

GOA 2035 :

VISION AND ROAD MAP

(Zero Draft for the consideration by GGDJC)

CONTENTS

Sl.No.	Content	Page No.
	Vision 2035	3
1	सुरम्य गोवा (Serene & Beautiful Goa)	5
2	सुसंस्कृत गोवा (Cultured Goa)	8
3	संतुलित गोवा (Balanced Goa)	16
4	सुविध्य गोवा (Knowledge Centric, Enlightened Goa)	35
5	समृद्ध गोवा (Affluent Goa)	49
6	सुशासीत गोवा (Well Governed Goa)	81
7	स्वानंदी गोवा (Happy Goa)	104

GOA 2035 : THE VISION

- Goa is a modern and forward-looking State. Goa was ranked at the top among the States and the Union Territories on 12 key indicators relating to quality of life in the Report of National Commission on Population (2002). Goa was selected as the 'State of the States' in a survey conducted by the leading newsmagazine, India Today (May 2003), and ranked to be the best amongst all the States in India in the categories of Education, Health, Infrastructure and Investment. In terms of social indicators such as literacy and infant mortality rate, Goa is among the top three States in the country. Eleventh Finance Commission ranked Goa as the Best Placed State in the country in terms of infrastructure facilities.
- But more important than the ranking is the fact that Goa is a unique multicultural state. The people of Goa are nice, peace loving and friendly. Different communities in Goa co-exist in complete harmony. This, combined with Goa's extraordinary natural beauty, makes it a very popular destination to visit. No wonder, 12% of the foreign tourists that visited India last year were visitors to Goa.
- Goa is one of India's smallest state in size (area) but it has the highest per capita income in India. Goa is thus a prosperous state. Goa has a high rate of economic growth, among the highest in the country. Goa is well distributed into the north-south, town-village continuum. It is well connected to metropolitan cities and centres of trade and commerce through road, rail, and sea-routes as well as by air.
- When we are celebrating the Golden Jubilee of the freedom of Goa, we look back at its past with pride but also think of its future. What could Goa be when it celebrates Platinum Jubilee in the year 2035? How can we create a knowledge driven, diversified and cosmopolitan Goa built on unique social, cultural and ecological values. Let us recall here a popular legend about the birth of Goa.

- According to a legend, Parashurama, the sixth reincarnation of lord Vishnu faced an order of banishment from the lands he had once conquered. He set seven arrows fly from the Sahyadris to push back the sea and created a stretch of land, which he could claim for himself, and that was Goa, the Parshuram Kshetra. One may not believe in mythology, but one can certainly draw some inspiration from it. Just as the Indian society continues to be inspired by the learnings from the epics of Ramayana and Mahabharata. What would be the seven arrows that will create the Goa of our dreams in 2035? Or phrasing it differently what would be the seven strong pillars on which we should built our future.
- Here are seven pillars on which Goa 2035 can firmly place itself not only as the best state in India but also one of the best globally.

- | | |
|-------------------|---|
| १. सुरम्य गोवा | (Serene & Beautiful Goa) |
| २. सुसंस्कृत गोवा | (Cultured Goa) |
| ३.संतुलित गोवा | (Balanced Goa) |
| ४. सुविध्य गोवा | (Knowledge Centric, Enlightened Goa) |
| ५. समृद्ध गोवा | (Affluent Goa) |
| ६. सुशासीत गोवा | (Well Governed Goa) |
| ७. स्वानंदी गोवा | (Happy Goa) |

- After all, serenity and beauty, rich culture, careful balance, knowledge centricity, affluence, good governance and happiness (for every citizen) are eternal values for any society. They will be as valuable in this century as they will be in the next. In what follows, we create a compelling vision for Goa 2035. We also provide a roadmap to achieve that vision.

1. सुंरम्य गोवा (**Serene & Beautiful Goa**)

- 1.1 We dream about Suramya Goa - that means a serene and beautiful Goa. Goa is God's gift to India. Its natural beauty must be preserved in every possible way. Beauty is something to be seen but serenity is something to be experienced. People visit Goa not just to see it, but to 'experience' it. We must do everything possible to make sure that Goa 2035 continues to provide that very special 'experience' for everyone.
- 1.2 Goa nestled between the Arabian Sea and the Sahayadri ranges is crossed by a number of rivers flowing westwards, which provide it with a lush, fertile soil. The rivers are navigable for 40 kms upstream. The coast is made of bays, creeks and estuaries and fringed with mangroves. The beaches of Goa have made it world famous. Goa is a small state, with a relatively small population of about 13.5 lakhs, spread across 2 districts, 11 talukas and 359 villages.
- 1.3 Goa is a beautiful tropical emerland island. It is well known for its beaches, places of worship and heritage architecture. It has rich flora and fauna owing to its location in the Western Ghats, which is classified as a biodiversity hotspot. In the February 1999 issue of National Geographic Magazine, Goa was compared with Amazon and Congo for its rich tropical biodiversity. Goa's wildlife sanctuaries have more than 1512 documented species of plants, 275 species of birds, over 48 kinds of animals and 60 genera of reptiles.
- 1.4 One seldom-noticed aspect of Goa's serene beauty is the even distribution of its population. There is remarkable absence of the kind of milling crowds and overwhelming densities we see elsewhere in India, This is because Goa has no single primate city that pre-empts all economic activities in its hinterland. Instead we have a number of various-sized human settlements, towns and villages, all working together in a harmoniously balanced poly-centric system. This evenly

distributed population is an essential part of the DNA that has generated the beauty of Goa.

- 1.5 This poly-centric pattern has not been created by any far-sighted planning. No, it is the result of a centuries-old system of feudal land-ownership – a system that has its downside as well. For when land is the only source of wealth, there are no jobs for much of the population. You live in a place only because you own land there, or you till the land for someone else who owns it. If not, then you move on. So for many decades now, thousands of Goans have had to migrate to find jobs elsewhere. This is happening even today. For instance, every year as many as 97% of engineering students leave Goa right after graduation. This must stop. We must bring about a more prosperous Goa, where no Goan has to leave – and where, in fact, those who have left, start thinking of coming back.
- 1.6 To maintain the serenity, Goa needs to transition from development paths that are natural resource dependent to a more skill based economy to reduce the current pressures and conflict situation, rent seeking and displacement that is occurring;
- 1.7 Our vision for beautiful Goa should be multi-faceted: On the one hand, we must preserve the fragile ecology and extraordinary beauty of this very special place, At the same time, we must bring about greater economic progress, more education, better health facilities - in short: a more vibrant future for everyone in Goa. How can we achieve these seemingly contradictory sets of objectives? This is the heart of the problem.
- 1.8 We should achieve economic progress and prosperity without destroying its fragile eco-systems, its natural beauty, its ecological balance. Achieving this will have decisive implications for a host of policies, from power generation, to electrical and water distribution, to industry, transport, and so forth. To identify a

coherent set of policies that work together with cohesion and synergy, is what this GGJDC Report is about.

- 1.9 We should learn from others. Mangalore had much the same beauty and the same feudal land-owning pattern right until the 19th century - when it founded the tile industry. This generated the jobs Mangalore so desperately needed - but it also started the process of urban centralisation that created the humungous primate city we know today. In the process, its intrinsic beauty was destroyed.
- 1.10 Today Goa is on the cusp of change. Many good things are happening here – and some unfortunate ones as well. Migrants are coming for many diverse tasks - from construction workers to industrial labour to vegetable sellers in the bazaar – all jobs that Goans themselves are unwilling to do. So we need these people – and we should understand this. And we also have other people from Delhi, Bombay and other of our parts of India, who come to Goa to retire. Bangalore used to be like this – in fact, it was known as a “Pensioners’ Paradise”. It was only in the 1990’s that Bangalore began to attract young dot.com engineers - who have contributed immeasurably to the energy and diversity of that place. So also with Goa. Life here today has an urbanity and cosmopolitanism that is truly refreshing - and which is an extension of the traditional tolerance and broad-mindedness of the people. And there is a stimulating increase in the variety of cultural events, the quality of newspapers, the diversity of goods and services available, and so forth. In many ways, life in Goa is becoming as sophisticated, as cosmopolitan, as urbane, as that in Bangalore or Bombay. But without the pollution, without the traffic jams, without the urban tensions. And that is the essence of suramya Goa, the serene and beautiful Goa of our dreams.

2. सुसंस्कृत गोवा (Cultured Goa)

- 2.1. संस्कृती (Sanskriti) means culture. Susanskriti means good culture. Goa is endowed with good culture for centuries. The Goa Vision 2035 is to make Goa a unique state in the field of art & culture. Goa should emerge as a state that gives its people the opportunity to experience art at its highest levels. And this must be achieved with a special focus on the common man. Art should not be perceived as an elitist activity from which one feels isolated. We must frame conducive policies that encourage the common men to relate himself with art forms. There is a clear road map to achieve this.
- 2.2 Goa has a rich and diverse mosaic of culture that has evolved during a history of more than 2000 years. Goa is well known for its multi religious and linguistic background, the well springs of its culture are rooted in the religious faiths, many of these forms actually developed as a part of the religious observances which have been an integral part of people's life in this region, which is clearly visible in their arts, social system, habits, customs and their religion. Goa, though small in geographical area and population, has over 50 distinct folk forms which clearly foretell the evolving story of the rich imagination, artistic and impulsive heritage of Goa. The state has contributed immensely towards the development of the country and the citizens of the state have achieved laurels in their respective fields across the Globe in areas of art, culture, music, science, technology, medicine, etc.
- 2.3 The Cultural identity of Goa is an integral and inseparable part of the great Indian traditions. The Culture of Goa, despite the Latin flavor fully expresses all the hues and shades of rich and diverse Indian culture. The Directorate of Art & Culture (DAC), an ISO-9001-2008 certified department of Government of Goa was specially set up for preservation, promotion, and development of the rich traditional cultural wealth and legacy of the State of Goa. It has been

showcasing the talent in the field of Goan folklore available in various forms such as folk songs, folk tales, folk dances, folk theatric forms, besides dance, music, drama, theatre, literature, arts & crafts, painting, architecture & sculpture, costume, dress, festivals etc.

- 2.4 The Government has also established Goa Kala Academy at Panaji, Rajiv Gandhi Kala Mandir at Ponda, RavindraBhavans at Margao and Curchorem, Goa Tiatr Academy at Panaji with a sole aim at fostering, developing and promoting dance, drama, music, literature and other arts and also for promoting through them the cultural unity of the country. The government has also established Goa Konkani Academy & Goa Marathi Academy for development of the language. The Government is also in the process of establishing RavindraBhavans at Sankhali, and Baina-Vasco.
- 2.5 Recognising that “Cultural rights are human rights” has formulated a State Cultural Policy has been formulated in 2007. The Cultural policy aims at achieving individual creativity for the citizens, ensuring equality of access to cultural life, safeguarding the freedom of expression, promoting a flourishing cultural life, supporting cultural renewal and quality. The aim is to make it possible for culture to be a dynamic, independent and challenging force, to preserve and use the cultural heritage and to promote interstate and international cultural exchange.
- 2.6 As the State has achieved substantially in the field of cultural, educational, social sectors etc, there impending challenges to make further advancement in the cultural field and suggest measures for the forthcoming 25 years which also includes a path of progress for cultural growth in the state. Presently, there are a few constraints & challenges in development of art & culture. There appears to be less enthusiasm in taking up the vocation of music, dance, theatre etc. There is no focused attention provided to the startling fact that no quality artists have emerged in the state of Goa over a relatively long period of time. There is a

dearth of good professional teachers. The age old art forms are on the verge of extermination and there is an urgent need to revitalize the same.

