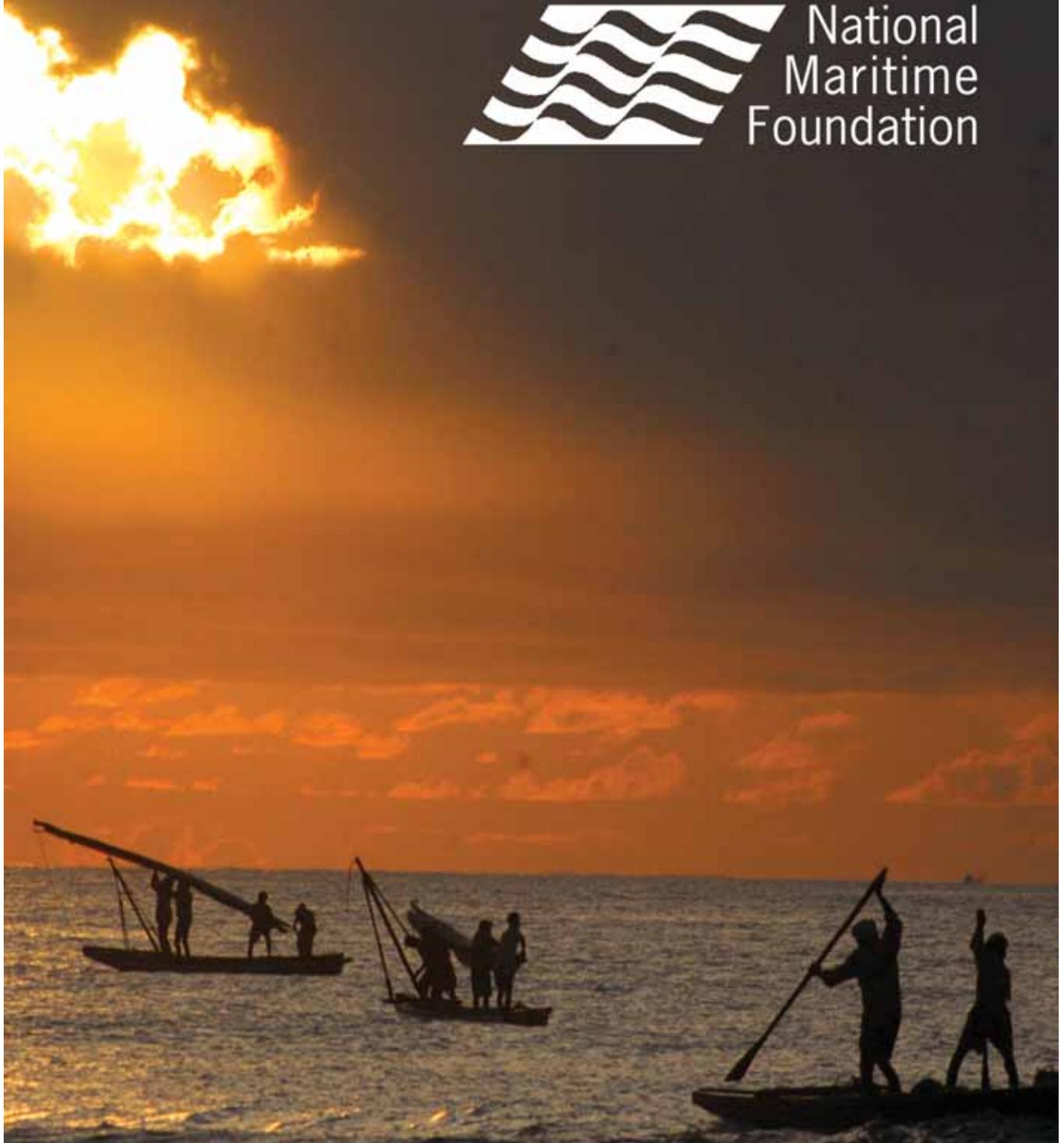


# Visakhapatnam Regional Chapter



National  
Maritime  
Foundation



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**Nandi at Lepakshi**  
*Lepakshi in Anantapur district. The temple dates back to 16th Century AD. The monolithic Nandi, 4.5 meters high and 8.23 metres long is carved from a single red granite boulder.*



## ‘a significant event’...

“In the maritime re-awakening of our eastern seaboard Visakhapatnam is at the heart of the process,” declared Admiral Arun Prakash, in a speech he made as the Chief of Naval Staff at a ceremonial banquet held in honour of the President of India on February 11, 2006 at Visakhapatnam. Four years later on April 27, 2010 Admiral Arun Prakash, Chairman, National Maritime Foundation, inaugurated the Visakhapatnam Regional Chapter at a colourful function at the Eastern Naval Command. “The highly distinguished officer of the Indian Navy who combines a rare sense of history, with a gentle and inspiring vision of India’s future as one of the world’s great maritime powers” as Maharaj Krishna Rasgotra (former Foreign Secretary) wrote of Admiral Arun Prakash, described the inauguration of the Visakhapatnam Regional Chapter as ‘a very significant event.’ In his address characterized by profundity of knowledge and depth of vision Admiral Arun Prakash set for the Regional Chapter an elaborate agenda.

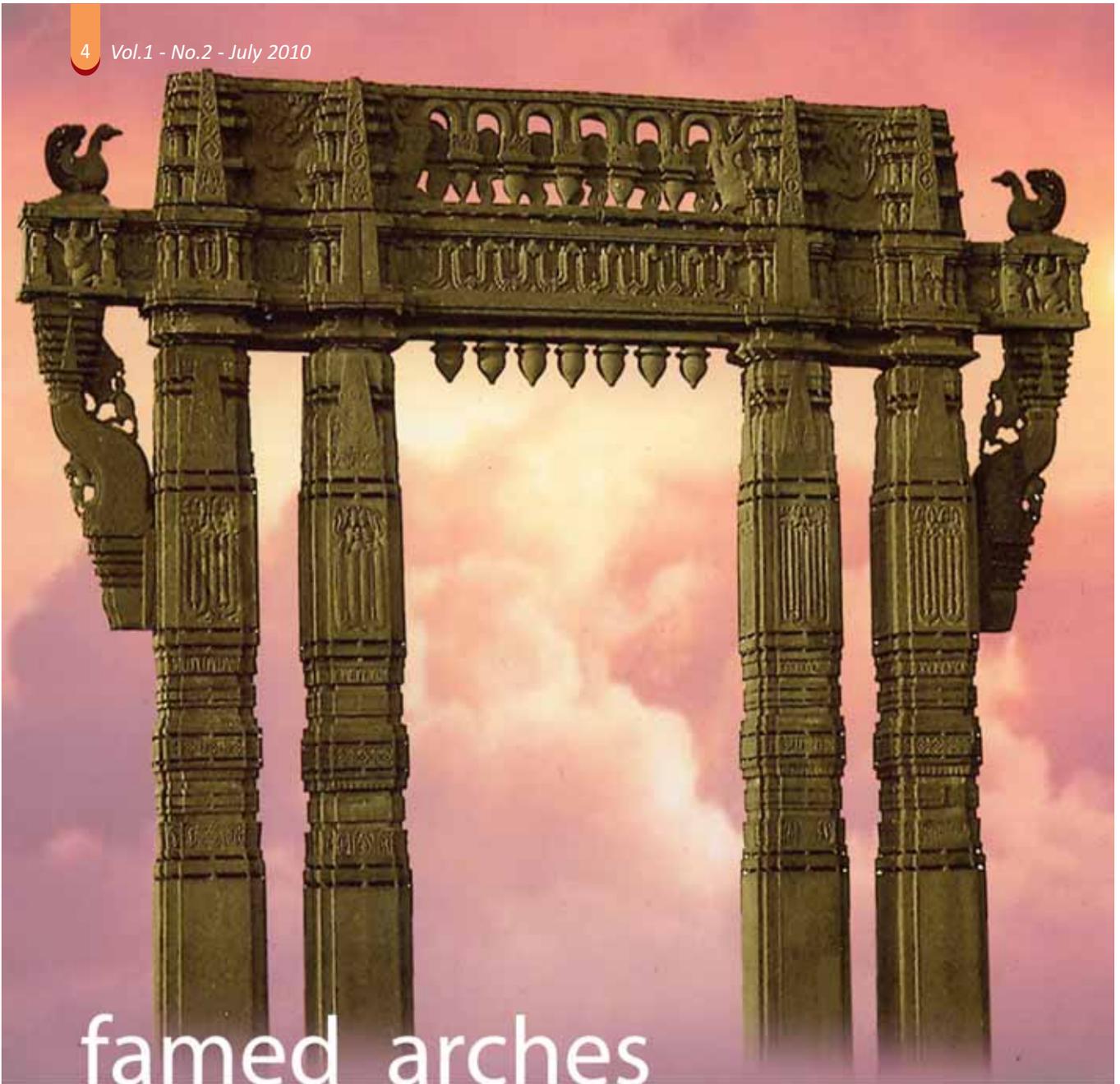
Vice Admiral Anup Singh in his Preamble to the Seminar held on the following day on Eastern Seaboard- *Challenges and Opportunities* unveiled the enormous wealth of both resources and opportunities waiting to be utilized for transforming India into a great maritime nation. Explaining the importance of the ‘two concepts of security’ Prof RVR Chandrasekhara Rao exhorted the NMF ‘to make aware, sensitize and build capacities of the coastal belt population.’ Professors Somasundara Rao and Vijayaprakash identified the areas and monuments for an in-depth study of the maritime history of Andhra Pradesh. Shri C. Subrahmanyam dwelt on the urgent need to revive our ship building industry and initiate steps to catch up with countries like China and South Korea in the manufacture of ships, big and small. Shri J. Sreenivasa Raju suggested that sophisticated technology should be made use of to boost food production and ensure environmental protection along the coastline.

Cmde C.Uday Bhaskar assured the Regional Chapter of all support in its efforts to collect, store and publish/translate documents that throw light on our maritime tradition and culture. Visakhapatnam Chapter owes a deep debt of gratitude to Vice Admiral Anup Singh, FOC-in-Chief Eastern Naval Command for hosting the inaugural function on a grand scale at the naval base on April 27 and to Shri Ajeya Kallam, Chairman, Visakhapatnam Port Trust for his valuable support in organizing the seminar on April 28. To Shri T.R.Prasad, Shri DV Subba Rao, Prof RVR Chandrasekhara Rao, Shri P.K.Bishnoi, Cmde Naresh Kumar, Shri J.Purnachandra Rao and Shri S.S.Tripathi, our grateful thanks for their participation as Guests of Honour. Thanks are also due to Dr S.Vijaya Kumar, Shri J.Sreenivasa Raju, and Capt S.S.Tripathi for their financial support.

Visakhapatnam Regional Chapter proposes to establish connectivity along the 1030km Andhra Pradesh coastal belt from Srikakulam in the north to Nellore down south through universities and post graduate centres to mobilize resources, human and intellectual, for realizing the objectives of the National Maritime Foundation. Visakhapatnam, known as the City of Destiny, is destined to play a significant role on India’s eastern seaboard in the years ahead.

