted at senior forest officials. https://www.wii.gov.in/

Xavier Institute of Communications (XIC), Mumbai

XIC is a professional media centre offering a variety of services in training and production. XIC is an autonomous educational unit of the Bombay St. Xavier's College Society Trust, which comprises St. Xavier's College, the Institute of Management, the Institute of Counseling and the Heras Institute of Indian History and Culture. XIC pilot-tested the curriculum between December 2014 and May 2015 and subsequently decided to integrate the curriculum into its Communication for Development (C4D) diploma course.
www.xaviercomm.org

BMM Department, St. Xavier's College, Mumbai

St. Xavier's College is one of the most prestigious liberal arts colleges in India. The BMM department was established in 2002. The Bachelor in Media Studies, a programme begun by the University of Mumbai in 1999, is being run by St. Xavier's College under the system of academic autonomy. While this is an applied course that seeks to provide industry with qualified media professionals, St. Xavier's believes that an academic grounding is very essential for forming young people for this crucial job of communications.
www.xaviers.edu

St. Paul's Institute of Communication Education (SPICE), Mumbai

St. Paul's Institute of Communication Education (SPICE) is a fast-growing media school in India offering a comprehensive post-graduate diploma in journalism that trains students for a career in print journalism, television journalism and digital journalism. With top-notch media faculty members and excellent infrastructure, SPICE is the go-to destination for Gen Next journalists.
www.stpaulsice.com

Department of Communication, Journalism and Public Relations, Gujarat University

The Department of Communication, Journalism and Public Relations was established in 1987–1988. The department plays a vital role in providing media professionals and communication experts to various fields. Two courses are offered by the department, the Master's in Mass Communication and Journalism (MMCJ) and the Master's in Development Communication (MDC).
http://www.gujaratuniversity.org.in