- 2.7 There is a need for “Freedom of Expression”, especially because of the composite culture in Goa; the prevailing Goa Tourism Policy and its direct and significant impact on the Goan culture and heritage; establishing Goa Forum for Public debate of intellectuals for highlighting issues concerning Goa and its culture, the need of having quality and good professional teachers. In view of the failure, there is an urgent need to produce a good artist in recent times in the field of music, dance etc; need to rejuvenate the age old dying art forms and creating mobile archives. We must avoid concentration of the cultural activities in the urban areas. There is a need to decentralize these to the villages to get good response at the village level. Commercial use of cultural premises other than for music, dance, drama and other art forms must be prevented. We should establish a film institute and impart film education in Goa. We must provide encouragement to the artists to express their talent in the local language. We must provide opportunities for the Goan artists to perform outside the state of Goa. We must have a permanent dedicated Television Centre or a dedicated newsletter centre for Goa. We must set up a regional office of Lalit Kala Academy in Goa.
- 2.8 We must reinforce the infrastructure across the state. The present infrastructure in the public sector-the auditoria, halls, stages, art galleries, museums should be upgraded, modernized and strengthened. Geographical areas, which need new cultural infrastructure need to be identified with a focus on undeveloped geographical areas and the tribal settlements. Incentives need to be provided in the form of grants/loans for the creation of the new - and the maintenance of the old cultural infrastructure, such as theatres, multiplexes, art galleries, museums, libraries, exhibition halls etc.

For creating and encouraging cultural ambience, taluka/village level art, crafts, dance, music, drama, literary, film festivals should be organized, bringing out cultural products such as books, audio, video material etc.

- 2.9 There must be a comprehensive regulation on 'Freedom of Expression'. There is a composite culture in Goa. Therefore, it means there must be an absolute freedom of expression without any hindrance from any section of the society in expressing the views and sentiments, of course, within the legal boundaries. The anti social elements should not come in the way of freedom of expression of the citizen, which is their fundamental right.
- 2.10 There is a need to review the Goa Tourism Policy and evaluate its direct and significant impact on the Goan culture and heritage. The State of Goa has a distinctive image across the world, which reflects progressive and socially responsive society and a growing economy. Goa is not only the land of sun & sand but a state having rich yet diverse mosaic of culture blended with religious and communal harmony. The Tourism policy promoting and showcasing Goa as "Come to Goa for fun" needs to be reviewed.
- 2.11 Going forward, there is a need to establish a University of Art & Culture. Goa's rich and diverse forms of art, culture, music, theatre are required to be preserved and developed further. Setting up of a University of Art & Culture in Goa shall go a long way in achieving the desired result as different colleges in Goa related to music, art, culture such as Goa College of Music, Goa College of Art, architectural institutions, theatre institutions, fashion designing, etc. are imparting education. All these can be affiliated to the Art & Culture University in Goa.
- 2.12 Goa must establish a world class museum. A state of the art world class museum is required to be set up showcasing the entire art, craft, sculpture and all related heritage, historical and monumental items under one roof.

- 2.13 There is a need to constitute national level awards. This will give recognition to the selfless service provided by a reputed artist in art, culture, dance, music, literature, theatre etc there is a need to constitute national level awards to be bestowed on these artists.
- 2.14 Goa should establish a Goan Forum for Public Debate. There are several issues concerning the state of Goa in the field of art, culture, environment, health, etc which need to be brought forth in public domain. For highlighting these issues, there is an urgent need to establish a Goa Forum for Public debate of intellectuals.
- 2.15 There should be a dedicated Doordarshan Centre for the State of Goa. Goa is celebrating the Golden jubilee of its liberation, it is a painful thought that even after attaining the statehood, Goa does not have a permanent dedicated television centre or a dedicated newsletter centre. There is an urgent need to take up the matter of having independent Doordarshan centre for Goa, which will benefit the Goan artists enormously.
- 2.16 There should be a regional office of national level academies in Goa. To provide a platform to the local artists outside the state of Goa and to create a bridge with the culture of various other states there is an urgent need to set up regional offices of National level Academies in Goa like LalitKala Academy, SangeetNatak Academy, Sahitya Academy, National Book Trust etc. The setting up of the regional offices shall pave the way for organizing camps, workshop of Goan artists and other related activities in collaboration with the academy.
- 2.17 The Govoernment needs to initiate steps to impart film education and establish film institute in Goa. There is no film institution or film education that is being imparted in Goa to tap the Goan talent against the growing film related activities. A lack of good source and content availability hampers the Goans from getting themselves acquainted with the film culture. This needs urgent redressal.

- 2.18 There is a need to decentralize the cultural activities to the villages to get good response from the village level. The cultural activities, which are generally restricted to the urban areas need to be decentralized from the classes to the masses in the villages and hinterlands so as to popularize the activities and bring the artists from these areas to the mainstream activities in the field of art, culture, dramas etc.
- 2.19 There must be a significant encouragement to express the talent in the local language and provide weightage to the local language. Before the liberation, Goa had produced talented literary personalities like Sardessai, Ravindra Kelekar who brought forth their views locally and internationally in the field of literature. However, there is a lack of enthusiasm as the common man is hesitant to come forward to express his/her talent in their local language as no weightage is given to the local language. There is an urgent need to focus the attention on encouraging artists to express their talent in the local language by giving due weightage to it.
- 2.20 Goa must revitalize the age old art forms, which are on the verge of extermination. The age old art form and popular musical instruments such as Shehnai, Sarangi, Banko, Surta or Soor, Surpanvo, Saxophone, Trumpet, Clarinet, Banjo (guitar) and Trombone etc. are on verge of extinction. The use of these instruments during the wedding ceremonies and traditional cultural events in the villages are fading away as its exploit has diminished over a period of time and therefore concerted efforts are needed to revitalize its usage and restore the past glory of such instruments to enlighten the general public and the youth in particular of this magnificent form of music.
- 2.21 Goa has over 50 distinct folk forms, majority of these folklore such as Banvad, DholkiBhajan, DandlamKhel, Dasarya-Vazap, GadyamRamayan, Gosayam-gayan, GudulyaGitam, Lagan-Gitam(Hoviyo), Morulem, MuslimKhel, Pene,

PerniZagor, Ranmalyem, Ratb, Zikra (SufianaQwali) SankasurKaloSunvari, Talgadi/Tonayam-Mel, Viramel, Yers/Vers, Zot/Sokarat/Arat etc are on the verge of extermination.

- 2.22 These diverse folk performing art forms need exhaustive reform to bring it to the forefront of cultural initiative by igniting interest in these art form by organizing folk based programs and events in nook and corner of the state and also provide necessary imputes to the artists in form of infrastructure and financial assistance.
- 2.23 We must create mobile archives, so as to bring inquisitiveness and awareness amongst the students. There is a need to maintain the age-old and traditional records presently available, as there is every possibility of losing these valued documents. There is also a need to create mobile archives of these documents so as to bring inquisitiveness and awareness amongst the students to have a glimpse of these documents for their future developments.
- 2.24 Goa needs to provide better opportunities for the Goan artists to perform outside the state of Goa. The activities of Goan artists are presently limited within the state of Goa and few of them have had the opportunities to perform in other states, and, therefore, there is a need to provide them better and additional opportunities to showcase their talent outside the state of Goa and also internationally.
- 2.25 Goa must create a global imprint by leveraging its convening power, which it has acquired on the basis of its natural strength in art and culture. A major festival, the **Goa Bienale**, should be held every two years. Because of its very special history, Goa has the extraordinary opportunity to bring the best of the East together with the best from Brazil, Africa, and China as well. This will be a unique Bienale that the world will not want to miss. It will reinforce culturally the new axis that is starting to structure the world politically. Goa Bienale can focus on

two particular areas at a time, for example, one year may be devoted to literature and music, another to architecture and sculpture, third to films and music – and so forth. The Goa Bienale could become as fundamental a cultural landmark as the Edinburgh Festival in the UK.

3. संतुलित गोवा (Balanced Goa)

3.1 संतुलन means balance. Goa must achieve a balance between conflicting demands. Goa must aim for development without destruction. Goa must pay utmost attention to its ecosystems, as these are central to its development and well-being of its people. The issues connected with a balance of a healthy mind and a healthy body are also fundamental to maintaining a balanced Goa. Maintaining unity amongst diversity of religious and languages also means creating a balanced Goa.

3.2 Let us first address the issue of a dynamic interdependency that exists between economy and ecology. Economic systems are underpinned by ecosystems and not the other way round; Goa's vital activities, namely tourism, agriculture, horticulture, fishery would all collapse if the ecosystems collapse.

3.3 Therefore, we need to address the following key questions:

1. Is environment being effectively protected?
2. Are environmental costs acceptable?
3. Are transfers of environmental costs (inter-sectoral, inter-regional, inter-class, inter-generational) acceptable?
4. Are people being involved in good management of environment?
5. Are people being involved in deciding upon an appropriate development path?
6. Are development policies leading to sustainable development?
7. Are decision-makers at centres of power aware of what is happening on ground?
8. Are people's civil rights being respected?

3.4 The interaction of GGJDC sub-group on environment and sustainable development with people in the mining belt suggests that social carrying capacity for mining in the region has been crossed. Environmental carrying capacity also seems to be to be crossed but the MOEF has requested the Indian School of Mines to study this afresh. Some of the questions asked during the our interactions were:

- Why should mining not be banned to arrest the further loss of cultural and biological diversity and destruction of the ecology of the Western Ghats?
- For how long should mining continue given that it has been going on since 1945?
- How have communities been factored into the planning of projects?
- Why do people in the mining region feel so helpless to ensure that their ground water access is not adversely affected by mining?
- What has the region actually gained from all of this mining activity?
- How has industry compensated for the heavy use of the waterways and the consequent silting?

3.5 The sub-group did discuss these questions with the mining industry, both with the owners/MDs/CEOs of the main companies as well as through a special meeting organized by the GMOEA wherein most companies were present. The companies do acknowledge that there is considerable social disaffection and that the mining industry could and should do much more for local people. Many of them did reiterate that the social fabric is stressed. Some seem to see the disaffection as emerging from lack of infrastructure to address the commodity boom and the inability of government machinery to cope with this. Many suggest that the social stress will be reduced if a new dedicated road to reduce congestion and dust pollution on public roads is built.

3.6 But there is a cause for comfort. Goa has many strengths. There are a firmly entrenched democratic institutions. There is a Legal framework to protect the

environment and promote social justice. There is a high level of literacy. All this augurs well in creating and maintaining 'Santulan' or the balance.

