Ecological Traditions Of Goa Claude Alvares

(Key note address for a seminar on the subject at Carmel College held in November 2008)

When I was first invited to asked deliver this keynote address, I declined. I asked the organisers to contact Dr. Nandakumar Kamat instead who is a better authority on the ecological traditions of Goa. For some reason, he was unavailable as well.

But something new happened in my life over the previous week. I was handed over a mountain of l,20,000 tonnes of garbage by the Goa government to manage and Carmel college happens to be on the way to the garbage site (Sonsoddo). So I said to myself, at least while taking care of that job, I might as well take care of this talk as well. That is why I am here. I have been running away from academia for the last 25 years, I think I got my Ph.D when most of you were not even born. There are good reasons why I (and several million others) do not think highly of academia. May be in this little bit of talk time, you may be exposed to some.

I came to Goa in 1977 after living half of my then life in Mumbai. The first thing that struck me about Goa at that time was that the idea of it could not be reduced to just a mental construct existing in people's heads. Goa was like a work of art, a painting. When you look at a good painting, you can tell from it something of the quality of the painter. When you visit art exhibitions, you may in fact rarely encounter the painter herself. But you can deduce from the art work itself whether the painter is technically good, whether she is obsessed with animals or nature, whether she is a depressive or a joyous personality, and so on. From the painting you try and figure out what was it in the mind of that person that could produce this painting that communicated to you joy or pleasure or even anxiety. Our encounter with the painting and our enjoyment of it cannot be separated.

One thing that has happened over the last ten years is the arrival of these thousands of people who have descended on Goa through tourism, charters and so on, simply because they all wanted to see this painting called Goa, a unique remarkable place that doesn't exist anywhere else also on the earth. And this remarkable place is not just the plants, and the mountains, and the streams and so on. It includes the people, those responsible for the painting. People are a fundamental part of this place. You can't separate Goan ecology from Goans. They are the ones who are responsible for creating, nurturing and protecting it. If you want to try and figure out how indeed they created this work of art, it takes a great deal of effort and a great deal of study and a great deal of assistance from people like Manoj Borkar and so on. They have spent endless years in this type of enlightenment.

May I add Rajendra Kerkar who has done enormous amount of work on sacred groves; Nandakumar Kamat, who has studied fungi to such an extent that he has even added to the list of fungi not there previously in the books. You have an amazing number of people who have studied various aspects of it. But the total picture is something that in the end you cannot understand intellectually. You have got to physically enjoy it and you can enjoy it by being in the midst of that particular painting that has been created by these thousands and millions of people who have lived here in succeeding generations over decades and centuries.

Today you know we have lost this ability in many ways. We cannot produce any more these type of paintings. Forget about things like the Taj Mahal or the pyramids. We cannot create these structures at all. With all our science, technology, computers and all, we cannot create these type of wonders. Ecosystems like Goa is also not possible. What we can do today with all our science and technology and academia and all our studying is to see that how we can destroy these things.

In the most recent piece that I wrote for a local paper, I alluded to the fact that the entire ecology and environment of Goa was fashioned without the assistance of a town and country planning department. There was no town and country planning department till 1980. But before that, Goa was there and every element of the beauty of Goa was there.

After the town and planning department came into existence, we now have buildings in paddy fields. We have buildings on top of mountains and hills, in forest areas. We have entire areas flattened. We have the Konkan railway going right through the khazans – all sorts of perversities you never though permissible. It is all a part (and a result) of the modern way of thinking. The modern way of thinking is akin to a bull in a China shop. You can't protect Goa with people like this in-charge. You have to put them in a mental asylum and lock them up. If you allow them to go amuck they will ruin everything.

Dr. Shashi Kumar (Chief Conservator of Forests) is here and he will take what I will say now with good spirit because he has got a good sense of humour. The first time the forest of Goa was systematically destroyed was at the hands of the forest department. If you go to to south Goa, Balli and other areas, you can see entire forests removed and eucalyptus trees planted in their place. These eucalyptus trees, they were planted by the forest department to provide material for the Dandeli Paper Mills in Karnataka. The department said they wanted trees that would grow quick. Nature is too slow they said and nature is not growing trees fast enough. We need growth, so they cut down all the forest trees and put up the eucalyptus. And of course, as a consequence, we have neither forest nor eucalyptus.