Visakhapatnam  
July 2010

  
**A. Prasanna Kumar**  
Regional Director



## Warangal

The '*kirti toranas*' elaborately carved gateway adorning the famous temple at Warangal Fort the construction of which was begun in late 12<sup>th</sup> century by King Ganapati Deva and completed in 13<sup>th</sup> century by his daughter Rudrama Devi. The gateways '*kirti toranas*' four in number at cardinal directions built to mark the boundary of the temple are reminiscent of the '*toranas*' at the great stupa at Sanchi.



## Admiral Arun Prakash

PVSM, AVSM, VrC, VSM (Retd)  
*Chairman,*  
*National Maritime Foundation*  
*Former Chief of Naval Staff*

# Inaugural Address

C-in-C East, VAdm Anup Singh, Professor Prasanna Kumar, distinguished guests, ladies and gentlemen. I am delighted to be here in Vizag, once again, and this time for a very significant event: the formal inauguration of the local chapter of the National Maritime Foundation.

I must start by offering profound apologies, both to the C-in-C and to Prof Kumar, for the inordinate delay that has taken place in scheduling this function, but can only offer my busy schedule as a somewhat lame excuse. This delay on our part notwithstanding, the Vizag Chapter of NMF has been functioning at “full throttle” for the past few months, and some of you have already participated in the various functions organized under its aegis.

I think there can be no better proof of the dedication, resourcefulness and initiative of the Regional Director, Prof Prasanna Kumar, that he has managed to launch this chapter on a high trajectory with minimal support from New Delhi. We are indeed fortunate to have him at the helm of things in Vizag. Needless to say, none of this would have been possible, but for the strong and steadfast support given to us by VAdm Anup Singh, in his own silent but resolute style.

Today, India presents a fascinating prospect to foreign eyes. A billion strong nation of mostly young people; with an economy which continues to boom in the midst of a world-wide recession, and a functioning liberal democracy which is resolutely waging a war on poverty & hunger. They see great potential in this nation, and unless we go terribly wrong, a bright future ahead.

## ...Inaugural Address by Admiral Arun Prakash

However, strategists and analysts are intrigued by another facet of India's rise; what they perceive as the dramatic growth of its maritime power, especially during the past decade. This growth is not confined to mere hardware, but also encompasses the intellectual underpinning and wherewithal that must equip a maritime nation.

Anyone casting just a cursory glance at the Indian Navy's acquisition plans for the next decade, as they are projected in the media, cannot help being struck by their scale and magnitude. The list of impending deliveries within the next five to seven years to the IN includes: one nuclear attack submarine, one modernised aircraft carrier and three frigates from Russia, two tankers from Italy and one aircraft-carrier and 35 warships and diesel submarines from Indian yards. In addition a large number of aircraft and helicopters are in the pipeline.

Our first nuclear powered ballistic missile submarine, INS *Arihant*, was launched very recently in your city, and will provide the underwater leg of our nuclear triad. All the advanced weapons and sensors carried by the IN's ships, aircraft and submarines are going to be connected through a satellite based network which will spread right across the Indian Ocean.

All these constitute the ingredients of a first-class blue water Indian Navy, which will be at sea by the end of the next decade; at a rough cost, to the nation, of around 10-12 billion US dollars.

The question on the lips of many foreign observers today is: why does India need such a navy? They also see a severe paradox and ask: "*What maritime ambitions does an under-developed, poverty-stricken nation like India need to satisfy with such a navy?*" A related question that often crops up is about India's maritime past, and foreign analysts often ask whether India actually has a maritime heritage or a "grand historical narrative" to justify acquisition of maritime power in today's context. China's example is frequently quoted; wherein this nation has created a huge historical myth around the voyages of eunuch Admiral Cheng Ho in the early 15<sup>th</sup> century.

Unfortunately, the number of historical accounts which authoritatively establish India's ancient maritime past is not large. But this is more an indication of intellectual lethargy and reluctance on the part of our historians to investigate an esoteric field, than of the absence of such a past. Recording of events and writing of history has never been a strong point with us.

However, one need only spend a few days in Malaysia, Indonesia, Thailand or Cambodia to be struck by depth and breadth of permeation of these countries by Indian culture, languages, architecture and even dietary habits. This could have taken place only over centuries of intense maritime interaction. In addition, three great religions; Hinduism, Buddhism and Islam reached SE Asia via India.

They present empirical proof of the intense seafaring activity and the great maritime tradition, nurtured by a succession of royal dynasties that flourished on India's eastern seaboard up to the 13<sup>th</sup> century. Similarly, from the west coast, intrepid Indian mariners were trading with Persia, Mesopotamia and Rome as far back as 2000-3000 years BCE; a seafaring tradition

## ...Inaugural Address by Admiral Arun Prakash

older than that of Greece, Sparta or Carthage. While Western accounts studiously ignore these achievements, K M Pannikar has, so far, been the sole Indian historian who possessed the diligence and scholarship to investigate India's maritime past<sup>1</sup>.

Pannikar recounts the continuum of colonization as well as cultural and religious osmosis from India's east coast, by sea to SE Asia. Starting with the Mauryan Emperors, he traces Indian maritime activism through the Andhra, Pallava, Pandava, Chalukya and Chola dynasties, and draws attention to the growth of large Hindu kingdoms and Empires in Champa (Siam), Cambodia, Java, and Sumatra from the 5<sup>th</sup> to the 13<sup>th</sup> centuries.

To my mind, one of the Foundation's vital roles is to revive our ancient maritime tradition and to record our glorious maritime past. Only then will we be able to inspire our burgeoning young population to great maritime endeavours and ward off scepticism about the growth of our navy. With such a rich heritage to explore on the east coast, the Vizag chapter has its task cut and dried.

Globalization has brought a sharp focus on India's maritime interests and vulnerabilities, and the IN no longer needs to repeatedly justify its *raison d'être* to the government and people. However, there are still many vestiges of our inherited "sea blindness" in the corridors of power, and the security decision-making elite in New Delhi. Here again, the NMF has a vital role to play in focusing public and media attention on critical issues of maritime concern and offer policy options to the decision makers.

Holding of seminars and conferences, undertaking scholarly studies of specific issues, writing of papers and articles for the media are all activities that will go a long way to further the maritime cause, and of which we hope to see a lot in Vizag.

In the light of all this, your gracious presence at this evening's ceremony and the holding of a seminar tomorrow hold great significance for us. One cannot emphasise enough, the importance of the east coast, and especially of this great port city, to India's resurgence as a great maritime power.

I conclude by expressing my warm gratitude to the eminent citizens of Vizag for their keen interest and to the CinC for his immense support and patronage for the National Maritime Foundation.

I have no doubt that in the strong and capable hands of Prof. Prasanna Kumar, this Chapter will make rapid strides and become a shining beacon for the maritime revival of not just the east coast but of the nation.

We offer Prof. Kumar our warmest felicitations and while promising all support, wish him luck.

Thank you;

Jai hind.

# The Eastern Seaboard OPPORTUNITIES AND CHALLENGES



**Vice-Admiral Anup Singh** AVSM, NM  
*FOC-in-Chief, Eastern Naval Command*



Ladies and Gentlemen, I have been asked to present a preamble to this seminar, titled “THE EASTERN SEABOARD — OPPORTUNITIES AND CHALLENGES”. To weigh each of these positives and negatives in the maritime domain off the East coast, one needs to first align oneself to the true perspective of this coast and not the picture that is being accepted as a “given” today.

We are passing through a time that comes but rarely in the life of a nation and this country would be remiss if it did not capitalise on the opportunities that lie in wait at this watershed of economic resurgence in our history. Ours is a very consumption driven economy and that translates to more than the meaning of the term consumption for a country with a liberated, indeed an excited population—1.15 billion in all, with a fast demanding middle class that is about to match the total population of the United States.

We seem to be taking all the growth in our stride, as if we were destined to reach here since 1947! But we seem to forget that India missed the industrial revolution, was under colonial rule for well over two centuries and was terribly short of food and money till as recently as 1991. Even now, what needs to be posited in our minds is the fact that there is a long way before the term “BPL” is decimated unless we accelerate the process of maximising the opportunities and preempting the challenges. How can this be achieved? By understanding the properties of our environment first.

To all intents and purposes, India is an island nation. This is because contemporary history and

## ...The Eastern Seaboard - Opportunities and Challenges

geography of this country's North have dictated that a major part of the 15000 kms of our land borders are as good as non-existent — most being non negotiable, due to terrain or relationships, for any form of commerce. If you therefore apply the definition of an island nation to India, our opportunities and challenges would be best illustrated by reversing the map of the sub-continent. What do you see? You find a conspicuous asymmetry in an otherwise uniform and aesthetic landscape of a 'goblet' that the East and West walls of the Indian Ocean would have presented. This asymmetry is created by peninsular India driving a wedge right in the middle of the ocean. This asymmetry has mandated that all ships traversing East or West, must round the peninsular cape. Whilst this is an advantage in terms of "visibility" and "control" in times of crisis, it carries with itself the need to constantly monitor the seas hugging India which means surveillance and a check on activities, to maintain good order around India's shores, and, in particular to ward off those hovering around these waters with mal-intent.

One might ask the question: why this importance to the East? Is it only because the seminar is being held on the East coast? Or is it because the sun rises first in the East!! The answer lies in the neglected history of this coast. East is where our ancestral mariners first practiced the art of expedition — the Kalingas, Satavahanas, Cholas, Cherus, Pandyas, Pallavas, all went further East from this shore, for spreading culture, trade, goodwill and barter. This was eons before Eleanor Farjeon scripted her famous carol: "People Look East", in 1928. And our ancestors were all the time looking and engaging East – from 300 BC ! Yet, we had to remind ourselves to "Look East" in the year 1991 ! This is because of the inexcusable neglect, starting with the 12<sup>th</sup> century, of the rich linkages we had established with the East. We are finally on track to revive the bonds and trade linkages but speed and magnitude need upliftment.

Let us now look at the opportunities that lie in wait for a maritime country, in whole. Firstly, we must remind ourselves of the fact that maritime countries are naturally blessed — endowed as they are, not just by an EEZ, exploitation rights, a treasure trove of minerals on the sea bed, benefit of beaches, but most importantly, because they have **access to the seas** — the great common that connects Sweden to the Falkands just as it does for India and far away Canada. "So what?" you would say! But the contrast lies in those 44 land-locked countries that do not have access to the seas. There are no examples of landlocked countries with promise of development and growth except Austria and Switzerland — both in Europe. And yes, a strange example of a doubly landlocked country, Liechtenstein which lies sandwiched between those two countries! In all three cases, benefits of the industrial revolution, an abundance of natural resources and an inviting landscape for tourists have ensured unprecedented gains for these countries. Other than these three, every land locked country is a relative "have not" amidst its surrounding, only because it does not possess free access to the seas. So, the point to remember is that we are fortunate to possess a huge peninsula that provides — not just access to the 'great common', but to all that the medium of water and the sea bed in the vast



## ...The Eastern Seaboard - Opportunities and Challenges

EEZ has on offer.

In this backdrop, let us then see what riches lie on the Eastern Seaboard of India.

One look at India's relief map will show how good the East coast is, compared to the West. A sharp topographic gradient, a steeply shelving continental shelf, untapped riches of mineral resources, gas reserves, natural deep harbours, un-spoilt beaches..... Is there anything else one could ask for, except perhaps for cooler summers!