3.7 Goa has many laws that strive to empower people to meaningfully participate in prudent management of environmental resources. This is highly desirable on several grounds. The natural world is a highly complex system of manifold interactions of land, air, water, biosphere and a variety of human interventions. It is therefore essential that we view environmental implications of all human activities from a holistic perspective. This is always difficult, in particular, it is a tall order for the bureaucracy that operates and thinks in isolated compartments and subcompartments. On the other hand, people at the grass-roots, especially those whose livelihoods are linked to the health of the environment, such as farmers or fisher folk or herders, have a far more integrated view of the environment. These are also people who have a far greater, more direct stake in maintaining a healthy environment. Engaging them in environmental management is therefore very much desirable, and over years many steps have been taken to engage and empower the broader masses of Goa's people prudent sustainable management of the environment.

3.8 Such measures include

(a) 73rd and 74th constitutional amendments empowering Panchayati Raj Institutions to participate in deciding upon and managing the natural resources within their jurisdiction.

(b) Environmental Protection Act 1986, under which Public Hearings are organised in connection with environmental clearance procedures.

(c) Protection of Plant Varieties and Farmers Rights Act 2001, under which Panchayats will be funded through National Gene Fund to build capacity of farmers to participate in on-far conservation of crop genetic resources.

(d) Biological Diversity Act 2002 under which Biodiversity Management Committees in all Gram Panchayats, Taluk Panchayats, Zilla Parishads, and

Nagarpalikas as well as state level. The Biodiversity Management Committees are expected to document and regularly monitor local biodiversity resources, to regulate their use and levy collection fees.

(e) Scheduled Tribes and other Traditional Forest Dwellers (Rights Over Forest) Act 2006, that (i) assigns ownership over forest, and land that is already under cultivation (ii) assigns rights over non-timber forest produce, grazing, water resources and authority to manage Community Forest Resources. Other legislation of relevance include Coastal Zone Regulation and Right to Information Act.

3.9 A very positive development in Goa has been the engagement of people down to Gram Sabhas in deciding on land use in connection with Goa Regional Plan 2021. This is a step in the right direction in terms of devolution of powers to Panchayati Raj Institutions. Regrettably, the suggestions of Gram Sabhas have often been tampered with without due consultation. Clearly our vision of Goa in coming decades will be one in which the process of empowering grass-roots level democratic institutions would go much, much further and confer genuine decision making power on gram sabhas and ward sabhas, and not just on a handful of elected members. Specifically, the decisions of gram sabhas in connection with issues like environmental clearances for mining activities will be duly honoured. There will be a through going reform of the whole Environmental Impact Assessment, Environmental Clearance and Monitoring of Environmental Management. An important focus of such reform will be to make it a fully transparent and participatory process.

3.10 The Biological Diversity Act provides major opportunities for engaging people in regular, monitoring and management of environment through Biodiversity Management Committees that have to be established at the level of all local bodies. Goa has only a state level Biodiversity Board which has been largely ineffective, and no Biodiversity Management Committees at any other level. Our vision of Goa in coming decades includes an activation of Biodiversity

Management Committees at all levels, with full powers of environmental monitoring, regulating local biodiversity use, and levying appropriate collection fees.

- 3.11 The Biological Diversity Act specifies that the Biodiversity Management Committees will engage in environmental monitoring by developing 'People's Biodiversity Registers'. These exercises could be neatly linked to Environmental Education activities of students in local educational institutions. In turn, all this information could be uploaded on the web for public scrutiny, correction and augmentation. Goa could thus generate a lively, informed productive, debate on environment – sustainable development issues using full powers of modern information and communication technologies. Of course, the rich spatial database prepared for PRG 2021 should be immediately put in public domain to kick start this process.
- 3.12 The Biodiversity Management Committees are also expected to deal with genetic diversity of crop cultivars and domesticated animals. This function would be strengthened by implementations of Protection of Plant Varieties and Farmers' Rights Act. This Act emphasizes the need to promote on farm conservation of crop genetic diversity while there is substantial interest in conservation of Goa's indigenous crop varieties, it is notable that nobody in Goa is aware of the provisions of this 2001 Act. In coming years a vigorous programme of conservation of Goa's agrobiodiversity should be promoted in conjunction with implementation of BD and PPVFR Acts.
- 3.13 These activities may also be linked to promotion of organic agriculture throughout Goa on the models of Sikkim and Uttarakhand. An interesting model to consider in this connection is Australia's Farm and Ranch level Soil Carbon Sequestration programme. In its efforts to fix carbon to combat global warming Australia pays farmers and ranchers to adopt organic practices and enhance carbon stocks in farm soils. Goa could launch similar programmes with much positive impacts.

- 3.14 Yet another pro-people act that Goa has not been unfortunately has not yet implemented is the Forest Rights Act. This Act gives many individual as well as community rights not only to Scheduled Tribe communities, but also to other traditional forest dwellers. In particular, all comunidad land of Goa under forest cover fully qualifies for recognition as ,Community Forest Resource under this Act. Such land will remain under Government control, and cannot be alienated at all, but will be assigned to local communities for sustainable management. The local level Forest Rights Committees set up for this purpose, could also serve as local Biodiversity Management Committees and participate in monitoring, sustainable use, as well as ecorestoration activities. Our vision of Goa for coming decades would be a forested land with vigorous community based sustainable management.
- 3.15 Consider mining, a key sector that is linked to natural resource use. Mining is essentially in the Western Ghats tracts, while the tourism in Goa is essentially coastal. Mining and coastal tourism have a spatial, agency and temporal context. They need to be understood as production consumption systems (PCS).
- 3.16 Mining in Goa goes back to pre Liberation times and has been around since the forties. Goa has witnessed a rapid rise in mining of iron ore in recent years. Total reported production was 41 million metric tonnes in 2009. The last 5 years, between 2004-2009, have seen an increase of 20 mn tonnes, in response to the China boom and the rise in demand for iron ore. Most of the mining is happening in the talukas of the Western Ghats. Mining contributes 4.8% to State domestic product (at constant 1999/00 prices; 10.1% at 2007/08 prices according to the a 2010 NCAER study. All of Goa's iron ore is exported; of which 89% is exported to China; 8% to Japan. The mineral sector has contributed Rs.500 crores to State Government revenues and Rs. 2000 crores to the Centre in 2009/10. (NCAER, 2010)

- 3.17 There are concerns about the footprints that mining creates. These include the impact on ground water as the dumping is very close to water bodies and settlements. Impact on agriculture is a concern too. The impact on the forests in the Western Ghats, the desiccation of orchards is another concern.
- 3.18 Goa emerged spontaneously as a tourist destination in the 1960s, its unique selling points being its natural coastal beauty, its cosmopolitanism, its rich history, and the warmth of its people. The state administration perceived this as a viable development option. Goa has a mix of low, middle, high budget and luxury tourist infrastructure, most of this being located in coastal talukas of Goa. In this decade, an unsteady growth is evident in tourism: Sharp growth from 2001-2004 and then a negative growth rate in 2005, 2008. It is evident that the bulk of tourism is coastal, and over 80% domestic. The contribution of this sector to state domestic product is not clear, but is said to be around 20%. Foreign arrivals are mostly from UK, Germany, Russia, Japan, Israel and over the last decade, this number has been almost stagnant.
- 3.19 Tourism leaves its footprints too. Tourists consume water. If one looks at the water requirement in terms of litres/room/day, then it varies from low budget hotels or LBH (573) to middle budget hotels or MBH (593) to high budget hotels or HBH (604) to luxury hotels or LH (1335). On the average, there is an 80% dependency on ground water. Then there is disposal of waste water across 4 categories of hotels. The solid Waste generation (kg per room per day): varies from LBH (0.58) to MBH, (0.75) to HBH (1) to LH (3). Similarly, the sewage disposed of in soak pits/tanks. Varies from LBH (99%) MBH (100%) to HBH (89%) to LH (33%).
- 3.20 The trade offs for Goa have to be thought of in terms the risks that are being posed to the long term welfare of human beings in Goa. Mining and tourism need to adopt sustainable production and consumption systems.

- In tourism, we need to adopt participatory models of tourism that ensure greater “tourist experience” for less material usage and no host stress
- In mining, we need to ensure efficient mineral extraction with the least footprint with no community stress, and greater participation of the local community in decisions and benefits

-
- 3.21 Allowing mining or tourism up to the environmental carrying capacity while exceeding cultural or social limits may not be in the interest of Goa’s sustainable development. Investments can be made in order to increase a region’s carrying capacity (e.g. in water recycling, establishment of green corridors for wildlife, campaigns etc.). Technological or policy innovations or more efficient use of resources may also ease environmental limitations.
- 3.22 We must have an environmentally and socially sustainable development process. For this, we must work towards a social harmony, tailoring economic growth to carrying capacity is vital. The carrying capacity can go up through technological and social innovations. We need to promote an inclusive approach towards environmental protection. The mines and other industries should proactively disclose all environmentally and socially pertinent information.
- 3.23 There is a need for environmental ombudsman. We must march towards a genuinely participatory democracy by fully implementing the 73rd and 74th Constitutional Amendments. There is a need for participatory monitoring. Engaging youth in caring for environment is important.
- 3.24 The guidelines should be fine tuned to the contexts of PAs, Ecosensitive core, ESZ1, ESZ2, ESZ3, and the Ecologically significant matrix. There is a need for creating a viable programme of people earning livelihoods through providing ecological services.

3.25 To achieve the aforesaid objective GGJDC proposes a set of ten specific recommendations, which are listed below as 3.18.1 to 3.18.10.

3.25.1 Recommendation 1: Improved environmental and minerals governance

- Recognize and incentivise good corporate behaviour
- Proactive disclosure of information in connection with RTI; The Government should make available all the documents pertaining to the proposed mining to concerned stakeholders and villagers affected by the mining operation well in advance. Creation of spatial data bases. The websites of the all concerned government departments should be uploaded regularly, atleast once in 6 months.
- Strengthening institutional coordination before giving EC and for monitoring impacts; No mine or tourist infrastructure to be allowed to continue if environmental rules are flouted; The Government should not encourage opening of additional mines until the worked out mines are exhausted and backfilled after necessary reclamation works under mines closure done.
- Effective complaint redressal mechanism is adopted. Single window system
- Effective implementation of EPA, FCA Acts and CRZ notifications; Government departments should also give clearances in time wherever such applications have been filed in time in compliance with all laws etc. Delays in obtaining genuine clearances in time also mask the regular v/s irregular operators.
- Ensuring the disaster management plan in place and training be imparted to all concerned stakeholders
- Possibly enacting local environmental *Vahinies*. Locals be involved in monitoring and reporting any illegalities so as to correct in time. Social audits & Participatory monitoring of impacts using tools, including institution of Paryavaran Vahinis; Green accounts for the minerals and tourism sector
- Taxing the sector to improve social infrastructure in region

- Strengthen local panchayat capacity in environmental governance; Empower local panchayats in mining regions financially by sharing royalty with them
- Legacy of abandoned (orphaned) mines
- Dedicated resources to convert to productive assets, either through cess, or plan funds, or FC specific gran
- A registered Society in the name and style of Environment Protection Fund for Goa, to collect, manage and use grants, attracted from big NGOs, Private Firms, Multinationals, International Aid Agencies, etc, for the purposes of environmental safeguards, upgradation, restoration, etc, is the need of the hour.