Today, of course, the forest department is a completely different type of animal altogether and they won't allow you to cut down any tree unless you have a specific permission. But I only want to draw your attention to mistakes that are done by what we call "the system". The consequences are huge, never small. If somebody commits a mistake in a small village, it can never be a big problem. When the system does it, when the Government gets a chance, or the town planning department gets in, you have got to run. There is no way out, you have to run. Often, unfortunately, academia and universities are part of that exercise. Because they don't think differently.

One way to study how a painting has emerged is to just look at the different elements of that painting. Now somebody referred to that book, *Fish Curry and Rice*. When I had a discussion with the person who was funding the work on the book at that time, he said no, no, how can we call it *Fish Curry and Rice*? People will not consider it as a scientific report. This is an environment report. It will be read all over the world. But he was from the University where creative sense is mostly lacking. I finally explained to him why the title*Fish Curry and Rice*.

Because we are coastal people we eat fish obviously. Rice is there in all our fields and the curry is made always with coconut: these three elements describe Goans completely. And you are saying that this is an inappropriate title for an environment book? Finally he relented. He took a lot of time but he accepted.

And today even though the book is well known, we still find book sellers putting it in the section dealing with cookery books! So people would get very annoyed because they said we bought this book basically for fish curry rice and it deals with all sorts of things and there are no recipes inside.

So, for the last edition, I went to Martin's beach corner, a restaurant that produces the best fish curries in Goa and I got the owner to give me the recipe of a popular fish curry. I included the recipe quietly in the book, so that nobody goes to a consumer court tomorrow and says that he bought the book under the impression it was a recipe book and later he found no recipes inside. But actually, *Fish Curry and Rice* is a recipe book. It tells of how you deal with your environment; how people should look at it. It is a recipe book of the Goan way of life.

You take for example, the sea. The sea occupies a big part of *Fish Curry and Rice*. The sea and its resources are part and parcel of our way of life. Any of you goes to the market nowadays? I have been going every week from October, because I am the main fish purchaser in the house. And the mackerel are not less than fifty rupees now for three pieces, though sometimes you may get five or six. This means you are reaching a stage where you may no longer be able to taste mackerel and that bangdas are going out of our diet. Some people may still afford to eat them but it is going out of the diet of most people. When you go to the fish market, besides mackerel, you get issvon (kingfish), you get tarle (sardines) and you get bangdas. Since bangdas are also disappearing, after sometime we will all be left with eating tarle. May be that is a good thing because that way we will all experience the way we all travel by bus everyday ("packed like sardines").

Thirty years ago, we could get a variety of fish and every day you saw a different variety of fish on the table. But now weeks go by when you will have only one particular variety of fish on the table and nothing else and it is all gone. Where is it gone? We have got double the number of fishing vessels or trawlers chasing fish in the sea. We are catching the same amount of fish. We are distributing it among twice the population. And we have reduced the diversity. Due to our export mania, we have harvested desirable species of fish and thrown out what is useless to us. But fish eat fish as well, so we have deprived the fish themselves of food by destroying fish which we consider economically useless. So we have destroyed the chain of life that exists within marine organisms in the sea by focussing only on fish that we want to send to Europeans; well-fed Europeans.

I don't know why countries with under-fed and hungry populations like ours continue to bother about feeding well-fed Europeans. Every planner and every government official says Export or Perish. Let us send everything abroad. Cashew is exported from Goa, so Goans cannot afford to eat it though they grow it!

To return to the fish, the diversity is gone. So is sustainable fishing. One international study (the Brun Report) has forecast very clearly – based on the extinction ratio in fish – that with present methods of intensive fishing, the entire world fisheries will collapse. Prof. Brun is so confident that he has given a precise year for the collapse: 2045 (by which time Dr.M.M. Maria and I will have safely departed from the scene).

Just like now, the scientists can calculate what is the average increase in sea level rise every year. There is still some dispute about whether it is 2 mm or 4 mm or 1 mm but no one is disputing that it is rising every year. And there is no dispute that by the year 2020, all the famed Goa beaches will be under water. There is no dispute about these things. There is no dispute that many of the Himalayan glaciers will melt completely in 25 years. Mount Kilimanjaro has already lost all its ice. There is no

dispute about these things. Only dispute is about the rates here and there. The same thing for the oceans.

To come back to the sea, let's examine the activity of the fishermen we call "traditional". They are called traditional because they are the part of the ecological traditions of Goa. They know that you don't deal with fish like this. You don't abuse a marine resource in such a manner. And so when the traditional fisherfolk fished, they had low intensity craft or they harbested the fish standing on the beach with rampons. They also used nets with particular mesh sizes so that the baby fish could not get trapped and could escape.