But with all these natural assets on the platter, just compare our ports with any other country's – except those on Africa's East coast. We still seem to be living in the early twentieth century in so far as the handling mechanisms, logistics and evacuation infrastructure in our ports are concerned. Just compare any of our major ports with those at Shanghai, Singapore or Hong Kong. The turnover ratio is a mind boggling 1:10 in a one to one comparison. Shanghai superseded Singapore as the highest turnover port in the world two years ago and claims a cargo handling capacity of nearly 700 million tons. Our largest capacity port that year, Kandla, managed only 70 million tons and all the 12 major and 187 intermediate and minor ports totaled a turnover of 710 million tons. Now, it is very easy to say that theirs' is a manufacturing based economy and so obviously they need enormous handling capacity, etc. etc. Does that mean we can do with stagnated low capacities and archaic handling systems? Why do large container carriers and very large bulkers refuse to touch Indian ports? Because "time is money and patience is not". Ports are the lifeblood of a maritime nation's economy. They must remain contemporary in mechanization and logistics and evacuation efficiencies. Only then will India receive attention of the big ticket carrier companies to lift or land bulk cargo and containerized cargo with efficiency, without waiting periods and wasteful halts. We certainly need competition. For that to happen, aggressive modernization of major ports, licences to private sector landlord ports and leased ports will be the only answer to conspicuously raise the growth pattern of the economy and improve the employment base of the country.

Next is infrastructure and general real estate development. Compared to the West coast where real estate development has literally shot through the sky with little escape from the concrete jungle, the East has a great opportunity to do mega infrastructure planning and cater for the all important logistics network for offshore as well as onshore industry. This is possible while thousands of hectares of non arable land are available from Haldia to Tuticorin.

The steep gradient of the East coast that I spoke about earlier, is responsible for offering not only natural deep water ports, but also deep sea gas and oil wells so close to the shore. This property of the Eastern seaboard has helped, in no small measure, in exploration of huge gas reserves that are being tapped and easily transmitted in huge volumes. The distance is just about 30-40 nautical miles between the shore and the KG Basin deep water wells.



## ...The Eastern Seaboard - Opportunities and Challenges

Gas find by Reliance holds promise of multiplication and competition as recent surveys have forecast.

Recently this deep water shoreline has indeed attracted private players who are building a few ports, most of them being in Andhra Pradesh. The downstream effects will include easy accessibility of coal as 60% of our power plants; all of the steel plants and most core sector industry need coal as feed stock. But there is concurrent need for upgrading communication and logistic infrastructure for efficient connectivity with the hinterland. The need of the hour is for all the East coast states to urgently develop private ports, shipyards, rail and road connectivity of enhanced capacity and quality infrastructure to enable establishment of large mineral export nodes. In some cases the private port builders or owners should be made responsible for laying the evacuation infrastructure. In fact, Krishnapatnam port is already tying up deals with the state government and with a number of power producers for delivering coal through its own conveyor manifold fanning out tens of kms outwards from the port. Another downstream spin off is bulk export nodes for finished products like automobiles, mechanized systems, industrial mother machines etc. Development of contemporary ports will invite interest and capital for establishment of SEZs.

To ensure railway carriage of goods for import/export including coal, iron ore, fertilizer, crude oil, etc. ports will have to create a rail network inside and link it with the nearest rail head outside port limits. This will ultimately add to the communication network that badly needs augmentation today. What better way to develop the country's infrastructure and connectivity layout!

Look at new shipyards. Located in deeper waters, they will be able to build huge ships – VLCCs and above. The only shipyard on the West coast, capable of building ships in the 100,000 ton range – Cochin Shipyard Ltd, has so far been able to build only one ship in its maximum tonnage. Generally, it has been receiving orders for vessels of only 50-60,000 ton category.

The first deep water shipyard in India is finally coming up, in the private sector, at Ennore and claims an ultimate capacity of 2,50,000 ton VLCCs. That should put India, in a very small measure, in the catalogue of the big league ship builders, for the very first time.

Having spoken about ports and shipyards let me touch upon coastal and inland water transport. Once again we are a maritime nation blessed by nature – both on the peninsular periphery as well as through the many rivers in the mainland. But realization of their invaluable potential has yet to dawn. The economic benefit of conveying cargo through coastal vessels is so contrasting to the road or rail mode that if exploited it can change the nature of commerce in India. A simple example would be the carrying capacity of a small coal carrier, say of 10,000 ton capacity that were to carry imported coal from Vizag port



## ...The Eastern Seaboard - Opportunities and Challenges

to Mangalore. The same cargo would need three freight trains and generally take more time than the ship. But most importantly, the cost of transporting by ship will be less than half that by rail and about a third of the mode of road transport. Similarly, if our inland waterways were to be seriously developed and utilized, they will prove a boon for economics of transportation, provide enormous opportunity for employment and multiply efficiencies in business.

Next, let us look at the most well known resource from the sea: fishing. One would say, who needs education on fishing! After all, it is a given, in any water body anywhere in the world! True. But few countries with such a long coastline as ours would leave this opportunity for the unorganized sector. The East coast of 2600 km has about 1500 coastal villages and an estimated 85-90,000 of the 215,000 fishing boats in Indian waters. Don't get impressed by these figures.

Of these 85,000 boats on the East coast, only about 12-15,000 are mechanised and another 10,000 are "motorised" with inbuilt engines, or just slap-on motors. The rest, nearly 60,000 are traditional craft, manned by a little more than subsistence farmers. If this does not surprise you, then imagine that the no: of proper sea going fishing trawlers, truly capable of deep sea fishing in the whole of peninsular India, is a paltry 192. And the share of the East coast is a princely figure of 80!

Of the total potential of 2 to 2.5 million tons of marine fish on the East, we harvest only one million tons! But what is ironical is that most fishermen in trawling craft are engaged in only subsistence farming. What is harvested is mostly shallow water, near surface product.

In contrast, look at a country like Peru in South America. Till the sixties, nearly 60% of its GDP was contributed by fish, fishmeal, live species and sea food exports. Even now, Peru exports 2.5 million tons – mostly to North America and Europe, earning nearly 3 billion dollars annually. While Indian waters may not have exotic fish varieties like *Scissortail Sergeant Major* and *Sturgeon Fish* but our deep water tuna, deep water shrimp, deep water lobsters and crabs are exclusive varieties for America, Europe and East Asia.

Sadly, in the Indian EEZ, more fish die of old age, than of being harvested. What is needed to tap this opportunity is a fleet of deep sea fishing trawlers of long endurance with contemporary infrastructure and sufficient refrigerated space. This is an initiative that the private sector can be encouraged to seize with incentives of concessions and tax holidays in the initial years.

Let me now talk of tourism. Of the 5 million footfalls that India receives, less than a million come to the East coast. This is a pittance, given the potential and opportunity to promote and produce money for the economy and employment for the poor. The longest chain of Buddhist sites is along the East coast – far away from Bodh Gaya; the best nourished and least spoilt beaches are on the East coast; a rich reserve of heritage sites exists from Kolkata to Tuticorin; some of the best wild life reserves and nature parks are in the



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Sunderbans; many of India's oldest temples too are in this region. What is needed is a plan to consolidate itineraries, loudly publicize our assets to the world, diversify management — perhaps even to the private sector to improve quality, ambience and infrastructure in the hospitality sector around these sites. It is then that India will also start receiving tourists in the tens of millions rather than just 4 or 5 million annually.

Last amongst opportunities, let me talk about the most obvious resource that we take for granted and whose available potential is never appreciated: nature. Present in bountiful, wind and solar energy are available 24 x 7 with zero investment. The East Coast of India gets more of everything from nature than the West. It receives more sunny days and greater constancy of wind round the year, presenting invaluable avenues for capturing energy and generating power through solar panels and wind mill units.

### Challenges

And now, the challenges that the East faces. The foremost is security and this audience needs no reminding that the world has changed, not since the Berlin wall; not since the Gulf war; nor since Osama **Bin Laden**, but since the advent of Guerilla warfare. Che Guevara's idea was revolution; however the asymmetric challenge today is not posed by revolutionaries but by vested states and misguided entities. Unfortunately, the Indian Ocean is fast assuming the title: "cradle of terrorism". From Afghanistan and West Asia in the West, to affiliates of Al Qaida in the East, the asymmetric threat from the sea has become the greatest challenge since 26/11 — a wakeup call for us, just as 9/11 was for America.

The cliché "the sea is cruel" had a different significance when it was coined. It referred to the nature of the medium apart from the nuances of maritime warfare. Today however, practitioners of asymmetric warfare are turning this notion on its head. This has led to the need to keep our sea frontiers under constant surveillance which is not easy as, apart from the big ocean-going vessels, it is the small boats, numbering close to 85,000 on the East coast, that need policing both from the air and through patrols on surface. But unlike on land or in the air, where paths and corridors are generally defined and well known, the sea medium has no "roads" that can be policed.

The task for a country like ours is unfathomable as fishing boats are free to traverse in unregulated fashion, anywhere and everywhere; they can also land anywhere on the coast, not just at earmarked harbours. An even more serious issue is the fact that due to low income levels in coastal villages, we have all along lived with unregistered vessels. This compounds the task of surveillance and examination of bona fides. To enable proper policing, we need to enforce registration, issue of identity cards and fitment of auto-identification systems on all vessels. To tide over the main challenge of asymmetric warfare, this task of enabling surveillance is, in itself, very challenging.



## ...The Eastern Seaboard - Opportunities and Challenges

The threat is not merely limited to or from the maritime domain alone. The entire coastline which is studded with onshore and many offshore assets, remains at risk of terrorist attack putting national morale and the country's economy at stake. To overcome this challenge requires alertness and pre-emption on all fronts. This means much more investment in security infrastructure as well as security forces at all levels.

The Maoist menace has been rearing its ugly head in recent times. Though witnessed in the hinterland so far, the coastal belt needs to be guarded against any ill conceived designs of this group of people whose main aim has been publicity of their actions.

To sum up, the list of opportunities on the East Coast is huge, much of it — recyclable and renewable. Time continues to fly and tide continues to run its course. If we want to grow at an impressive pace – designed to alleviate poverty and be counted amongst the economic power houses of the world, these opportunities are there for the asking.

But nothing in the world comes free of attendant burden even if the investment or inputs are freely available from nature. The challenges I just listed are real and must be guarded against. That requires investment, reorganization, around alertness and synergy of effort amongst all stake holders.

If all the opportunities are tapped and all challenges pre-empted, India will never ever have to look back.



# The Civilian Factor and The Two Concepts of Security...



**Prof. R.V.R. Chandrasekhara Rao**

Former Vice-Chancellor,  
Dr.BR Ambedkar Open University, Hyderabad

The National Maritime Foundation's (NMF) primary objective is to promote awareness among local populations of the maritime heritage of the region. The achievement of this objective, inter alia, would imply other goals like documenting indigenous knowledge systems, like boat-building, types of fish populations, the identification of ancient trade-routes etc. Importantly, this would also imply bringing to the knowledge of the local populations modern technological advances in fishing and related activities. The challenges and opportunities that technological innovations bring into existence situations that require new measures to promote and protect the interests of the fishing communities.



Prima face, the NMF objectives are purely civilian in nature. They are not exactly security-oriented, in the narrower meaning of the word, 'security'. For, the Indian Navy, including the Coast Guard is entrusted with this purpose. But, in a broader sense the security-orientation is embedded in the notion of security of the coastal regions. If 'national security' signifies the narrow meaning of protecting the security of the nation from external and internal threats, in the broader sense of human security, the remit of the NMF is indeed expansive and comprehensive. In an important sense, human security – in this context, the security of the Maritime oriented populations and the coastal population as a whole – provides a deeper objective for the over all security of the region and the country.