3.25.2 Recommendation 2: Exclusion of mining from ecological sensitivity areas/zones and mineral extraction control

No mining should be allowed in the Western Ghats districts in: Current protected areas, i.e national parks and wild life sanctuaries and in regions of high sensitivity, ESZ1, as being demarcated by the WGEEP and cross validated with the RPG21 ESZ I . Compensation for forest preservation in resource rich states
Apart from this, there is need for regulation as per current laws and rules:

- Close all mines that have been extracting ore beyond limits allowed by environmental clearance given
- Close all mines, if any, operating within the sanctuaries and protected areas and cancel leases in ESZs as proposed by the Panel
- Mining leases in WL Sanctuaries to be permanently cancelled.
- Mining leases in the buffer of dams to be terminated.

3.25.3 Recommendation 3: Reduce social and ecological stress by keeping within carrying capacity

- A cap on mining at around 20 MMT (exclusive of dump mining) between 2010-2015 to reduce the ecosystem and social stress in the region (NOTE: Stress existed at 17 MMT in 1996)
- A cap on issue of licenses for construction of any new tourist resort or expansion of existing facilities, in North Goa (esp Baga –Neru watershed) until a complete review is carried out with regard to carrying capacity of the region
- Diversify away from “sun, sea, and sand” type of tourism to reduce oversupply of tourism infrastructure in the coastal belt
- Ecotourism however needs to be done very responsibly to avoid further impacts on sensitive ecosystems of the Western Ghats
- Reduce environmental footprint through use of green technologies and improved practices

3.25.4 Recommendation 4: Livelihood and social issues

- Attention to the shifts in occupational distribution to prevent complete loss of activities with longer and more secure time spans; Attention to employment seasonality, which is largely witnessed in small sectors of the tourism industry; Attention to the education, training, and skills attained by the youth in local communities in mining and tourism areas
- Focus on supports to the households to improve the domestic economy, especially by improving its investment capacity, income, and professional qualification

3.25.5 Recommendation 5: Improving health in tourism and mining regions

- Improve surveillance and monitoring of diseases and disorders; Increased education about health disorders through Panchayat – NGO partnerships; Get mining and tourism industry to partner with Panchayats and Primary health centres to provide both diagnostics and treatments that are industry linked

- Reduce air pollution in road corridors/waterways even if a dedicated road for ore transport is built;

3.25.6 Recommendation 6: A regulatory policy to stop overloading of trucks and barges

- Mining companies need to formulate a ,no-overloading' policy and ensure that it is adhered to by each of the trucks/barges working for them.
- Tarpaulin covers to be mandatory for both barges and trucks
- Speed limits to be imposed and enforced; transgressors to be penalized and licenses withheld
- Companies to be responsible for clean up of incremental pollution over and above what govt does for the taxes that it charges on road and barges
- Revision of transportation rates: mining companies need to keep the ten-tonne limit for current trucks in mind while calculating transportation rates; No ore carrying trucks over 10 tonne limit should be allowed on public roads

3.25.7 Recommendation 7: Ground water protection

In the tourist areas, there is a need for detailed GWB studies and zoning and linking with EA, ZA, SG

Definition of two or three protection zones around groundwater pumping systems.

There should be protection zones around wells; defining the polluting activities to be banned in each zone. Specification of banned and/or controlled activities inside protection zones needs to be given.

As regards the outer protection zone, in most cases corresponding to the recharge area of the well, some activities are allowed, but a certain amount of control is maintained.

In the more external area, which is related to the microbiological protection of the well, the following activities, processes, and installations can be forbidden or put under control: waste sites, use of pesticides and fertilizers, animal feedlots, paddocks and breeding, new roads or railways, and transport or storage of any pollutants.

Regulation of Conjunctive production of minerals and ground water

- For mines currently operating below water table, it should be mandatory for the company to have plans in place for ground water management and use that will not affect local wells and water supply
- Pump out groundwater before it comes to the open mine pit and set up cooperatives that deliver water put to use where geology permits.
- Offsets should be mandatory: Rain water harvesting
- No mining should be allowed below the water table level of the area if geologic or other factors do not allow improved practices
-

Ground water management in mining areas

- More studies and more data generated on groundwater in the mining areas, both from an anthropocentric and an ecological point of view.
- Conduct a study to examine the practice of industry on mining discharge
- More data sharing regarding ground water and collaboration between departments in order to tackle this issue, specifically the Indian Bureau of Mines and the Department of Water Resources.
- Create a PPP with Municipal water supply and industry to ensure piped water supply to all villages in mining region
- The suitability of abandoned or exhausted pits as water storage sites could be evaluated.

3.25.8 Recommendation 8: Planning for regeneration of agriculture in mining areas

- Needs to done at the watershed or micro-watershed level.

- This would include: Intensive dump management of all dumps within the microwatershed; Desilting of water bodies from the upper reaches to the bottom of the micro-watershed and treatment of the drainage network to minimise transport of silt (eg. lose boulder check dams); Desilting of fields and/or application soil amendments; Attending to issues of desiccation and loss of water; Participatory planning and management; Coordination by all regulatory and development authorities

3.25.9 Recommendation 9: Investment in the mining region

- Plan for closure: Convert closed mines to productive economic assets either for tourism or horticulture,
- Goa Minerals Foundation should work out a detailed plan to invest in region to provide common facilities: skilling, water, educational and health facilities in partnership with local panchayats and Goa Government; Invest in micro plans for villages affected by mining; Budget 2011 proposal to share royalty with mining villages is a good step

3.25.10 Recommendation 10: Developing tourism sites as Sustainable Production Consumption Systems

- Linked with notions of the carrying capacity of a location; Small scale tourism should be encouraged adopting benefit sharing with local communities: small get-aways, spice farms, homestead tourism, etc.
- Tourism infrastructure, particularly accommodation, should be encouraged to be eco-friendly, with careful use of locally available materials. Incentives for the same need to be given in the form of subsidies.
- Concretisation around springs, lakes and other perennial water bodies. should be discouraged
- Site specific control of tourism infrastructure in buffers of Protected Areas
- Provision for rainwater harvesting should be made compulsory for all new large and medium tourist infrastructure

3.26 Water, sewage and sanitation

3.26.1 According to an ongoing TERI study (Disha, 2011) only 13% of Goa's urban population is served with sewerage system as against India average of 28%. Most of the population is still dependent on traditional septic tank and soak pit for wastewater disposal. The existing sewage treatment capacity is 35.5 MLD as against generation of about 157 MLD of sewage from domestic sector. This has implications for the environmental quality of estuaries and ground water wells.

The State, at first instance, should cover all the cities, towns and coastal villages under the centralized Sewage Treatment System, which subsequently may be extended to other villages eventually covering the entire State. Setting up of Sewage Treatment Plants should be made compulsory for all the new housing complexes and multistoried buildings proposed in the State, as it is found that the septic tank-soak pit system does not work effectively during monsoon and especially in areas with soil consisting of hard lateritic rock. This has resulted in overflowing of septic tanks and contamination of groundwater and surface water.

Health

3.27 We now turn to another balance, the balance with a healthy mind and a healthy body. 'Health for all' has been a national slogan but it is the State of Goa that has come closest to achieving this goal.

India Today Survey (2009) affirmed Goa as the best performing State in the health sector. Goa provides excellent preventive, promotive, curative and rehabilitative facilities. It surpasses national averages and outpaces national targets, which places the state, as a first-among-equals, on multiple indices from 'Doctors-to-Patients' Ratio to 'Beds-per-Patients' measures the State's inoculation programme, particularly the child Immunization scheme, stands at twice the National Average.

3.28 It surpasses national averages and outpaces national targets, which places the state, as a first-among-equals, on multiple indices from 'Doctors-to-Patients' Ratio to 'Beds-per-Patients' measures. The State's inoculation programme, particularly the child Immunization scheme, that stands at twice the National Average. It is commendable that all this has been achieved in a country, which is otherwise confronted with chronic shortages on both these parameters.

3.29 Solid Waste Management

3.29.1 As per SBCP data, the average per capita waste generation across these municipal areas is 0.47 kg/day. The State should immediately take steps to set up a TSDF facility for disposal of the industrial Hazardous Wastes and a Bio-Medical Waste Disposal Facility to take care of the Bio-medical wastes generated in the State on urgent basis before it is too late.

3.29.2 Plastics: (1) The State should impose complete ban on manufacture of plastic bags below the thickness of 50 μ within the State. (2) Import of plastic bags below 50 μ thickness including packings, from other states should be banned. (3) Plastics recycling units should be set up in various parts of the State and should be subsidized by the State. (4) General public should be sensitized about the ill effects of plastics. (5) Local Bodies (Village Panchayats, Municipalities, etc.) should be made responsible for collection, baling and disposal of plastics at designated disposal sites.

3.29.3 It would be advisable to form a "Waste Management Authority" under the Goa State Pollution Control Board which would be a section dealing exclusively with waste management. It should be noted that this Authority will in no way take over the function of the local bodies but will only assist and monitor its functioning with respect to waste management.

3.29.4 A comprehensive integrated solid waste management site in each district needs to be developed on an urgent basis. These sites will have scientific landfills, composting yards as well as recyclable waste segregation stations set up. The sites will have to be linked to all municipal areas as well as panchayats through a transfer station system.

3.29.5 It is generally the case that villagers object to setting up of waste management sites in their villages. This is more out of fear of indiscriminate dumping of solid waste which has gone on throughout Goa till date. No one has so far had the experience of a well managed waste disposal site in Goa. The TF proposes that villages where integrated solid waste management sites are proposed be compensated by means of yearly financial incentives duly budgeted for in the state budget. An incentive of 1 crore per village per year could be started with. Also capping of integrated landfill sites and converting them into village parks should be part of the proposal. *(Page 101 5.5.3 (d) – RPG 2021)*

3.29.6 Bio-medical waste is to be handled at District level facilities which need to be set up in consonance with the Bio-Medical Waste (Management and Handling) Rules, 1998. The Government should work on the system and the infrastructure for disposal of bio medical waste which currently finds its way into public lakes, streams and also wells. While laws exist, enforcement is lacking. *(Page 101 – 5.5.3(e) Draft RPG 2021)*

3.30 A small state in size with a relatively well-educated and particularly female-literate citizenry. Goa has placed a major emphasis on the primary health care system. In particular, in rural areas it has provided very good integrated health and family welfare delivery systems. Goa is buffeted with an elaborate web of healthcare infrastructure nineteen primary health centres, five community health centres and multiple sub-health centres, of which 13 primary Health centres and all community

health centres, offer round-the-clock healthcare attention and provides the best of gynecological and paediatric facilities, be it state-administered or private.