Today you go and see the trawlers, they have got such tiny mesh size for their nets, they catch everything, leaving nothing. Most of the time, the fish that they don't want, they just chuck back into the sea. This then is what you call modern traditions of fishing. They have no connection with ecology. You scoop out everything living under the name of economic activity or whatever it is. Forget about the next generation, they are leaving nothing for the present one as well!

Let me introduce to you the khazans. Now Goa is unintelligible, the whole of Goa's coastal area is unintelligible, without a knowledge of the khazans. And you can get many educated Goans who spend their entire lifetime without even knowing what a khazan is. What, for example, is a poim? People know what a poi is. You get poi in the morning for breakfast, that is also part of tradition. But Poim are artificial or man-made creeks. These creeks have been designed to take in the dynamic interaction between the sea, twice a day. This is something that you cannot see in any other part of the world. The only place you can see a similar system is probably in Holland, where they have created one fairly recently based on polders and so on. But Goa has the original system. It is based on the fact that the sea water must come in twice a day and we have several lands which are on sea level or below sea level.

This society, without having an engineering degree and without having a single IIT, before even the Portugese arrived, created a system by which the water from the sea would interact with the land without damaging the land. It would come in and go out automatically without having a security guard or a computer controlled system. If you have time, go and look at the sluice-gates. In many areas, they continue to operate even till today. When the tide pushes in, the sluice gates automatically open with the pressure. When the pressure relents, the gates open and the water gushes out. This is an automatic system that has been working for more than five hundred years, without depending on electricity or manpower. The people who designed it and put it into operation just used their intelligence and their knowledge of wave dynamics in a creative way. We call it traditional.

Actually the khazan system is post traditional, post modern. Today if you ask the scientists to create such a system, they will say they cannot design anything without first having a five year engineering degree from IIT, without having a computer, without having a job giving them thirty thousand a month. Without all this support, they say they can't design. However, even if they have all that, they would still be unable. but even after that they will not be able to design such a system. But the khazan system is a designed system, an important feature of this work of art called Goa.

So what did we do? When the time came to mark the alignment of the Konkan railway, there was a huge agitation to protest the alignment going through the khazans. The railway engineers told us that as engineers, they knew how to construct a railway track anywhere, any place. They said they were designing for a high speed railway for which a specific gradient must always be maintained. If for this purpose, the alignment had to destroy the khazans, that was no concern of theirs. They declared

publicly that they did not care about paddy fields or for khazans. They said they did not care whether the water went this side or that. They were engineers.

Take a minute here to understand the nature of the problem. The water in the Goa region flows from west to east, and east to west. We have draining rivers, but we also have tidal rivers. The Konkan railway alignment was going from north to south. It thus cut hundreds of low level streams, nullahs, rivers, etc. from north to south. This was done by raising an embankment which sometimes would go up to 8 to 10 metres. Do you think what was done in the last 500 years would have a chance of survival at all? They destroyed the whole thing. More than 3000 hectares of good paddy fields all along the Konkan railway track you can see even today have been rendered into a marsh. There are so many different types of vegetation that have developed, that you can send your botany department students to go and see what new type of species have appeared. But paddy is not growing there anymore.

You take land use. All the people from Mumbai who come here to purchase property, they have only two obsessions. They want to build on the sea coast or they want to build on a hill. They all want a house "with a view". I don't know what this "view" business means. First of all, they don't intend to come and stay here more than a week. But they want a house with a view or one on the sand. The Bible says, don't build your houses on sand. But we are putting huge resources on development on the sands.

Now note that over the centuries there is not a single Goan in the entire sandy stretch who has constructed there. You can go from Velsao right down to Poinguinim, you will find not a single person has built in front of the dunes or on the sand. Why is there this restriction on construction within 500 metres of the high tide line? As per solid Goan tradition, the local people have kept 500 metres as sacrosanct because the sand dunes occur within 500 metres and these dunes are there to protect the hinterland from getting devastated by tidal waves (and soon, by sea level rise).

Today you have shack owners who are excavating the sand dunes to create artificial platforms so that they can put up their restaurants there, duly authorised by the Goa government.

You have the coastal zone authority but they try to manage the crisis sitting in their office. What happens on the beaches, is something else for all to see. Precisely in the year when the international scientific and international political community is saying, "Do not touch sand dunes because of the very real prospect of sea level rise in Goa," we are damaging and extinguishing our sand dunes. We are mutilating them.