Let me first reflect on the objective of making the local population aware of their maritime tradition and imbuing them with a pride of their professions and vocations. This pride is to be sustained especially in view of the challenges that these populations face in terms of modernization. So awareness itself means much more than a mere historical recapitulation.

The recovery of the maritime tradition serves a broader purpose which is disseminating awareness among the people of their maritime legacy and reviving this legacy into a present reality. Breathing life into hundred of fishermen communities would produce a continuous

## *...The Civilian Factor and the two Concepts of Security*

chain of communities devoted to the sea and to the sustenance it affords them. Made aware of their contribution to India's civilizational diversity along with attaining an astonishing self-sufficiency in communitarian economy, the present generations of coastal populations can manage the combination of contemporary advances with pride in their tradition. This, in particular, prepares them to face the challenge that the interaction between them and agencies that bring new technologies inevitably brings. How can they survive in this unequal bargain between technology and tradition? It is precisely at this point that much more than mere awareness of tradition is needed. Recovery of pride is not necessarily endowing them with capability to win the economic economy bargain. The civil society interveners and state agencies should attend to this sort of capability-development among the local communities. Unions and labour-dispute officials should be in place to do this job. Impliedly, the NMF objectives aim at many of these goals.

Strengthening the confidence of local populations through capacity-building efforts is thus an urgent necessity. Essentially this constitutes value-addition to human capital. Both psychologically and socially, achieving this contributes to Human Security. Analysts of security theory makes a critical distinction between the narrower preoccupation with 'security' as defense 'security', and the broader concept of 'human security'.

Human security is variously defined. But the quintessence of these can be distilled to mean: avoiding the threat to "the lives of individuals and communities through both direct and structural violations". This aspect of security concerns impinges on the coastal populations more intensively. In addition to age-old hazards of living off-terra firma, fishing communities, in particular, reap a paltry harvest, often seasonally becoming a 'harvest of sorrow'. There is also the contemporary threat of structural violence wrought by corporate interventions spurred by technology and by outright greed. The intermix of structural threats to the local human security and the threat to the ecology of fisheries sources projects a menacing future. Most appropriately the NMF has laid emphasis on this problem, in envisaging the involvement of the navy, the coast guard and a host of maritime-related agencies and educational and civil society organizations. The above concentrated on the NMF remit to make aware, sensitize and built capacities of the coastal belt population.

But, then, the NMF has also a latent purpose that is of aiding security, in the narrower scope of the term. Coastal populations are obviously the targets of threats from the seas. In this they are exposed to a serious security threat which hinterland populations (and, for that matter, land-locked countries) are not exposed to. In particular, the November 2008 attack on Mumbai is an eye opener to the terrorist threat from across the waters. Notably the evidence of well-planned assistance from inside Indian territory should warn us to prepare against collaborative conspiracy acting as a prop to terrorism from outside. The probability of such terrorist activity on the east coast should be included in our threat perception scenario. So far this has been of a minimum

## ...The Civilian Factor and the two Concepts of Security

priority. The absence of a 'Pakistan' near this part of our sea board, in contrast to the neighbourhood of Karachi to our western coast, is an obvious reason. But, now the reach of sea-borne attacks cannot be beyond Pakistan's naval capabilities. Complementing this is the perceptible nexus between Pakistan and China. This is a combination that could bring havoc to our eastern coastal security.

In this context, the locating of heavy interests in Visakhapatnam and the Godavari basin constitutes a highly coveted target to the enemy. Add to this the factor of Moist insurrectionary movement operating not far from the northern areas of the East Coast. Thus, a veritable witches brew of a threat to security is a probable 'fact'. The locals always form the 'eyes and ears' of the main security forces – the Armed Forces, and civilian police put together. The 'awareness' criterion therefore includes awareness of the forces aligned as threats. Needless to say, the foundation that NMF lays should take heed of these imperatives of local involvement.

National Security rests on high civilian morale. In case of coastal defence, the civilian dimension is important beyond 'morale' considerations. For, awareness should imply not merely the civilizational memories of the professional and cultural treasures to be cherished and pursued, but also the vulnerabilities that present times expose them to.

Fortunately the mix of the knowledge network: - the Andhra University, with its expertise in diverse branches of marine studies, the sophisticated naval establishments in the area and the industrial complex, acts as extension arm to sensitize the local populations to act as the eyes and ears of the Naval defence force.

The establishment of several new universities during the last few years can be utilized for better purposes than presently planned. These universities, many of them based in coastal regions should be 'mandated' to institute courses in different marine sciences disciplines, each university specializing in one or two specific areas. The Andhra University can serve as a mentor in this venture. Such as education endowment would create an additional catchment area in which maritime consciousness could be instilled.

The fact of two long coast lines projecting into the Indian Ocean in the South gives India 'commanding heights' in the geographical sense. Translating into geo-political terms, this is a great strategic asset. But, it is a corollary that every strategic asset brings along with it an equal and opposite strategic vulnerability. It is this 'fact' that necessitates the clubbing together of national security and other dimensions like civilian consciousness about security.

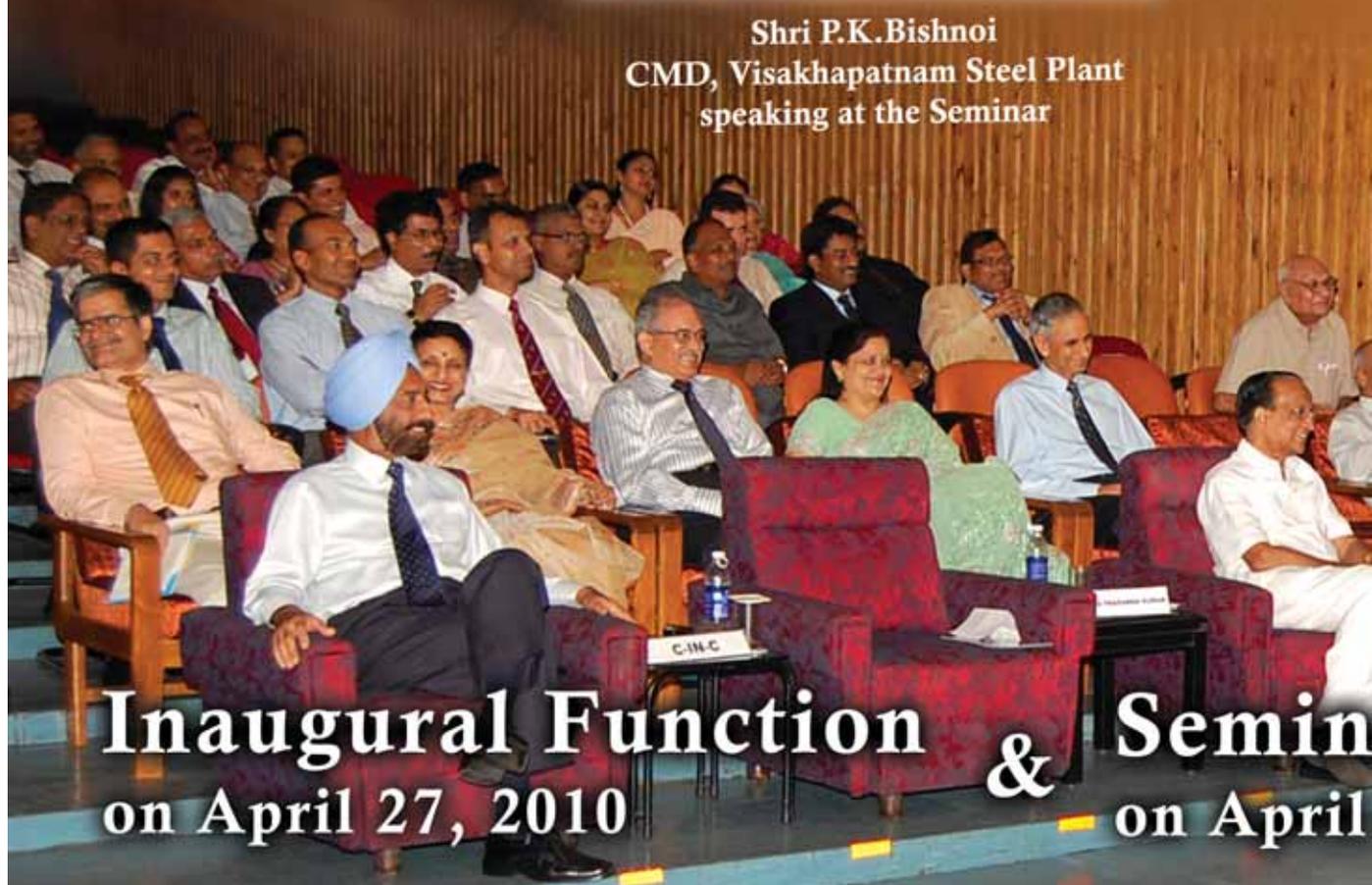
The NMF, thus, has this inclusive perspective in its sights, as can be gathered from a wider view of its aims and objectives.





Shri Anu  
Shri Aj

Shri P.K.Bishnoi  
CMD, Visakhapatnam Steel Plant  
speaking at the Seminar



**Inaugural Function & Seminar**  
on April 27, 2010 on April



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...eya Kallam



Capt. S.S.Tripathi, Shri J. Purnachandra Rao, Shri P.K. Bishnoi,  
Admiral Arun Prakash and Cmde Naresh Kumar  
at the Seminar on April 28, 2010