- 3.31 Goa has been able to significantly address the issues of births and deaths, drastically reduce the infant and maternal mortality, as well as deal with the infectious and chronic degenerative diseases, in good measure, barring certain exceptions, such as Malaria.
- 3.32 Following through on the adage, that 'prevention is better than cure,' the tenor and locus of the healthcare system has to be focussed on preventive aspects, rather than the conventional reliance on allopathic medicines and varied 'post-occurrence' treatment methodologies.
- 3.33 Wellness Programmes, targeted at the workplace, where many sedentary jobs are contributing to an erosion of employees' health, could help to reduce the rising incidence of lifestyle diseases.
- 3.34 Goa needs at least two hospitals with centres of excellence in superspecialities like cardiac surgery, neurosurgery, spinal surgery, joint replacement surgery, retinal surgery, laparoscopic surgery, cancer surgery etc. The departments could be divided between two hospitals (Panaji & Margao) so that once the patient's diagnosis is made he can then be referred to the respective department.
- 3.35 Goa does not have NABH Accreditation. This is a disadvantage as it will attract good doctors and good patients besides giving credibility to the hospitals.
- 3.36 For reducing the mortality in Goa, the movement should be started at a grass roots level by establishing NICU units in peripheral hospitals. This project should be undertaken on a priority basis.
- 3.37 Goa must create a centre of excellence in education, research and conduction of academic activities. Such a centre will attract national and international attention at a time when Goa is recognized as a tourist spot on the world map.

- 3.38 Good sanitation is absolutely essential for promoting better health. These activities are not at a satisfactory level in spite of the efforts by the Government. The Ministry must sensitize and motivate the Zilla Parishad leaders and Sarpanch so that better sanitation levels in the villages will be reached.
- 3.39 Traditionally in most hospitals today the information is accumulated by illegible hand writing on papers which are filed in cabinets in the record room mostly in the basement. The access to this information is totally inadequate. Already in cities like Mumbai paperless transactions have appeared. The information is directly downloaded on the computer and anywhere, anytime, anyone (having the password) can access the information through computer terminals. The medical population in Goa is migratory. The information obtained by one hospital should be easily made available to any hospital or doctor in India by requesting the concerned hospital to release the password. Goa definitely can take a step forward in this direction. Alternatively a Smartcard with all the information can be provided to each patient for a price.
- 3.40 Maximum use of technology needs to be promoted. Patient's monitoring information can be downloaded via telephone lines into the computer which can then alert the physician on the seriousness of illness. Alerting systems installed into the house of relatives can alert them if senior citizens are living alone. A smart **pill container** technology is available today. Every time an old person takes out a pill from the container to swallow, a signal is sent to the relatives. Thus the relative can check if he is taking medicines regularly.
- 3.41 Telemedicine can deal with the challenge of distances. It is not possible to have superspeciality facilities in each peripheral hospital. Such hospitals should be linked to the main hospitals so that they can receive the appropriate advice after seeing the information sent through computers. This is the only way by which modern medicine can reach the poorest of the poor.
- 3.42 Telesurgery is in the demonstration phase at the moment but could catch up in future in developed countries. Developing nations will have to wait much longer to access such facilities of robotic surgery which are unimaginably expensive. However Robotic surgery which is more precise than the human hand has already started appearing in major cities in India.

3.43 Since occupational health is an emerging branch of preventive and promotive health – Government of Goa and CLI can join hands with Indian Association of Occupational & Industrial Health, Central Body and IMA A.K. Sinha Institute of Super specialities in promoting short courses for doctors and paramedical staff. More specifically, the following can be taken.

- Offer Certificate courses in occupational health & industrial medicine for nurses compounders .
- Frame the guidelines for conducting medical check ups of Industrial workers.
- Set up Occupational Disease Board to identify occupational health hazards and other issues related to work environment .
- Provide subsidy to private occupational health centres to upgrade the existing facilities. Such schemes are available with World Health Organisation (WHO)/International Labour Organisation ILO/United Nations Development Projects (UNDP)
- Undertake regular inspections and monitoring of O.H. Services by the Occupational Disease Board.
- Set up an Occupational Rehabilitation Board - To help , guide and provide alternative placement for the employees suffering from occupational Injuries and diseases.
- Standardize the occupational health in Goa to match the best practices in the world.

3.44 Health professionals have become aware of the biomedical safety and prevention of environmental pollution . With the new generation technology , modernization in medical facilities and state of the art gadgets there is sea change in the services provided by the medical professionals.

3.45 Disposal of bio medical waste is a major concern for the doctors in Goa . Hospitals , nursing homes, diagnostic centers , health clinics, private dispensaries and other institutions generating bio medical waste have been issued circulars by Goa State Pollution Control Board (GSPCB). As per the authorization under Rule 8 (4) of The bio medical waste (management and handling) Rules 1998 for Generation , Storage , Transportation , Treatment and Disposal of Bio medical Waste , all concerned health professionals have to register their centers under GSPCB .

3.46 Further it is mandatory to segregate biomedical waste in 5 categories , and also separate bio degradable and non-bio degradable waste. Although the law has been enforced upon by the GSPCB , there is no proper implementation nor awareness created amongst the doctor community.

3.47 To deal with this challenge, the following recommendations are made:

- Government should set up a separate committee for drafting and implementation of proper guidelines.
- The committee should consist of representatives from the following :
 - GSPCB
 - Goa Medical College ,
 - Directorate of Health Services
 - Indian Medical Association
- Facilities should be set up for proper transportation , treatment and disposal of Bio medical waste
- Programs to bring about awareness regarding the hazards of bio medical waste should be undertaken.
- Nominate a specific agency who can do the job of transportation , treatment and disposal of Bio medical waste.

3.48 Indian Medical Association is a largest NGO of professional. It has over two lakh members of Allopathic medicine scattered in all the states in India and abroad. It is recommended that:

- IMA along with other professional organizations should try to have a common platform programs.
- There is a need for a centralized office for all the associations , preferably with a convention centre.
- Proper approach to Goa Medical Council for recognition of the CMEs conducted for getting accreditation credit hours should be made.
- Medical Centers should be set up to offer medical services at subsidized rates.

3.49 The role of public and private sector organisations and trusts can play a big role in health care. It is recommended that:

- Industrial estates (more than 10 in Goa) , Trusts and corporate groups should provide such facilities to their neighboring villages.
- Religious trusts , temples and churches should come forward and start Tertiary care Hospitals , as they exist in other states.
- Companies can adopt one or two wards in Goa Medical College or a small Primary Health Centre.

3.50 There is a big role for the Government, NGOs and insurance agencies in deciding health cost benefit ratio in tertiary health care. It is specifically recommended that:

- The Government should prepare an inventory of the existing medical facilities available in Government and private sectors.
- The corporate hospitals with capabilities to provide tertiary care should be identified.
- Private nursing homes should be encouraged to upgrade their facilities from secondary to tertiary care.
- Essential commodities such as electricity, water ,cooking gas and municipal and panchayat taxes should be subsidised.
- Indoor dispensing of medicines and drugs at reduced costs should be encouraged.
- Special wards / centers for tertiary ill patients, disorder victims and victims of trauma should be set up.
- Group practice system should be encouraged. Two or more consultants of the same specialty could provide expert services under one roof.

3.51 With advances in technology, the demands on the nursing profession have changed. The nurses in 2035 needed to be highly skilled, mastering the newer technology, which will be an intrinsic part of the success of the health care profession. The nurses will be required to be familiar with the latest applied medical knowledge, have better communication and generate newer ideas for the care of the patients.

3.52 To prepare for the nexgen nursing profession, it is recommended that Goa shows a leadership by

- Establishing Nursing Directorate.
- Establishing continuing nursing education and research Cell at the State and the Institutional/Hospital level.

3.53 Goa should take a lead in starting a unique Nursing University to promote:

- Nursing education, basic, specialty and super specialty.
- Providing graduation, post graduation and doctorate level programs.
- Promoting interactions with other universities, organizations, councils etc.
- Encouraging newer training programs to reflect newer developments in education, technology and research.
- Strive to attract talented students to the profession.

3.54 Finally, Goa should pole vault from the 'best practices' to 'next practices' in health care. Goa 2035 could be a model state, which just does not sloganise 'health for all' but achieves 'health for all Goans and its friends in Goa'.

4. सुविध्य गोवा (Knowledge Ccentric, Enlightened Goa)

- 4.1 The vision of Goa 2035 should be that of a Suvidhya Goa, because twenty first century is going to be the century of mind, it is going to be the century of knowledge. Every Goan should strive to become an enlightened knowledge worker.
- 4.2 We need to recognise the concept of a knowledge worker in the broadest possible sense. It is not scientists and technologists alone, who can alone be knowledge workers. Even a farmer can be a knowledge worker, provided he understands the soil that he is sowing his seeds in, he understands why and how of the micro nutrient and pesticide addition that he makes, he lives in an information village, where he has the benefit of short and medium range weather forecasting to plan his farming activity and so on. If he does so, then he will be a continuous user of knowledge and he will be a knowledge worker.
- 4.3 Enlightened Goans empowered with knowledge will be able to see the crucial link between the 5 Es, namely environment, ecology, economics, equity and ethics. They will not be then guided by misinformation. But they will use their knowledge to decide on their own as to what is wrong and what is right. They will not stop projects that lead to economic development, but they will stop those that lead to destruction. Goa's economic development will crucially depend on society's understanding of the new knowledge.
- 4.4 In a knowledge society, the knowledge workers will perform different tasks. Some of them will generate knowledge, some will acquire and absorb knowledge and some will communicate knowledge. For building a Goa 2035 as a true knowledge society, access to the best of education will be crucial, from primary to secondary to tertiary stage. 'Education for all' will be the byline for Goa 2035. 'Inclusive education', which mean education to include all those excluded resource poor people, girls and other disadvantaged citizens will be crucial. Education will be crucial for development, but education without openness to

innovation and knowledge will not lead to economic development. Soviet Union had near hundred percent literacy but severe restriction on innovation in the market place led to an economic decline.

- 4.5 Education is all about knowing, doing and being. The teachers develop a capacity amongst the students by which they are able to assimilate 'known' knowledge that already exists in the world. But it is through research that 'new' knowledge is created. And it is innovation through which knowledge is converted into wealth and social good. So there is a seamless linkage between education, research and innovation. Goa should have that linkage.
- 4.6 As President Obama has said in 2009 in Cairo, 'Education and innovation will be the currencies of the 21st century'. One can take this further and say 'Education in innovation and innovation in education' will be the next big drivers. Our strategy on creating a knowledge centric, enlightened and intelligent Goa 2035, a Suvidhya Goa, will take this into account.
- 4.7 Goa should be proud of its record in providing outstanding primary education, which got specific impetus due to its first Chief Minister's personal efforts. The education at the primary level became available in all corners of the State. This was indeed a major achievement. A significant number of colleges were started in Goa. immediately in the post liberation era.
- 4.8 However, today there is a cause for concern. In the primary education sector, 15% to 20% students drop out after the eighth standard. In the higher secondary and higher education sector, the number of girl students exceeds 65% and the boys drop out more than the girls. Shortage of qualified teachers and also consequently vacant posts occupied by teachers on contract basis seems to be an important challenge, which needs immediate attention. There is a great need to attract students to

schools, particularly government schools and for this some major initiatives will have to be taken.

- 4.9 The data over the last ten years show that the number of students appearing for the Goa State Board Examinations (XII Standard) has stayed around 13000. The number of students who take admissions to higher education is only around 1500, leaving behind not more than 8000 plus students for other colleges and institutes. A small number of this still prefers to leave Goa in search of education, thus leaving just enough number of students for the State colleges affiliated to Goa University.
- 4.10 This year some of the seats in engineering colleges remained vacant. Certain departments in the social sciences, natural sciences and arts faculties did not get enough students to fill their existing quota. At Goa University, in almost all the post graduate programmes, 80% of the available seats are earmarked for the students qualifying exams from Goa colleges. The existing number of students eligible for admission to the post graduate departments in the University is required to be enhanced. On the other hand doors should be kept open for eligible students coming from outside Goa as well.
- 4.11 In terms of improvement in school education, GGJDC makes the following key recommendations:
- Currently, there is a distinct impression in the minds of parents that private schools impart better education than the government schools. Therefore, there is a need for the face lift of the primary and secondary education sector.