On Candolim beach, if you go on a study tour, you will find the entire coastal dune has been spliced vertically be half, even the 6 to 7 metre high dune next to Taj Aguada. The Taj Holiday Village restaurant was invaded by sea water this year and half their lawn disappeared. Similarly with the illegal constructions of Kingfisher baron, Vijay Mallya, which also went under water. So now you cannot access the beach directly. You could fall the full height and break your leg. I go visit these areas and see them from time to time. This is the quality of our handling of these natural assets. But our people – for 500, 600 and 1000 years – never made these kind of mistakes.

Nobody put a house on top of a hill: you will get 4 to 5 months of incessant rainfall and the rest of the year, extremely strong winds and heat. Nobody would like to live in such circumstances. Traditionally, Goans have built their houses in the nooks and corners under the hills. If you look at any Goan village, you will find different topo levels maintained as far as possible in their natural condition, from the lowest levels of paddy fields, one metre above that, the settlement area, and then you find the hills

and you find forest. No town planning department can improve on that. If they try to tamper with it they will only damage it.

These people did not go to school or college or university or write Ph.D. thesis, like you and I did. But they did not distrust their common sense. Today if you are a scientist you believe in uncommon sense or non-sense but no common sense. Science today departs from common sense and that is why I have great difficulty in working with scientists any more. Because they have tunnel vision they remain within the tunnel and they don't see anything else, what other people are saying, what other disciplines are saying. No, this is our job and nothing more, and they go on burrowing. If you go on burrowing, where will you end up? In a hole! You shouldn't land up in a hole. You should land up in the sky, so that you can have a bird's eye view of the whole picture. Then you can perhaps plan better. You cannot achieve this by going into a hole. Whoever did anything good by landing up in a ditch?

What are the principles around which these traditional insights were built? You can distinguish a good painting from a bad painting. Okay, this is a bad painting. Why? Because the artist doesn't know how to use the colours well. He doesn't have any sense or system behind him. He is not able to convey anything properly whatsoever. You can decide whether a good painting is good or a bad painting is bad.

What were the principles behind which you had this exquisite painting of Goa created over the last 4 to 5 hundred years? I will discuss them briefly and then stop.

The first is that ecology has to go together with economy. When your economy develops, your ecology should also thrive and flourish. If you have reached a stage where you are saying that economy has to develop but we have to sacrifice the ecology, then you are going down the wrong road. You should stop straightaway. The entire government system has today uncritically and blandly accepted that economic development has to come at the price of environmental destruction and we must balance things. What balance?

How can we ever do this balancing exercise in any sensisble manner? When you want to destroy an entire forest because of mining operations, what kind of balance can you have except only degeneration. All of us are fooling ourselves saying that we can balance the demands of ecology and the economy, simply because our present model doesn't do it at all. What has it done? It has created problems of such magnitude that these now threaten all our civilizations on the planet. You take the whole issue of climate change and global warming: are the traditional ecologists responsible for it? All your internal combustion engines, modern transport systems, your thermal power plants, these are responsible for the carbon dioxide in the air. Who has done this? In forty to fifty years, you have created an economic valuation system which has completely demolished the ecology of a planet and you say it is a good thing? That it has got some rationality? If it itself does not have any sense of balance, can it balance anything? That is why I say look at common sense, common sense will invariably tell you this is not proper; that there is something seriously wrong with this proposition that one can develop only at the cost of the other. In traditional systems, both have developed together. If one is developing at the expense of the other, there is something fundamentally wrong.

The second principle is what we nowadays call an extremely low ecological footprint. With Manoj Borkar here on your staff, I am sure you are aware of the idea of the "ecological footprint": what is the size of your foot print on the ecosystem considering your activities, what you consume. Does your footprint remain in your village or in your field or it extend beyond the field to several villages; does it

extend to the whole country or to the whole planet. There are some activities whose impact is on a planetary scale. All the demands of the activities associated with the ecological traditions of Goa, all the systems that I have described briefly to you – and I have given you only a few – are basically all with very, very small ecological footprints.

The third principle: carrying capacity is not to be ever exceeded. We know that the moment carrying capacity of any ecosystem is exceeded, the system as a whole threatens to collapse. Several UN studies have come to the conclusion that economic growth today is based on consuming resources that are unable to regenerate at the pace they are being consumed. Our ecological or natural resources are not able to recuperate in time which means there is degeneration and there is decline and that decline itself will impede economic growth in the long term. So you can't exceed your carrying capacity.