ar  
28, 2010



***Inaugural function  
at the Eastern Naval Command  
April 27, 2010***

**Cmde C.Uday Bhaskar**

Director,  
National Maritime Foundation

*explaining  
the objectives of NMF*

***Admiral Arun Prakash honouring former Naval Officers***



**Cmde L Gomes AVSM, (IN Retd.)**



**Cmde T Rajaram (IN Retd.)**

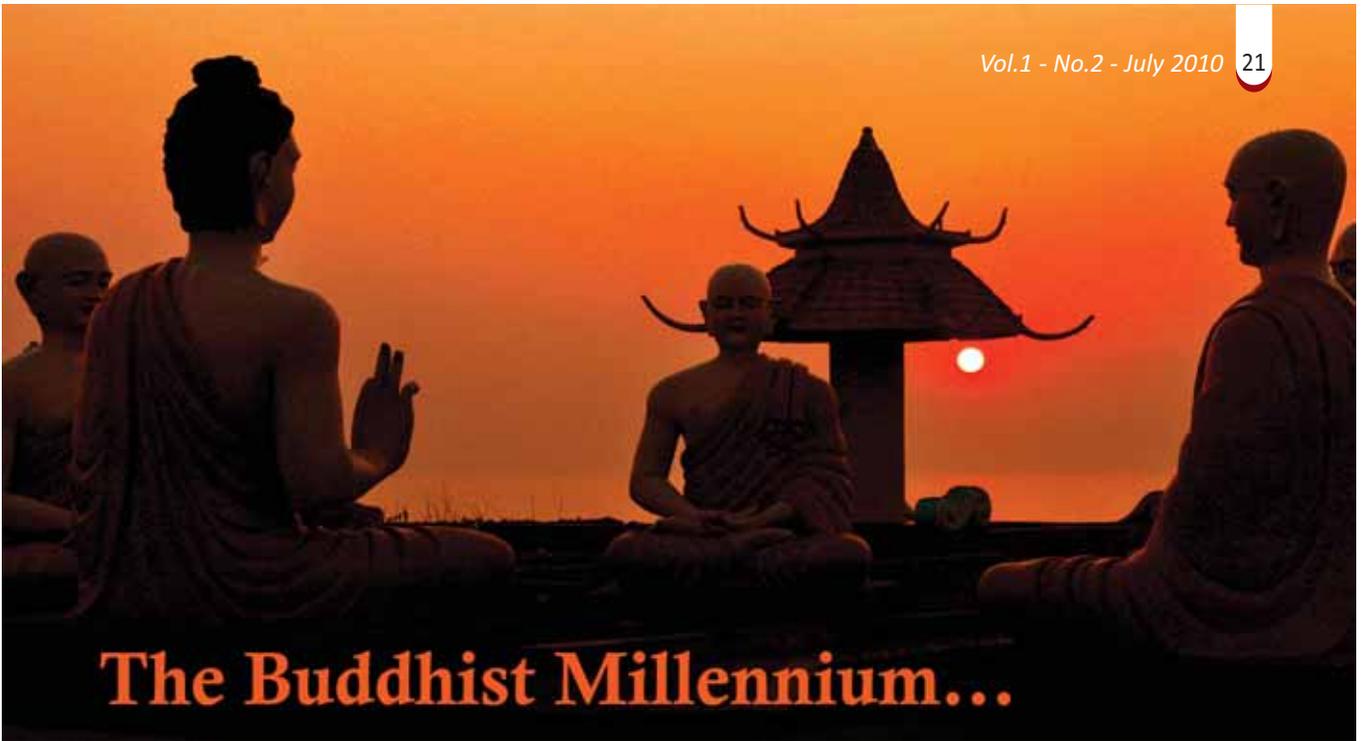
***Vice-Admiral Anup Singh honouring...***



**Shri C.Subrahmanyam**  
Former Chief Manager, Hindustan Shipyard



**Dr. S. Vijay Kumar, CEO, Vijay Nirman**  
*Viswakarma Award 2010 recipient*



## The Buddhist Millennium...

Buddhism occupies a prominent place in the history of Andhra. Buddhism arrived in the Telugu country during the lifetime of the Buddha himself, reaching Bodhan in the present Nizamabad district in the 6<sup>th</sup> century BC when Bhavari, a local ascetic and his disciples sought refuge in the Dhamma, after a meeting with the Buddha at Vaishali. From then on for a millennium Buddhism remained the dominant religion of the Telugu country, leaving a deep influence on the history and culture of its people. Its rapid spread started with the reign of Ashoka in the 3<sup>rd</sup> century BC when the Telugu country became part of his empire. During this time took place the construction of the Maha Stupa at Amaravati, Bhattiprolu and several other monastic establishments at Guntupalli, Salihundam and Bojjanakonda. The Telugu country became famous for its contribution to Mahayana Buddhism between the early centuries of the Christian era and the 5<sup>th</sup> century AD. Acharya Nagarjuna, revered as the second Buddha by the Mahayanists, propounded his Madhyamika school of philosophy and the Prajna Paramita Sutras and Diamond Sutras on the banks of the Krishna at Nagarjunakonda, known as Sriparvata. The great propounder of Mahayana Buddhism was described by the Chinese traveller Hiuen Tsang around 639 AD as “one of the four suns which light the world” along with, Aryadeva, Kumaralabdha and Asvaghosha. The Satavahana ruler had a monastery built in the mountain for Nagarjuna where he lived, preached and was interred. From this hallowed place, embellished with the images of the Buddha of pure artistic beauty, went out Nagarjuna’s message to distant lands. According to the Tibetan tradition, the Enlightened One set the wheel of time *Kalachakra* in motion at Dhanyakota, near Amaravati. Vajrayana which flourished in places like Amaravati, Guntupalli, Sankaram and Ramatirtham travelled from here to far off Tibet where it survives till today. Ashoka erected a pillar at Amaravati and issued edicts at Rajula-mandagiri and Yerragudi.

Buddhism stimulated the creative genius of the people of the State and brought in a vibrant tradition of sculpture known as the Amaravati School known for its grace and movement. 150 archaeological sites have been discovered in the State so far but from its Mahastupas, corporeal relics of the Buddha were recovered and preserved in the museums at Amaravati, Nagarjunasagar and Hyderabad. The 150 Buddhist sites, many of them lying buried, and the fact that Andhra Pradesh is the only state where as many as 13 Buddhist relic caskets have been recovered bear testimony to the impact of a millennium of Buddhism on the lives and culture of the Andhras. Amaravati, the famous seat of Buddhist culture, possessed some of the finest treasures of Buddhist art and sculpture. Buddhism spread to Sri Lanka and distant southeast Asia, where its earliest cultural links were traced to Andhra Buddhism.

# Maritime Activities of the Andhras

## (Ancient and Medieval Periods)

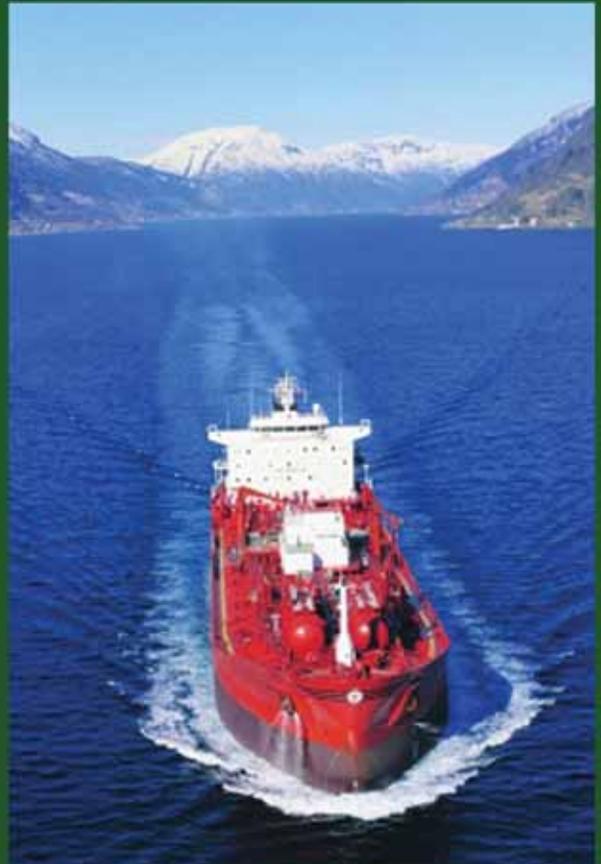


**Prof. C. Somasundara Rao**

President, Epigraphical Society of India  
Retd. Professor and Head of the Dept. of History and Archaeology,  
Andhra University

Andhra played an active role in maritime trade from the early centuries of the Christian era. While in the early period, it had contacts with the Roman empire, it turned to Sri Lanka and Southeast Asia in the medieval period. It must also be mentioned that different parts of India had participated in the trade with foreign countries and in the spread of religion outside India.

- (i) **The Satavahana - Ikshvaku phase** (1st century B.C. - 3rd Century A.D.): The Satavahanas were the earliest to rule effectively in Andhra Pradesh. The kings were described as lords of the three oceans, suggesting their rule over the whole of South India. They issued coins with the ship emblem, demonstrating their naval power. A work of 1st century A.D. known as *The Periplus of the Erythraean Sea* was a guide-book to the navigators of the ships that started from the Red Sea to the Arabian Sea and Bay of Bengal touching the Persian Gulf. It is also pointed out that some ships sailed direct to the Arabian Coast. The ports of Barygaza, Kalyan, Sopara, Nelcynda, Muziris on the West coast and Nikama, Khaberis and Poduca on the east coast find mention here. Nikama (Nagapattinam), Khaberis (Kaveripattinam) and Poduca (Pondicherry or the nearby famous Roman trading station Arikamedu) are also known from excavations and references in the Sangam literature. The *Periplus* speaks of the river Maisolia, identical with the river Krishna. It is mentioned that from here, ships sailed direct to Suvarnabhumi and Suvarnadvipa, which meant Southeast Asia. The work speaks of manufacture of the muslins in this area. This was elaborated in Ptolemy's



## ...Maritime Activities of the Andhras

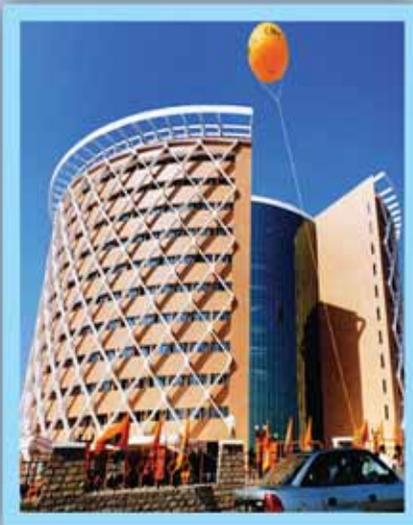
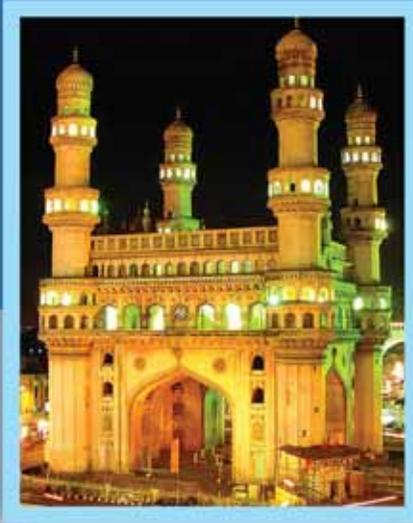
*Geography* of 150 A.D. where three important commercial centres on the Maisolia viz, Koddoura (Gudur near Machilipatnam), Kontakossyla (Ghantasala in Krishna district) and Allosygne (Talagada-divi in the Krishna district) were noted. It is interesting to note that at Ghantasala is found an inscription of 2nd century A.D. recording a donation of an *ayaka* pillar by the wife of one *mahanavika* Sivaka. An inscription of 3rd century A.D. at Nagarjunakonda refers to the construction of a Chaitya-hall for the monks of Tambapamna (Srilanka) who converted to Buddhism the people of a number of regions like Kashmir, Gandhara, Tosali, Aparanta, Vanavasi, Palura and countries like China.

The above evidences show that people of different areas visited Andhra and were engaged either in trade or religious matters. Gold and silver coins of the Roman emperors from 1st to 3rd century A.D. are available in many parts of Andhra Pradesh. The figure of Buddha of the Amaravati School appears in many parts of Southeast Asia which implies the role of the Andhras in commercial activity as well as the spread of Buddhism to other countries.