- There is a need to restructure the curriculum so as to make it more interesting and engaging. Increasingly digital learning will become not an option but a necessity. Newer technologies, audio visual tools and interactive modes of learning will have to be creatively introduced. Learning by role programmes should give way to qualitatively empowering these young students to learn from experience and from their surroundings.
- The present government schools should change their brand identity by taking help of agencies such as Goa Chamber of Commerce & Industry (GCCCI) and taking measures to either minimize the numbers in the given area of government schools so as to consolidate the infrastructure, the human resource. The distinction/difference between private and government schools in terms of the brand identity should be eliminated by strong government efforts by engaging consulting agencies.
- There should be a provision of primary, secondary and higher secondary education at the same location (integrated education complex). This will lead to merging schools with small number of students. The availability of transport system (Bal Rath) should take care of the access.
- The teaching methodology requires inclusion of methodologies as outlined by National Council of Education Research & Training (NCERT) in 2005.

4.12 Higher Education

- 4.12.1 Does Goa have an adequate capacity to create knowledge workers, especially in the emerging engineering disciplines? The answer is yes. Indeed, Goa is dotted with a number of institutions which offer higher degree education. Here are some examples:

BITS Goa, Goa College of Engineering, The National Institute of Technology, Shri Rayeshwar Institute of Engineering & Information Technology, Agnel Charities (Agnel Seva Sangh) Padre Conceicao College of Engineering, Don Bosco College Of Engineering, The Goa Institute of Management (GIM), etc. are institutions that give us the confidence.

4.12.2 Considering the advances in Information and Communication Technology, one would visualize that by 2035, the education scenario will change drastically from the present form. Necessity of hundred percent physical presence during teaching will be reduced because of the use of interactive teaching modes, access to lectures and relevant technical information any time and from anywhere, and availability of choice for the desired course through a cafeteria approach. The present shortage of qualified teachers is a national problem. The creation of new institutions such as Central Universities, IITs, IIMs, and IISERs has created a new challenge by increasing the supply-demand gap. There are two possible models that could be recommended which would serve the students from Goa as well as support developing Goa as Education Hub.

4.12.3 Existing Affiliated Colleges

- The present colleges should be made autonomous.
- All the courses should be in credit format uniformly. There should be access to national grid – as a knowledge network through other universities/institutions.
- The syllabi should have integrated and be made truly inter disciplinary.

- Academically, a student should get multiple choices of colleges for any given course. Thus, a student would register for a given degree course with the university and will choose the courses as per the syllabus from the same or more than one college with appropriate registration.

4.12.4 Education Village/City/Valley

- This could be realized through Government and/or private players.
- At least two locations in the State of Goa be identified where government and the colleges/institutions should be located at one place, with certain common facilities.
- facilities could be developed such as libraries, ICT based interactive centres, common play ground, gymkhanas, hostels, staff quarters, etc.
- Provisions can be made for private players by giving the options of utilizing pre formulated structures/buildings/facilities by the Government of Goa.
- Alternatively, the private groups could invest their money to develop parts of such hub with their expertise.
- Such education hubs could also have relevant technology/incubations parks in close vicinity.
- The financial structure of such institutions could be with one time support and subsequent self supporting mode, and the government could provide monetary support to deserving students through their existing modes/schemes or could develop new appropriate provisions.

4.12.5 Government of Goa in its State Integrated Education Policy has approved establishing national/international research institutes in specialized areas. This could be located throughout the State in proximity with relevant industries, educational institutions and other social parameters.

- ❖ The above approach will also take care of the future internationalization of education as has been proposed by the Central Government.
- ❖ Separate complex(es) for training in Fine Arts, Performing Arts and Music should be established, keeping in mind the indigenous art/talent . This training programme need not be linked with the conventional degree and research programmes and should get a distinct different treatment.

4.13 There is a need for significant initiatives for raising the standard of Goa University so that it becomes world class. Goa University was established in 1985 by an Act of the State Legislature, incorporating the then existing Centre for Post Graduate Instruction and Research of the University of Bombay, with 13 teaching departments and 17 affiliated colleges. From a modest beginning in 1985, the University has, over the past twenty-five years, established itself and expanded across 12 faculties, with 24 post graduate departments and three Centers on its campus, with 48 affiliating professional and non-professional colleges. It is ranked 19th among the Top Universities of India (India Today-AC Nielsen, 2010).

4.14 The following are the specific recommendations for achieving the objective of making Goa University to be counted amongst the world class universities.

- The University should be given complete autonomy as was the original intention.
- The financial allocations to the University by the Government should be compatible with those which are received by other national institutes of repute such as IITs.
- The University should establish on campus a Research & Innovation Park with involvement of local and national industries.
- There should be a separate provision for Training and Development of Academic Administrators, which could be a national facility.
- In addition to existing training programmes (which are in the process of integration through already initiated choice based credit system), the university should establish Integrated Schools for Media and Media Research, an Interdisciplinary School of Designing and Planning, set up national facilities which will be accessible to all the relevant colleges and users in the State. (e.g. Marine Microbial Resource Centre, Oceanographic Studies, Centre for Strategic and Maritime Studies).
- A state of art School of Education should be established so as to train contemporary teachers for primary, secondary, higher secondary as well as higher education should be established at the campus of Goa University.
- The general governance structure of the University will have to be revamped if the University has to compete with and established as an education centre with international repute.
- The present technical education structure includes, in addition, four engineering colleges in the State, one of which is Government owned. An NIIT has been recently established in Goa. However,

the problem of locating NIIT has still not been resolved. The number of students coming for existing engineering courses is just optimal.

- However, it is recommended that Maritime Engineering related courses are initiated, possibly by enhancing one of the best present ITI s available in the State.
- Any additional independent engineering colleges be considered carefully since it would be equally useful to enhance the capacity of existing college(s). This will be also important since there is equal shortage of qualified faculty in these area.
- As in the case of other higher education programmes, the technical teaching programmes, both under graduate and post graduate should be supplemented with ICT based interactive teaching courses. The establishment of national facility for such programmes by UGC and IITs should be accessed to by these colleges.
- The research activities in the engineering colleges have to be strengthened possibly through direct participation of the relevant industries.
- The medical education component could be developed around the Goa Medical College area, possibly in the similar way as Education Hub, format to make a Medical Education Hub. The present Medical College, Dental College, Nursing College, Psychiatry Institute would form the units of such Medical Education Hub area.
- A new Bio-Medical Research Centre should be established in the campus of the University where state-of-the-art research using equipment and instruments required for such work could be carried out by researchers from variety of areas including medical fraternity. Such a Centre could also serve as diagnostic and analytical facility for the Medical College and Hospital.

4.15 Science, Technology and Innovation

- 4.15.1 The state has recognised the importance of Science, Technology & Innovation (STI) and has taken a number of initiatives to promote excellence in STI. In particular, Department of Education, Department of Science, Technology & Environment (DSTE) backed up by Goa State Council of Science & Technology provide the administrative and promotional structure for science, technology and innovation in Goa. Unlike in other states, Goa is dotted with several science clubs. Science Centre, Miramar has provided a boost to Science popularization in the State and so has the Marathi Vidyan Parishad.
- 4.15.2 DSTE recognises that teaching without research is sterile. So it provides grant-in-aid for upgrading laboratory facilities, popularizing science through conduct of seminars, workshops, institutional grants, science fairs, science fiestas etc. For popularizing Information Technology, the Government launched a unique Cyber Age Scheme, wherein each student who enters Std. XI is provided with a Personal Computer, again a very progressive and unique initiative.
- 4.15.3 There is a unique Goa scholar scheme. There is the provision of interest free education loan scheme to assist students in higher education. In 2011, the Government created a scheme to encourage and assist students who secure admissions to premier Institutes in the Country like, IIT's, IIM's & BITS. A scheme covers the tuition expenses being incurred by the meritorious students. The Goa Education Development Corporation and the proposed Goa Institute of Career Development are positive initiatives by the Government. The DSTE proposes to provide scholarships to achievers in science education and those who intend to take up research in pure sciences.

- 4.15.4 Science and technology needs to be harnessed to address the critical issues faced by the state. These issues include waste management, potability of water, adverse impacts of mining, deteriorating air & water quality, unmet energy requirements, sanitation etc. These set of development related challenges coupled with need based research would help in resolving many of the problems faced.
- 4.15.5 The unique exercise of mapping land degradation and siting of industry (Industrial Atlas for the State) by using remote sensing technology is a case in point. There is a need for a more proactive use of S&T in the development process.
- 4.15.6 There is a need to create an environment that nurtures and addresses curiosity among children, popularises science, initiates young students into good quality research. High performers need to be rewarded and provided with career opportunities. Their activity and reach needs to be tracked and incentives provided.
- 4.15.7 We need to make every effort to “Catch them Young”. And the young needs to learn hands on, for which adequate learning and working models should be provided for the child to explore for itself. Such activities are being conducted by the Goa Science Centre. The activities of Goa Science Centre need to be interlinked with those of Institutions in Rural Talukas by setting up of Rural Science Centres. The Goa Science Centre could be the hub for all Science Outreach Activity. The joy of doing science is to be experienced by the young. A centre on the lines of Exploratory in Pune could be replicated in Goa.
- 4.15.8 At present the Goa Science Centre is expanding its activity by setting up a Digital Planetarium. The Goa Science Centre could be upgraded as regional Level Centre and another centre set up in the South Goa District. An Oceanarium project in the Maritime state like Goa, would add value to Tourism

related activities, while providing an opportunity for making Goa a centre for Ocean related research.

- 4.15.9 There is need to create a data base of scientists. NGO's, amateur scientist etc. should be a part of the Goa Knowledge Resource Centre. A dynamic and creative science, technology and innovation portal should be created so that people with ideas and those seeking solutions can come together to translate an idea into action.
- 4.15.10 Various need based programmes requiring S&T interventions, say, in the field of agro-food processing, wine making & fermentation, providing for rejuvenation of agrarian land in mining areas, water potability and quality assessment, technology for waste management etc. need to be addressed through the creation of a dedicated and exclusive Goa Knowledge Centre. This centre should be accessible to all (industry, NGOs, Government etc.).
- 4.15.11 A Research and Innovation Park for the state that is located in Goa University could be an ideal platform, where start ups and future enterprises pursues R&D in their own areas by which both industry and university benefits. Here innovation grows and ideas are realized where industry and university benefit. This Research & Innovation Park should help create the nucleus for innovation. It should be modeled on the lines of the Research Park at IIT, Madras.
- 4.15.12 In the State, the Goa Small & Medium Industries Association is intending to create a Knowledge Centre for using carbon finance as a catalyst. There is a concept of setting Voluntary Carbon Standard (VCS), which is a tool to measure carbon credits emanating from sustainable development projects. Any green initiative can be measured and benefits derived through carbon finance. The VCS for Goa could work on the specific areas of interest by regenerating Forest on depleted mine areas and putting in use degraded /

under use Comunidade lands. Any initiative to create carbon sinks and integrate sustainable forestry would be at the village level. A Green Knowledge Centre could function as a mentor and catalyse sustainable development.