What is this entire agitation against mega housing taking place in Goa? It is based on a carrying capcity argument. The villagers are saying that our village has got only this many resources; it has got this much water; it is got only this much land to take all the pollutants coming out from all the houses. We don't want these buildings with 600 flats because 600 flats means 40,000 litres of dirty sewage water going directly into the ground because there is no sewage system in Colva, in Benaulim, in Parra and various other villages. Today we have no system even to collect our ordinary garbage. Where do we put the garbage of another 600 flats? So they have said no to mega-housing projects. They understood carrying capacity. Neither the town planning department nor the university has. The university should be at the forefront saying that the carrying capacity of Goa has been exceeded. That it's going to affect all of us.

Instead it is ordinary housewives whom we find at the forefront of all this. They have understood what carrying capacity is. We have understood it only as a book concept from a text book to write in an examination and then forget. They see it face to face.

Fourth principle: whatever activities we are involved in, must be sustainable. This means we don't do it for our generation, we ensure we do not compromise the rights of our children to have their chance in the world, and their children as well. In my own village of Parra, we are preparing our own development plan with the next generation in mind: we are keeping space for additional schools, we are keeping place for primary health centres, we are keeping space for crematoriums, burial grounds, for play grounds, and for the living space requirements of the next generation. We have found that once we do such advance planning of all the land in the village, there is simply no space left for any developer to come with his 600 flats.

The moment you bring the future into your present, a lot of the things will have to stop. They will stop automatically.

I would like to conclude this brief introduction to the thinking behind Goa's ecological traditions of this society. I am glad that Dr. Sudhakar and all have come here, for we have something unique really to offer on this. I am a Roman Catholic but for many years, I have been a devotee of Lord Ganesha. Ganesha is much superior to St. Francis of Assissi, the patron saint for ecology in the Christian tradition. I have come to this conclusion after a lot of thinking and after a lot of reading. Lord Ganesha exemplifies the Mangala principle. The Mangala principle wishes you prosperity but asks you to ensure that this prosperity is not going to be at the cost of somebody else. If you can match your activity with the demands of the Mangala principle, you will be the only true ecologist there

is. Only the Jain monks today can meet that standard, nobody else can meet that and none of us can meet that.

Now I would like to balance this Mangala principle with another principle, this one imported during our colonial past, which is the principle of utilitarianism. The founder of utilitarianism was a person known as Jeremy Bentham. You will be surprised to know that most of us, especially the government of India, are Benthamites. Let me explain.

The utilitiarian principle says that any action is okay so long as it results in the happiness of the greatest possible number. That is how a number of dams have been constructed in this country. The construction of the dam will benefit 10 million people; it will render 3 million destitute. According to the principle of Bentham, the benefit cost ratio in this case is favourable to the project. The Planning Commission also relies upon such ratios. As I said earlier, this is not an ecological principle that came from this country. It cannot be the guiding principle of a nation that worships Ganesha.

In one of the many different versions of the Ramayan, Lord Ram finally comes to Sri Lanka and he has to cross the water, the sea, to get across. Of course, he can't do anything because of all that water in front of him. So his advisers tell him, "What is your problem? You are Lord Rama, the King of the Universe. You can ask the god of the ocean to come up and get rid of all this water, enabling you to cross over on the dry sea bed.

Lord Ram thinks this is a very good idea, so he calls up the ocean god and tells him: "I want to go to the other side so will you please do something and remove all the water?"

"Yes, of course I can remove it," says the ocean god. "After all, you are the master of the Universe. If you ask me to do something, I have to do it. But there are some consequences. Just remember that by removing this water, all the fish which are there in the water will perish and all the boatmen who are plying a trade in these waters will have no job and they will be without employment and they will be in misery and they will become poor and all other life dependent on the ocean will also perish. Now if you still want me to go ahead and do what you seek, I will still do it but these consequences will have to be on you because it is your decision and not mine."

The story goes that Lord Rama opted out of that solution and the horde of monkeys then created an artificial bridge so that he could cross the sea.

But this is the beauty and toughness of the Mangala principle. It is a very very remarkable and beautiful principle and if any of us, any government department, any university, any college could have adopted this principle as their basic ecological principle, as the standard to judge their economic activity, we would stop a lot of human suffering. We would call a halt to much of the suffering we inflict on nature. We would prevent much damage to insects, animals, birds, forests, plants, lots of things. We would be forced to use our intelligence to do our economic activity in such a way that we not violate the Mangala principle. That is all the advice that I want to give you. In the next season when Ganesha – Goa's greatest deity and best loved as well – comes, please go and worship. He is the only way to save us, to provide a route out of our present ecological crisis. Thank you.