- (ii) **The Chalukya-Chola-Kakatiya Phase (11th to 13th century) and Post-Kakatiya Phase (14th to 16th Century):** From the last quarter of 11th century A.D., when the coastal Andhra region (*Vengi*) became a dependency on the Cholas, we find references to the voyages within the country and outside. Ghantasala regained its importance now and was known as *Chola-Pandyapura* suggesting that it had contacts with the Tanjavur - Madura regions. Tamil merchants seemed to have controlled this port, as well as Visakhapattanam and Motupalli. The former was otherwise known as *Kulottunga-Chola-Pattanam* by 1091 A.D. The latter grew in importance during the times of Kakati Ganapati (1199-1261 A.D.) and his daughter Rudramba (1261-1289 A.D.). This port was known as *Desiyakkondapattana*, where probably the regional merchants controlled the trade. The famous Motupalli record of Ganapati states that there was insecurity during the earlier period, when local Chiefs were grabbing the material of ship-wreck. The king promised security to the merchants and their wares and fixed the tolls to be collected at that port. Pearls, ivory, zinc, lead, corals, perfumes, pepper, sandal etc. are mentioned in the list of items of trade.

Motupalli is mentioned as Motfil in the account of the Venetian traveller Marco Polo who visited the place in the reign of Rudramba. He refers to the export of cotton, muslins and the availability of diamonds.

When the Kakatiya power fell, the Reddis of Kondavidu and subsequently the Rayas of Vijayanagara gained authority over Motupalli and encouraged foreign trade. Anavota Reddi issued another charter in 1358 A.D. extending some more privileges to the trading communities to the extent of allotting land to them to settle and carry on trade. Again this was renewed by Devaraya in 1390 A.D. Royal officers were appointed to collect tolls on various items of trade and pay the king one-third of the collection. The Vijayanagara rulers like Krishnadevaraya had relations with the Portuguese to obtain horses from Persia.



# Maritime Activity in Andhra Pradesh : Genesis and Development



**Prof. P. Vijaya Prakash**

Andhra University

Andhra Pradesh is one of the 28 states of the Indian union located on the east coast of the Bay of Bengal ( $12^{\circ} 45'$  to  $19^{\circ} 50'$  Northern Latitude and  $76^{\circ} 45'$  to  $84^{\circ} 45'$  Eastern Longitude) with a 1030 km coastline endowed with a wide range of geomorphic landscapes making the coast a picturesque one. Intrusion of hill ranges of Eastern Ghats into the sea gives rise to several bays, estuarine mouths of the Godavari, the Krishna and the Pennar rivers, besides several ephemeral hill streams (about 32) emptying into the sea presenting eye catchy landscapes. The coastal landforms like rock cut caves, benches, sand ridges, sand dunes etc together with their typical marine vegetation enrich the maritime environment of the coast.

Over several millennia the coastal lands of Andhra Pradesh had been the habitat of fishing communities (endogamous social groups), who depended on biophysical resources of the Bay of Bengal. Their main economy was based on the food resources of the sea (crustaceans, molluscans, pieces etc.), which could only be possible by generating knowledge of boat building, navigation, wind directions, sea dynamics and the marine fauna. Archaeological evidence suggests such knowledge must have been acquired by 'trial and error' methods over a long span of time that passed from generation to generation by oral means. The knowledge thus acquired, though not experimented but time- tested, has become indigenous knowledge system (IKS) and their navigation across the Bay of Bengal is considered as indigenous technological system (ITS). Emergence of dynastic regimes, development of massive masonry for public constructions (forts, temples, tanks, canals etc.), people's curiosity of

possessing objects of exotic nature are a few important landmarks that triggered the early maritime activity. There has been ample evidence to show that the traditional fishermen IKS and ITS were utilized by the early dynasties to establish trade links with the South, Southeast Asian lands and Far East islands (Sumatra, Java, Bali, Malaya, Vietnam etc). Since then the indigenous traditional knowledge (ITK) has become part and parcel of maritime merchandized activity and a section of mariners and overseas traders emerged along the coast. Early merchandise process in the fold of dynastic regimes witnessed the construction of public works such as ports, forts, temples and trade centers of international trade at a few places (Kalingapatnam, Bhimunipatnam, Masulipatnam, Kottapatnam etc.) along the coast of Andhra Pradesh. These islands of maritime activity were further strengthened and patronized by the princely and trading classes, the former for territorial expansion and the latter for imports and exports (early processes of globalization). Both needed mobility of men and materials over long distances as the water transport was safer and cheaper than the surface transport. The marine ports were further supported by the inland rivers and streams connectivity. Towns and cities located at the confluence of rivers, along the river courses particularly at geo-strategic locales (meanders) bear testimony for early maritime activity in Andhra Pradesh.

### **Monasteries/temples as treasure troves of early maritime science and technology :**

Several monasteries of Buddhist origin located along the coast of AP (Itchapuram in the north and Sriharikota in the south- Kalingapatnam, Salihundam, Adurru, Ghantasala, Bhattiprolu, Chinaganjam, Peddaganjam, Kanuparti, Uppagunduru, Ramthertham etc.) indicate the spatial spread of knowledge centers, as often believed that the monasteries were the early knowledge disseminating centers (universities), chronological ordering based on architectural features (brick, rock-cut-caves, rock structures) and material wealth into *Henayana*, *Mahayan* and *Vajryana* supports temporal continuity over a long span of time. The cultural vestiges (pottery, terracottas, coins etc.) unearthed from mounds of monasteries exhibit plurality of cultures denoting different nations and trade. Relics of maritime activity found within or proximate to monasteries have been suggesting preference of short distance marine connectivity rather than long distance terrestrial location of dynasties and nations. Archaeological evidence further indicates that the residential education in monasteries of Andhra Pradesh had drawn monks, teachers and students from farther distances right from Tibet in the north to the Ceylon in the south. It can be inferred that the Andhra Pradesh coast had been one of the rich areas of early seafaring to commute men and materials due to her geo-strategic central location on the eastern seaboard. In Visakhapatnam region alone several monasteries of Buddhist period are well known such as Kalingapatnam, Salihundam, Dantapura, Pavuralakonda, Thotlakonda, Bavikonda, Bojjannakonda, and Gopalpuram and they are well documented to their physical and cultural characters and features, but the dimensions of their role in promotion of maritime knowledge is not much emphasized.

Similarly, the Hindu temples of early and medieval period located along the coast of AP Appikonda- Appeswara, Someswara, Chelleswara; Dimili- Nagneswara; Rameswarm- Natarameswara; Antharvedi- Narasimha; Ghantasala- Jaladeswara with a hoary antiquity are a standing testimony

for the spiritual and cultural ethos of Andhra Pradesh and the people of India in general. These temples were well researched both by the Indologists and scholars from abroad for their architectural characters, donations, dynastic chronologies, and patronages in socioeconomic and cultural milieu. Temples of massive rock structures on a sandy and deltaic terrain on the coastal landscapes (no source rock or rock-outcrops in the vicinity), their verticality into skyscraping together with *gopura* or *vimana* atop, their direction in relation to sea are a few points that need to be probed by focusing attention towards marine merchandise activity. The temple-top lighthouse at Mahabalipuram in Tamil Nadu (*Olakkaneswara* temple), on a hillock near Chilka lake in Orissa state and similar structural features seen in several temples located on the AP coast need special attention in restudying the temples in the fold of National Maritime Science and Technology.

### **Fishing communities and indigenous maritime knowledge:**

Until recent times the fishermen were ecosystem-people but now most of them are eco-refugees struggling between traditional occupational hazards and modern livelihood strategies. These people live in villages with an exception of a few urban pockets, located right on the coastal landscape utilizing the beach for anchoring, boat, net making and repair, drying the catch etc. Their habitations are linear, contextually located to meet the geo-hydraulic and marine hospitable requirements. A distinctive division of labour is seen among these populations, where men undertake fishing (women are forbidden) while women market the catch (men abstain). In spite of very low literacy (less than 5%) the fishermen continue to pursue the age-old economic activity and they are well versed with local resources and people.

Navigation and fishing are interdependent occupations of fishing economy specialized by caste populations (endogamous social groups) and their intertwining socio-cultural and economic facts were the outcome of maritime dependency. An expert knowledge system is necessary to combat all types of marine vagaries. Knowledge arising out of human experience in quest of survival over ever dynamic waters of Bay of Bengal and frequent geomorphic changes of coastal lands due to erosion and deposition, has been transmitted over generator. It is the indigenous knowledge (IK) of native populations or communities. Even today, in the 21<sup>st</sup> century the fishing populations (illiterate Jalari and Vadabalija etc communities) living along the AP coast take up short and long distance voyages for fishing without the help of modern scientific gadgets. Though the mechanization and scientific revolution brought about sea changes in fishing, the traditional fishing communities are able to sustain as they possess deep knowledge of maritime activity. Recruitment of illiterate traditional fishermen by the mechanized/corporate operators (trawlers, merchant navy, ports, harbours etc) testifies their capability of IK and adaptability to marine conditions. Traditional maritime knowledge (TMK) is now however endangered due to advances in fishing economy. TMK is the outcome of localized 'trial and error' proven knowledge that needs to be studied for long-term scientific returns in terms of patent on one hand and their material manifestations on the other, which are subjected to neglect.

Studies related to the fishermen IK are very limited and the region specific studies are meager. Understanding of fishermen IK and ITS would throw a flood of light on the maritime dynamics of

Bay of Bengal. Maritime science can be further strengthened by making use of IK and ITS in terms of understanding and documenting the traditional fishermen experiences during their voyages, particularly during unfavourable weather conditions, their instinctive and instantaneous perception to overcome natural hazards and calamities to save themselves from hunger, disease, loss of life, their understandings of bays, seas, oceans, water quality, tides variation, marine food resource and their seasonality, knowledge of celestial bodies, and such allied parameters go a long way in unraveling the 'mysteries' of maritime dynamics. Collection and compiling such data to synthesize the maritime knowledge would provide a priceless information system, as the IK under discussion is fading away due to digitized mechanization propelled by globalization processes. Moreover, any thing outside the local system is viewed as strange though that a curiosity has been the secret of fishermen adaptation and survival in hostile and aggressive environments. Their knowledge in pinpointing the non-familiar can be contextualized in the contemporary security threats particularly from the sea (pirates, smugglers and terrorists). Fishermen's personalized knowledge of local resources, people coupled with IK can be meticulously utilized for ensuring security of the resources of the nation.

### **Climate change and coastal vulnerability:**

The coastal strip of Orissa, Andhra Pradesh and Tamil Nadu states on the east coast of India form the eastern seaboard, stretching over a length of 2350 km is known for frequent tropical cyclones (though less frequent with modern intensity, the worst cyclone affected region of the world), associated with floods and tidal surges. The districts of Srikakulam with a coastline of 182, Visakhapatnam 155, East Godavari 177, Krishna 122, Prakasam 116 Nellore 174 km were hit by 10, 2, 8, 14, 6, 15 cyclones respectively during the past 100 years period. The recent and most disastrous cyclones were November 1977, May 1990 and November 1996, and the state lost several lives, domesticates and property besides the trauma. AP sate coast is more vulnerable due to her central location (between Orissa in the north and Tamil Nadu in the south) sharing 43.83% coastline on the eastern seaboard, and low lying coastal margin together with the Krishna-Godavari deltas. Deltas being rich in resources for agriculture and aquaculture the density of population is high, thereby the loss of people and property would be alarming. The climate change projected by the IPCC indicates the sea level rise due to global warming and greenhouse effect. If the sea level of Bay of Bengal rises by 0.59 m an area of about 565 km<sup>2</sup> would be submerged along the Andhra Pradesh coast. The worst hit landform would be Krishna-Godavari delta to an extent of 150 km<sup>2</sup>. A joint study headed by Prof. Nageswara Rao of Andhra University projected the vulnerability level of AP coast as under very high-risk (43%) and 35% under high-risk that would displace about 1.29 million people who live in 282 villages spread over nine coastal districts.