- 4.15.13 Goa has had long history of maritime sea faring. There is need to promote education in ocean science. This should include sea faring and ship building. Setting up of a National Maritime University should be an ambition that we must fulfill within this decade.
- 4.15.14 To promote quality science education and high quality research, there is a need for setting up an Institution on the lines of Institute of Science, Education and Research (IISER). This will add value to the State's efforts for providing a new direction to Science Education in Goa.
- 4.15.16 Different countries have followed different strategies for climbing the limitless ladder of excellence in research. Countries such as Israel have done this through capitalisation on the dual citizenship of many bright scientists of Jewish origin living and working in the U.S.A. and Europe who could do sabbaticals or visiting professorships after attaining tenure in their own universities. Singapore has preferred to recruit globally capable researchers directly into research centres and research focused companies, often set up by the government. China too has adopted a similar approach, but in a typically parochial fashion, since only Chinese are targetted.
- 4.15.17 Goa can take a lead in creating an international university of global calibre. The key factor in success is to be not restricted to Indian nationals but be agnostic to nationality as long as strong capabilities of an international order are established for prospective faculty. This factor underlies the success of US research (and Singapore has learnt that lesson early, given its manpower shortage).

4.15.18 This in turn requires that *the university be located in an area that has the quality of life that satisfies global citizens of distinguished merit*. Goa is one of the few locations that meets this multi-faceted criterion that engulfs:

- a high quality of life (housing, climate, environment, entertainment opportunities, education for children, etc.) ,
- good global air connectivity,
- receptiveness to other Indians of a suitable calibre,
- a cosmopolitan atmosphere that does not socially stifle faculty and their families, etc.

4.15.19 Given the direction of current global research, the university needs to have multi-disciplinary centres rather than traditional single-discipline departments. Examples abound internationally. The Whitehead Institute for Biomedical Research at MIT, the MIT-Harvard Medical School Department of Health Sciences and Technology and the The McGovern Institute for Brain Research at MIT are examples. Moreover the university needs to be nimble and dynamic in setting up new labs of contemporary relevance in rapidly evolving fields

4.15.20 A substantial corpus needs to be put together to enable such an university to take off. A sum of \$ 1 Billion seems to be a good initial target. This would enable 10 interdisciplinary centres to be set up with five laboratories each and some 250 research faculty. The total research staff including Ph.D. candidates and post-doctoral fellows would be say 2500. The university should seek 100% recurring funding by way of research grants from private sector and non-governmental.

4.15.21 Finally, we should be in the relentless pursuit of the following agenda:

- i. Create scientific temper in the society at large.
- ii. Attract children through aggressive effort on popularisation of Science & Technology programmes
- iii. Create opportunities for careers in Science

- iv. Sustain research that meets the challenges set out by the industry and society i.e. research should be relevant to the need of the industry and society
- v. Push research excellence to the highest levels, benchmarked with global gold standards.

5. समृद्ध गोवा (Affluent Goa)

- 5.1 Goa 2035 has to be an affluent (Samruddha) state. If the Indian growth story continues, then India itself will be an affluent country within a generation. If Goa has to maintain the trend of maintaining its GDP per capita levels at level that is twice of India, then it will have to rethink of its strategy of economic growth.
- 5.2 As per the Economic Survey 2010-2011, Gross State Domestic Product at constant (2004-05 prices) registered an increase in its growth rate from 9.46% in 2008-09 to 13.03% in 2009-10, which is higher than the corresponding National growth rate of 7.9%. The Sectoral composition of GSDP in 2009/10 was 11% primary, 38% secondary and 51% tertiary. It is one of the important contributors to India's foreign earnings – minerals exports, tourism and NRI remittances. The manufacturing sector's proportion in Goa GSDP is two times that of Indian Economy (35% Vs 16%). In addition, the Mining Sector's proportion in GSDP is four times that of Indian Economy (9.5% vs 2.6%). Appendix 1 summarizes some of the key social and economic aspects.
- 5.3 The future of the state lies in successfully transforming itself from a rent seeking to a skill intensive hub of economic and cultural activity where the systems of production are enmeshed with ecological protection to produce a quality of life that is sustainable and fulfilling for all who participate in the life of the state.
- 5.4 Indeed, Goa 2035 must be a prosperous state with modern all round development without compromising on their core characteristics of being multi-cultural , nice , friendly and peace loving. Goa needs to work on changing the historic perception for being a "laid back culture". Further, Goa must learn to deal with the negative economic effects of migration of skilled and highly skilled man power. Development of diverse industries will create attractive opportunities for Goans to remain in Goa and participate in the state's progress.

- 5.5 Industries like tourism, mining and pharmaceuticals have been a great success for the state in the past and going forward, it is important to focus and capitalize on this success going forward. However, of late, there has been a substantial challenge of availability of land for industrial expansion.
- 5.6 Goa has benefited from living off natural resource rents associated with mining and coastal tourism. This has resulted in a lot of conflict over resources such as land and to rent seeking as a source of status, power, and wealth. This is a zero sum game where those who benefit from appropriating rents take away from those they displace. As the rents obtainable are limited a new emphasis arose amongst individuals in society to develop skills and human capital that will enable them to produce rather than to appropriate. In a sense Goa going forward will be a society that will gain in the transit from rent seeking to skill and human capital acquisition that will set it off on a sustainable path where productive activities are promoted. Unfortunately many emigrate from the state and deprive the region of the promise associated with such skilled resources.
- 5.7 In the last ten years on an annual basis, Goa's Per Capita GSDP has grown slower than India's GDP by +0.5 Percentage points. The reason for this slower growth, in spite of the success of manufacturing and mining industries, is due to a slower growth of services sector. The Trade industry, Hotel & Restaurants services, etc as a sector in the economy has had a real annual growth of just 1.5% over the last 10 years! The fact cannot be denied that accelerated development over the last decade at least has been some what lopsided.
- 5.8 The higher cost of living makes Goa some what un-competitive for any business, when compared to other tier II cities of India. In addition, Goa needs to fight against the perception of governance deficit, lack of political stability, substantial dependence on exhaustible natural resources etc. Over the next few decades, Goa needs to redouble the efforts to improve the growth rate in the knowledge

and services sector which in turn will increase the contribution of this sector to the GSDP of Goa.

- 5.9 At the time of liberation in 1961, there were hardly any industrial activities in Goa with the exception of mining. Goa today established 20 industrial estates; some of them are among the best in the country. The industrial activities encompass about 50 sub sectors which include tourism, pharmaceuticals, electrical and automobile accessories etc.

With a well-spread network of banking and financial institutions, the State is in an ideal position to attract investments. In fact, Goa has one of the best deposit to credit ratios, which means that there is ample money with the institutions to advance for economic development.

- 5.10 We must be aware of the profound changes that are taking place all around us. Increasingly the traditional factors of production – land, labour and capital – have become less important when compared with technology; the economists have termed this as the ‘expansion of the production frontier’. The source of technology is in science, that is rooted in knowledge. Emerging industries are knowledge industries. The emphasis will not be on physical or tangible assets, but on intangible knowledge assets. The value of intellectual capital of an industry will determine its rank and competitiveness. In such industries, there is a major shift from people, who handled information and did routine and unthinking work, to those who will use knowledge at every stage. For knowledge workers, information and knowledge is both the raw material of their labour as well as its product.

- 5.11 World’s major growth industries – such as microelectronics, biotechnology, designer-made materials, and telecommunications – are already brainpower

industries. These knowledge industries stimulate other industries, in turn, to become knowledge based.

- 5.12 The physical assets such as machinery in a factory, will become less important. Plant and machinery are tradable commodities today. Even capital was a scarce commodity until recently and was used as a competitive advantage. But with globalised markets the companies around the world have access to finances at inexpensive rates. So even capital is no longer a scarce commodity. It is the intangible assets which are knowledge based, and that are non- replicable, unique and proprietary, that are providing companies with a competitive edge. Goa 2035 should be one where such knowledge based assets will get produced predominantly here in Goa.
- 5.13 Harnessing the full potential of knowledge industry will require an aggressive and visionary policy framework. Knowledge industries such as software development, pharmaceutical industry, biotechnology, engineering services etc. operate in a highly competitive environment with great demand on the speed of response in dynamic market conditions. A high operational efficiency and functional flexibility is crucial for such industries. The Goa Government policies, therefore, have to be conducive to help provide these.
- 5.14 The shift to the creative economy is already evident throughout the region. Singapore has the highest creative class share -- the percent of workers in technology, science, academia, medicine and the arts whose jobs require them to think and innovate -- of any nation in the world: 47.3 percent. Australia is close behind, with 44.5 percent. Canada has 40.8 percent; New Zealand 40.1 percent and America just over 35 percent. Malaysia is at 25 percent and the Philippines are 20 percent. This is a great start. But the key is to extend the creative economy across manufacturing, service work, and even agriculture. We should have a dream of Goa 2035 being amongst the leaders in creative economy.

- 5.15 As recommended earlier, currently Goa's Per Capita GDP is 2 times that of India, in the next 25 years Goa should aspire to retain this or move a notch higher than that. Over the next 25 years, this would mean an Annual GDP growth of just around 0.5 to 1 percentage points higher than the whole country.
- 5.16 Creation of high value addition jobs of tomorrow in the industry and services sector will not only reduce the migration of 'knowledge workers from Goa to mainland but also would attract Goans who are already out to return and settle in Goa. Above all, it will sustain the expected higher growth rate of economy.

Such jobs would generally be knowledge and services driven jobs with very minimal environmental "side effects", hence in turn retaining and enhancing the "nice environment" image of Goa.

- 5.17 The four values chains that will be key to the success of Goa are :
1. Natural resources and related logistic industries
 2. Tourism and related services value chain
 3. Healthcare and pharma industry value chain
 4. Knowledge, education, research and entertainment value chain

5.17.1 Natural Resource and Related Logistic Industries

The Mining industry should be allowed to expand to leverage coming global and more specifically in line with the Indian growth Story. However, growth needs to be moderated so as to present heavy dependence of Goa on this sector is substantially reduced. Most importantly, the mining Industry should be allowed to expand only provided they adhere to strict global environment standards. In fact, the mining industry should be incentivized to develop cutting edge examples of environmental sustainability

so that it is considered as an example to emulate by the emerging large mining industry in India.

Mining industry is heavily dependent on logistical infrastructure and thus it creates downstream jobs in that sector. Encouraging and enhancing the existing marine transport-Industry will positively aid Goa's natural resources industry but it can also have a side benefit of creating an infrastructure for tourism too. Ship building and repair industry which is the downstream part of this value chain should be promoted and Goa can become one of the important centers in India for this activity. Mormugoa Port capacity and infrastructure needs to be expanded and uplifted with sophisticated technology and equipment to cater the growth of not only mining but other industries like Pharma and services like Warehousing.

This will ensure that the GDP input of 15% will be maintained at 8% in 2035.