### **Maritime Institutions and Education Institutions located on AP coast:**

Visakhapatnam the second largest city of Andhra Pradesh, popularly known as the 'city of destiny' is the maritime city located halfway between two metropolitan-maritime cities, Calcutta now Kolkota on the north and Madras now Chennai in the south on the east coast of India. The development and growth of the city owe a lot to the maritime organizations like Visakhapatnam Port Trust (est.

## ...Maritime Activity in Andhra Pradesh Genesis & Development

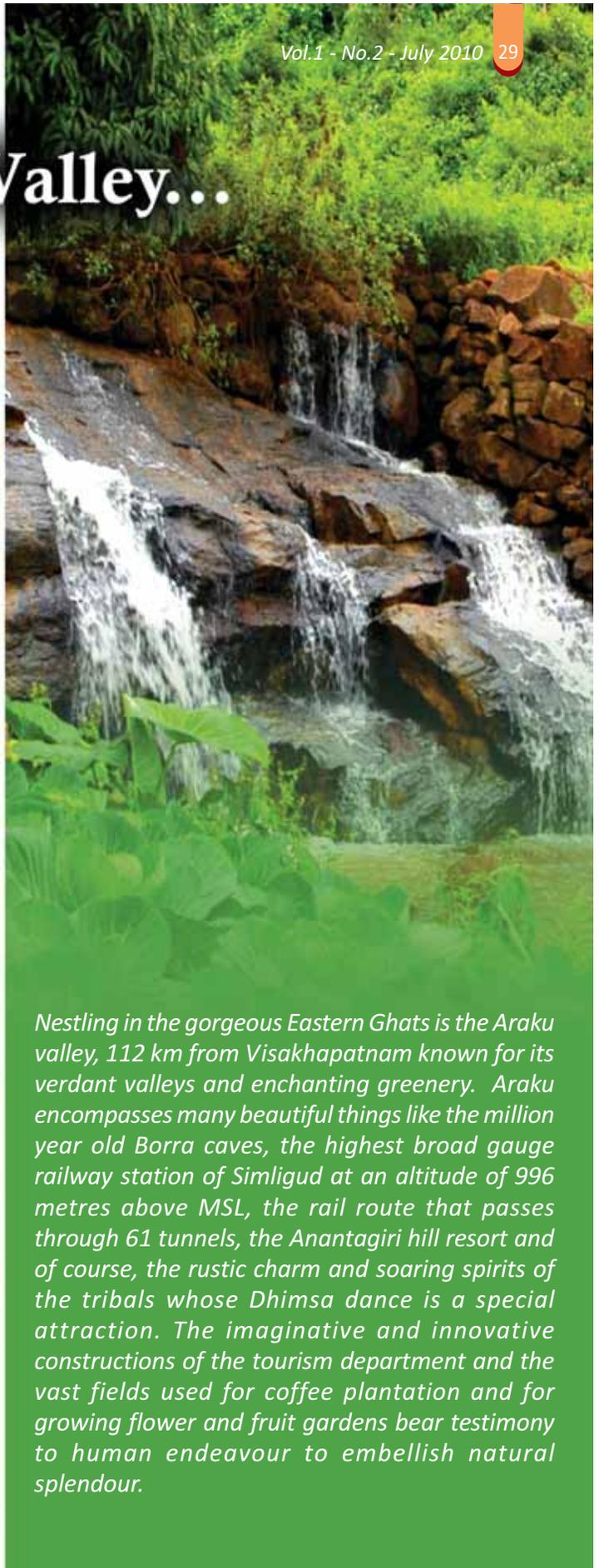
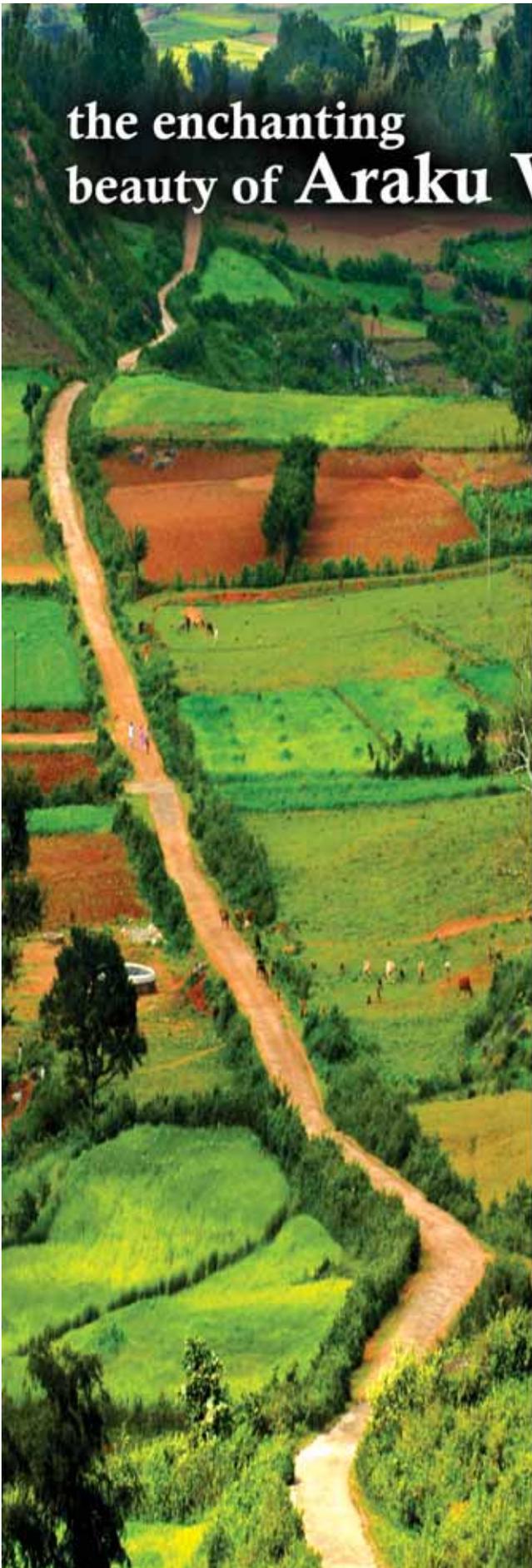
1927), Naval Base (1939) now Indian Navy, Hindustan Shipyard (1941), Naval Science and Technology Laboratories (1969) etc, which are central for the establishment of related industries like Caltex Oil Refinery (1957) now Hindustan Petroleum Corporation, Coromandel Fertilizers (1961), Hindustan Polymers (1961) Visakhapatnam Steel Plant (1971), Bharat Heavy Plates and Vessels (1976) Hindustan Zinc (1978), etc. The emerging city's industrialization gained advantage by the establishment of education institutions like Andhra Medical College (1923), Andhra University (1926) and Polytechnic College (1956).

There is ample scope for the coordination of maritime and education institutions located in Visakhapatnam city to share and exchange information relating to maritime science, technology and knowledge for the protection of environment and promotion of human welfare particularly of the people living in the coastal areas. Expertise and practical knowledge of superannuated mariners settled in Visakhapatnam city, personnel of marine organizations, and academia of Andhra University and Andhra Medical College would be a major advantage in studying the quality of marine related issues like identification of vulnerability, forecasting, mitigating disasters, promoting awareness on human resource development, preparation of literature for the spread of marine related knowledge systems both in English and vernacular languages, the importance and significance of marine food resource etc, which are among the main objectives of NMF-VRC. Further, synergizing the expertise and equipment available in the educational institutions located along the coast (Dr.B.R. Ambedkar University, Srikakulam; Andhra University, Visakhapatnam; Adikavi Nannaya University, Rajahmundry; PG Centre Kakinada; YN College Narsapur; Krishna University, Machalipatnam; Acharya Nagarjuna University, Guntur; Simhapuri University, Nellore;) keeping the NMF-VRC as nodal point to generate online database, compilation and analysis of marine related parameters would greatly help in understanding the maritime needs and requirements of the thousand km long coastal belt of Andhra Pradesh

Similarly, the opinion and suggestions of NGOs working among traditional maritime communities would be of immense help in drafting the long-term strategy plan for NMF-VRC. Involvement of stakeholders should also be given priority as suggested by the international organizations like UNDP, WB, IMF etc in making use of their IK and ITS, voluntary services against over exploitation of resources and security of the region. Making use of feedback from selected informants of a few selected villages on biophysical resources, economic strategies and market, weather conditions, mobility of men and materials, and such allied parameters by the NMF-VRC certainly enhances the understandings of maritime environment. Protection of marine environments is crucial as it shields and insulates the terrestrial environments besides supporting high density of population (peninsular part of India), as in future marine food resource would be highly important. Therefore NMF-VRC would intervene in its modest way to share knowledge of a few of the critical issues on voluntary basis for the benefit of humankind.

*( Paper presented at the seminar on  
'Eastern Seaboard in the New Millennium : Challenges and Opportunities'  
the NMF-VRC on April 28, 2010 )*

# the enchanting beauty of Araku Valley...



*Nestling in the gorgeous Eastern Ghats is the Araku valley, 112 km from Visakhapatnam known for its verdant valleys and enchanting greenery. Araku encompasses many beautiful things like the million year old Borra caves, the highest broad gauge railway station of Simligud at an altitude of 996 metres above MSL, the rail route that passes through 61 tunnels, the Anantagiri hill resort and of course, the rustic charm and soaring spirits of the tribals whose Dhimsa dance is a special attraction. The imaginative and innovative constructions of the tourism department and the vast fields used for coffee plantation and for growing flower and fruit gardens bear testimony to human endeavour to embellish natural splendour.*



# Development of Shipbuilding & Shipyards



**- Shri C. Subrahmanyam**

Retd. Chief Manager  
Hindustan Shipyard, Visakhapatnam

Though blessed with a long coastline, Indian shipbuilding capacity is negligible. The five Govt-owned shipyards viz., Mazagaon Docks, Mumbai; Goa Shipyard, Goa; Cochin Shipyard, Kochi; Garden Reach, Kolkata; Hindustan Shipyard, Vizag, are not able to cater to our needs of merchant shipping. Defence naval construction has picked up pace, yet our production of naval craft is woefully short of projected requirements. All these shipyards carry out shipbuilding works right from processing of steel, making sub-assemblies, erecting them at slipways or building docks, launching out, fitting out, tests, trials, and delivery, all of which are carried out by their own workforce. Any outsourcing or offloading is negligible and insignificant. The main reasons for low productivity are:

- 1) Non-availability of materials like shipbuilding quality steel, engineers and equipment which are mostly imported. Any stoppage in sequential work in shipbuilding causes idleness in subsequent departments, which is contagious.
- 2) Shipbuilding as a sequential process requires tremendous co-ordination and harmonious functioning among managerial cadres. This is lacking in Indian conditions and consequent adverse impact on the enthusiasm of the workforce is evident – a case of managerial failure.
- 3) The system now existing is based on the system that existed in U K Shipyards. Mainly due to this and sectional labour unrest U K yards have been forced to close down.

In these circumstances, to improve our shipbuilding capacity we should look to Asian models of

## ...Development of Shipbuilding & Shipyards

shipbuilding like China and S Korea which are outstripping even the legendary Japanese shipbuilding industry. The Chinese model may not be applicable as there is an element of compulsion. S Korea is a freer society and we may adopt/adapt their procedures.

S Korean shipyards are provided with large cranes, and these are assembling and testing yards. A very strong design and planning department is a crucial feature. There are a number of ancillary industries producing large sub-assemblies of the hull including outfit items. All these sub-assemblies are sequentially planned and brought together and joined up. Within a short time the vessel is ready for testing, trials and delivery. A typical mass production set-up is achieved. Most of the ships built are of a similar type. Any shortfall of supply from one source is compensated by another source. Hence schedules are not affected and the work process is a smooth, unimpeded flow. Korea was a vassal state of Japan, freed after W 11. There was no industrial base to start with but today Korea is ahead of Japan in shipbuilding production/productivity. Adapting S Korean methods, India could develop her shipbuilding capacity on the lines suggested hereunder :

- 1) Have a number of shipyards on the east coast (as the west coast already has a good number) situated at the estuaries of rivers. A cluster of ancillary units to be set up to cater to the main shipyard. Where sub assemblies of hull incorporating out fit items is fabricated.
- 2) Initially build coastal vessels of 4000/5000 MT with shallow draft, to cater to trade in minor ports. Coastal shipping would save 75% of fuel costs for a comparative distance of road transport.
- 3) Rules and regulations of coastal shipping are comparatively less rigid as compared to ocean-going vessels (without compromising safety). Hence indigenous steel, engines and equipment manufactured by local industries could be fitted. This would give a fillip to the engineering industry as also to R & D and future developments.
- 4) Over a period of time, the various shipyards could pool their sub-assemblies and make larger ocean-going vessels in a building dock or floating dry-dock. As demand for shipbuilding steel increases our steel plants would find it lucrative to produce such special steels. Engine-making units could enter into collaboration with major engine-builders as well as equipment manufacturers. This would cater to our needs and also contribute to the export sector (as in the case of Maruti Suzuki).
- 5) Private/public sector partnership should be fostered. The public sector component would be provision of land for shipyard and ancillaries, laying of roads, independent power supply arrangements. The private sector would be responsible for earnage and shipbuilding equipment. Also, a good design office with planning and quality control sections. Also, managing the workforce and assuming responsibility for ancillary supplies.
- 6) Govt. should encourage coastal shipping in a major way to save fuel costs, for environmental protection and ultimately, towards enhancing our maritime profile based on our extensive coastline.



## K. Parthasarathy

### a doyen among marine engineers

The 91 year old Shri Parthasarathy was felicitated on April 28, 2010  
from Right to Left : Admiral Arun Prakash, Cmde Uday Bhaskar, Vice-Admiral Anup Singh,  
Shri T.R. Prasad IAS (Retd.), former Cabinet Secretary and A.Prasanna Kumar.

It was May 1, 1943. The British India Steam Navigation Company's troopship *Erinpura* carrying about 800 Palestinian and North African soldiers and crew of 200 was sailing towards Malta, then under siege by the Germans. At 18.30 hours junior engineer Kolachana Parthasarathy, having finished his watch duty, was standing on the starboard side of the boat-deck outside his cabin watching the fleet manouevres as *Erinpura* was getting close to the port of Benghazi on the north African coast. All of a sudden the young engineer sighted a black plane skimming past very low over the sea and disappearing before any action could be taken. As the crew feared it was a German reconnaissance mission to study the lay out of the ships. Two hours later at 20.30hrs a squadron of planes flew in and dropped deadly bombs on the fleet. *Erinpura* sank in minutes. More than 800 lost their lives and among the 90 odd survivors was Parthasarathy who vividly recalls those terrible moments. In the words of the 91 year old Parthasarathy :

## ...a doyen among marine engineers

Around 2030, the main attack followed by a squadron of planes in quick succession, releasing their deadly bombs as they flew past amidst the din of anti-aircraft guns fired by all the ships. The first victim was the tanker *'British Trust'*, in the frontline, causing violent explosions and setting its oil cargo ablaze. It was later reported that she sunk in two minutes. More or less simultaneously, bombs struck the *Erinpura* on its foredeck/forepeak, forward of the bridge façade. There was a mighty explosion of such magnitude that it tore open the deck, was adequate to rupture bulkheads and the hull plating causing instantaneous flooding. A surging wave flew over the bridge and with the rapid flooding, the bow dipped into the sea and the ship simultaneously heeled to starboard. Fearing the worst, the engineers on watch stopped the engines and the vessel came to a dead stop. The situation was increasingly grave as events happened at incredible speed. The sea rose to the level of the upper deck and the vessel pitched forward tilting her stern into the air. Finding it difficult to stand on deck, I heard the Third Officer Mr.L.W.Mason yelling "The ship is sinking jump overboard and get clear of it!" I at once jumped into the bubbling sea. And rudder the sight of the ship's stern the rudder, the twin propellers rising into the air was both awesome and fearful. I swam away from the ship as fast as possible. I learnt later that historic ship went under in less than five minutes, taking with her some 940 lives – unimaginable, except for those who survived. The noise all around was deafening. Those who managed to survive were in a polluted sea, shouting and pushing to get to the buoyant apparatus that was floating by. I swam further out and was lucky to get hold of some flotsam in the form of wooden crates and managed to stay afloat. Tired and having in all likelihood swallowed some polluted seawater, it was very difficult to hold on to the flotsam. Eventually, the best possible sound reached my ears – someone shouting "Come here"- to a buoyant apparatus with only three people clinging to it. It felt like a superhuman effort but I made it and that moment I felt like a resurrection, a moment I recall vividly and will never forget. In a sense, it was the beginning of the rest of my life. We drifted for what seemed like two hours in the cold waters of the Mediterranean before help arrived in the form of a Navy minesweeper sent out from the port of Benghazi, picking up survivors. My fortunes improved when the Chief Officer, Mr E.C.Cullern who had been picked up earlier recognized me and seeing that I was numb with cold and completely exhausted, set me up near the ship's funnel for warmth and comfort. He told me we were fortunate to have been saved and that there were many who had perished," recalls Parthasarathy.

Born in Madras on February 22,1919 Parthasarathy studied junior intermediate in Madras Presidency College before joining the training ship *Dufferin* as an engineer cadet belonging to the first batch in 1935. After retirement he served the Shipping Corporation of India as Officer on Spl. duty, Planning & Development for 2 years; and 18 months in the Marine division of M/s Escorts Ltd. as a Technical Adviser. Parthasarathy and his wife Mrs Lakshmi live in their house close to the sea, near the Victory Tower commemorating India's 1971 victory and the submarine museum, the first of its kind to be set up in Asia. The charming couple who recently celebrated their Diamond Wedding (completion of sixty years of married life) have a large circle of friends, admirers and relatives.

# "Follow the Korean model of shipbuilding"

**Cmdr. Naresh Kumar**  
VSM (IN Retd.)

CMD, Hindustan Shipyard delivered a lecture on  
*Ship Building*  
*New Dimenstions & Challenges*  
on March 17, 2010



Chairman and Managing Director of Hindustan Shipyard Limited Cmdr. Naresh Kumar has advocated the implementation of Korean model for giving a boost to shipbuilding industry in India. He stated this at a lecture meeting conducted at the Public Library by the National Maritime Foundation. Prof.A.Prasanna Kumar, regional coordinator of the foundation explained the background and challenges ahead for HSL.

The CMD said the country was in need of large capacity modern shipyards and industrial clusters. The gaps should be bridged by setting up an apex body to promote research and development and in-house ship design. He said though Korea was a late entrant, it became a global leader due to top priority attached to the shipbuilding industry.

"Shipbuilding should be a strategic industry. It's unfortunate that it has remained a neglected industry," he pointed out and called for an end to regulatory hurdles. Lack of ancillary units should be addressed. There is also need to reduce the burden due to levies and duties so as to make shipbuilding viable and competitive. Shipbuilding today is a \$200 billion industry. Korea has a share of 36 per cent followed by Japan with 17 per cent. The Indian market is worth Rs.14,000 crores accounting for 1.3 per cent of world market. On the overall demand Cmdr. Naresh Kumar said was growing at four per cent. At present, India had 780 vessels. In next five years, 830 vessels were required of which 455 would new.

He said 28 shipyards in the country both small and big were contributing for 1.3 per cent of world market. The small yards were constructing maximum 1,10,000 DWT.

*Courtesy : The Hindu, March 18, 2010*

## Technology Challenges

- Environmental
- Automation
- New designs
- Machinery development
- Human Resource

## Environmental Drivers

- 5% reduction in Greenhouse emissions by 2012.
- Reduction in NOX & SOX emissions
- World 90,000 ship fleet emits 1.2 B tons CO2 in a year.
- All single Hull vessels more than 20 years old to be scrapped by 2010.

## What India need do in Marine Sector

- Build Large capacity Modern shipyards industrial Clusters
- Build all shipping & Inland Marine vessels in-house
- Follow Korean model for inclusive growth in shipbuilding and repair industry

'Green Ship of the future' is a Danish joint industry project for reduction of air emissions from shipping.

The aim is to provide the necessary technologies and operational means to reduce emissions as follows.

30% reduction of CO emissions

90% reduction NOX emissions.

90% reduction SOX emissions.

# Grandeur of Vijayanagar

**Andhra Pradesh** is celebrating this year the **500<sup>th</sup> anniversary** of the coronation of **Sri Krishna Deva Raya** the greatest of the Vijayanagar rulers

## A glorious chapter in the history of medieval South India...

The last Hindu kingdom in South India that united the whole of South India politically and culturally the Vijayanagar Empire was ruled by four dynasties - Sangama, Saluva, Tuluva and Aravidu for about three hundred years. Founded by Harihara and Bukka in 1336 who originally belonged to Warangal, Vijayanagar empire owed its origin to Hoysalas according to one school of historians while another school traces its origin to Telugu chieftains. That apart, the Vijayanagar emperors were the undisputed rulers of the Telugu speaking areas of the present state of Andhra Pradesh. The greatest of them all was Sri Krishnadeva Raya who ruled from 1509 to 1529. Himself a brilliant warrior, admired for his valour and strategy, Krishnadeva Raya expanded his empire by winning many decisive battles against the Muslim rulers, the Bahamanis and Adil Shahis, the Portuguese and some Hindu rulers too. Vijayanagar owed as much to Krishnadevaraya's pen and intellect as to his sword and military prowess. "Among the languages of our country Telugu is unique" he declared – a line that has since been often quoted by poets, scholars and writers. The multi-faceted Krishnadeva Raya was adored not only by poets and scholars of his court but also by foreign visitors. In

just twenty years Sri Krishnadeva Raya transformed Vijayanagar into a prosperous and splendid empire. Nicolo Conti the Italian visitor, Abdul Razzak, the Persian ambassador, Domingo Paes and Duarte Barbosa the Portuguese travellers were among those who vividly portrayed the grandeur of the Vijayanagar empire. "The city of Vijayanagar is such that eye has not seen nor ear heard of any place resembling it upon the whole earth," wrote Razzak.





## **Admiral Arun Prakash**

PVSM, AVSM, VrC, VSM (Retd)

**Chairman, National Maritime Foundation  
and Former Chief of Naval Staff**

*receiving a memento from*

## **Shri D.V. Subba Rao**

*Ex-mayor and former Chairman,*

*Bar Council of India*