5.17.2 Tourism and Related Services Value Chain

Tourism in Goa will continue to be a major contributor to state's GDP with indications that this contribution will continue to increase and grow. With the discretionary income in India expected to rise manifold by 2035, the tourism sector will grow very fast. Rich European heritage, "Green Goa" and other natural attractions, marine eco-system and a vibrant hospitality sector provide a strong foundation but all of these will have to be moved to a "Global-level Excellence" to make Goa a the most preferred destination for Indian and foreign visitors. Thus still remaining to be a key contributor to the state GSDP with a contribution of 15% to the state GDSP, as is today.

We need to have diversified tourism: adventure, mangrove based ecotourism, agrotourism, homestead tourism, are some of the innovative ways for creating more value for the customer and creating more revenues for the state.

Around this infrastructure, we need to add large Convention and Trade Fair facilities to make Goa the the most preferred centre for National Conventions, Festivals , Seminars and Family Functions . This is a huge opportunity of tomorrow in the Economy of the size of India is going to be. Nobody is better placed than Goa to capture this.

5.17.3 Health Care & Pharma Industry Value Chain

Goa is already producing 10% of India's Pharmaceutical products. Indian Pharmaceutical industry would be \$ 55 Billion by 2020 and maybe more than \$100 Billion by 2035. Goa should continue to remain a major production centre with around 10% share of the production volume of India. A huge opportunity to leverage the advantage of being a popular tourism destination would be in the healthcare space. Developing Goa as Healthcare Tourism for Indians and Foreigners will need efficient, competent, competitive and attractive health care services and infrastructure. World class hospitals and facilities, along with the vibrant pharmaceutical industry can in turn seed a large Clinical Research centers in Goa.

Health Care and Pharma contributes to 1% to the state GDP, we envision its contribution to be more than 5% in 2035.

5.17.4 Knowledge , Education , Research and Entertainment Value Chain

Goa has been well established as nice place to live in. We need to capitalize on this benefit and set up captive research centers for large multinationals, who are increasingly preferring to use India for such work.

Development of research centers will entail setting up of high quality education systems. Goa should become a prime centre for higher education and research in India. Goa 2035 can be the educational and research hub: with a focus on information and communication technology, biotechnology, pharmacology, nanotechnology, public health, governance , new media, maritime studies, green architecture, and specialized

research centres working on Goa, the Western Ghats, and the Indian Ocean. This will in-turn fuel the progress of knowledge based Industries.

As IT will be the foundation for tomorrow's Movie Industry. With its present promise as foundation, Goa can be a next Hi-Tech Mini-Bollywood, this would mean tomorrow's promising stakeholders of Bollywood industry – producers, actors and technicians with stake in IT –move to Goa and build Hi-Tech studios of tomorrow. All these industries will build on and enhance the clean environment, hence making Goa an even nicer place to live in.

The present contribution of the Knowledge Industry is 1% to the GDSP of the state. There lies a huge opportunity to raise it to 10% and more by 2035.

5.17.5 Goa has the potential of becoming a state that provides high quality financial and business services such as in accountancy, law, advertising, public relations, management consultancy, in the field of design including architecture, fashion and interior design, and in the print and electronic media such as newspapers, magazines, films, television and radio. There is also a vast potential in the cultural and creative industries such as live performing arts.

5.18 Let us discuss the point that was made earlier about rethinking tourism by diversifying it in some depth. There are obvious benefits that may be incurred from diversifying away from the type of tourism that is presently being pursued with the introduction of houseboat tourism or yachts, helicopter rides from Goa to Coorg, Hampi, and Bijapur, and the development of a marina say along the river front in Panaji that has open air restaurants, performing arts and entertainment which is open till late into the evenings. At some stage the state could also organize fairs and shopping festivals. At the same time there is a case for different taxes on tourism activities not solely for the purpose of generating revenues but also because tourism products are consumed jointly with a combination of unpriced amenities such as the natural climate, scenery, cultural way of life and historical buildings, and public goods such as roads and security.

- 5.19 The influx of tourists imposes public costs relating to the maintenance of amenities. Ordinarily tourists do not pay for these amenities and a tax is appropriate to redress the balance so that the burden falls on those who are responsible for increasing the cost of provision. Taxation should be used to address externalities including the increased congestion on roads and the additional environmental degradation. A tax can also be imposed to redistribute some of the benefits from developers involved with tourism projects to local residents who incur negative externalities in that the quality of unpriced amenities deteriorates from such developments.
- 5.20 The nature of tourism is such that often the more a location is developed the lower the price that can be charged – this is because accommodating more tourists at the same time reduces the quantity and quality of natural resources as the land is transformed away from its original condition due to development. Thus the revenue increase from tourism may be offset by the reduction in the willingness to pay by tourists due to the deterioration in the environmental quality. As tourism expands with new projects then the government should tax so as to garner revenues that can be deployed to ameliorate the local public infrastructure which will be inherited by future generations that have lost the opportunity to deploy the land for other purposes.
- 5.21 Whilst levying taxes it should be kept in mind that tourism also generates public benefits in the form of multiplier effects on the local economy because the local population is involved in operating tourism facilities and tourists consume local products and services. This should be traded off with the costs to the local population in terms of congestion as the destination is intensively developed and exhaustion as well as degradation of natural resources and the ecosystem. Taxes should be set so that the environment and external effects of tourism are offset by the income multiplier effects to the present local population. These tax receipts in turn should be used to improve social and physical infrastructure such as on hospitals, schools, and roads, so that future generations are compensated for inheriting land and associated amenities that has been transformed and

developed earlier and which is largely difficult to reallocate to other developmental purposes.

5.22 Some of the possible taxes are listed in the accompanying table. It is often difficult to collect some of these taxes due to problems of monitoring as well as high collection costs. Thus it may also be worth investigating the possibility of having a summary assessment for hotels in that they may be asked to hand over a fixed amount to the revenue authorities with no questions asked. –

Sector	Name of Tax	Payable by
Entry/Exit taxes	Travel tax	Customer
	Travel permit	
Air travel	Air passenger tax	Customer
	Airline fuel tax	Business
Airport/Sea Port/Road borders	Departure tax Passenger service tax Airport security tax Transit taxes	Customer
Hotel/Accommodation	Occupancy tax Hotel accommodation tax Lodging tax	Customer
Restaurants	Sales tax/VAT	Customer
	Liquor taxes/duties	Business
Car rental/coaches	Purchase duty	Business
	Tourist transport tax	Customer
	Specific additional tax	Business
Gambling	Betting tax	Business
	Casino tax	Customer
Environment	Eco-tourism tax	Business

	Carbon tax	Business
Tourism attractions	Visitor attractions tax VAT and sales tax	Customer Customer

5.23 Finally, we need to develop tourism sites as sustainable production consumption systems

- More diversified ,tourist experiencé with less material and resource usages and host stress; improve sustainability through greater attention to interests and motivations of different kinds of tourists
- A participatory tourism by recognizing the role of host communities as both producers and consumers of the tourism product and the importance of their well being to the feel of the place
- Minimal footprint practices to save water, land, energy
- Regulate better the social footprints – drugs, gambling, HIV/Aids, violence

5.24 The Regional plans in Goa have all concluded that mining must be phased out. However, the government is of a different view and has indicated that it is going to renew some 300 or so new mining leases. Mining contributes about 4.6 per cent of GDP in 2008-09 in constant prices and 9.2 per cent in current prices. The issues related to costs of mining are usually stated in terms of the environmental and social costs. The environmental costs are in terms of forest lost – estimated to be INR 467.3 crore by the NCAER in 2010 – surface water stretches affected, ground water pollution, and air pollution – estimated at INR 66.5 crore abatement cost by NCAER. The social costs are the health impacts of polluted water and air, lost agricultural livelihoods, displacement, and the accidents on roads which are additional costs that are required to be factored in. From a governance standpoint we would like to flag the following issues.

- 5.25 Environmental clearances were being given by the MoEF for a number of mines in the last few years until last year. We need to have a clear position on the issue of a buffer zone around wildlife sanctuaries. The Supreme Court had suggested that states can come up with buffers depending on local realities and Goa government had suggested a zone of six kms. from sanctuaries in 2007 to which the MoEF has not yet responded. A clear guideline on this count is urgently needed. At the same time sanctuaries need to be monitored rigorously.
- 5.26 There are numerous cases where mining is carried out without permissions leading to the devastation of large tracks of land. Illegal mining is prevalent both in terms of lack of permissions/clearances and through the flouting of environment clearance conditions. The records of the DoM and the SPCB do not match in many cases – actual ore production is in some cases twice what the DoM reports whilst the SPCB record determines the royalty received by the government.
- 5.27 There is no systematic estimation done of ore exports and royalty leading to a loss of royalty to the state. It is recommended that a study to be commissioned that looks at the balance sheets of mining majors such as Sesa Goa and Vedanta to estimate the potential for royalty.
- 5.28 From the point of view of finance, there is a scope still for the introduction of a mining rejects tax and a barge tax on the amount of ore going down river. However, it should be kept in mind that approximately 24 per cent of Goa's tax revenues currently are from mining and quarrying and there are limits to continued new taxation though there is still further scope for plugging evasion and improving regulation. The taxes as of now from mining are listed in the accompanying table –

State government (2008-09)	Amount (INR Crore)
Royalty at 10% ad valorem	300
Barge tax	12
Road tax	12

Road Infrastructure Cess	50
VAT, CST	50
Others (Minor Port, Panchayats, Deadrent, Surface rent, etc.)	76
TOTAL	500
Central Government (2008-09)	
Export duty at 5% towards fines and 10% to lumps	250
Corporate tax	1600
Major Port charges (Mormugao)	150
TOTAL	2,000

5.29 A share of state mining royalty (5 per cent) should be shared with the districts and villages where mining takes place. This should be put into a District Development Fund which is used to build skills, capacities, and alternative employment opportunities for local people. A further 20 per cent of royalty should be put in an intergenerational fund that earns revenue for the state in the future when revenues from mining begin to dry up.

5.30 We should adopt responsible mining, with the following emphasis:

- Mining to be limited to a level that is consistent with social and environmental carrying capacity. We would recommend 20 million tonnes per annum based on earlier studies. Can be revisited based on improvements on the ground. The amount can be distributed across companies based on production levels in 2004 before the boom took off.
- Mining in Ecological Sensitive Zones (ESZ) in the Western Ghat talukas to be regulated as per the recommendations of the Western Ghats Ecology Expert Panel and RP21.
- Minimal footprint technologies and practices and improved area wide environmental quality management; sharing benefits and developing alternative skills and livelihoods in the region

- Mineral deposits that come close to economic depletion to be rehabilitated with the introduction of new business opportunities such as eco- tourism, agricultural /fruit plantation and water harvesting/treatment for commercial/community use.

Agriculture

- 5.31 Manufacturing, services and agriculture form the backbone of an economy. Let us now look at the potential contribution of agriculture and horticulture in the economy of the state. Agriculture is one of the major economic activities of the rural people of the State. Major problem being faced today is the exodus of rural population to urban areas for employment especially for white collar jobs. In the year 1960-61, 64 per cent of the work force engaged in agriculture and allied activities, which has declined to 16.6 per cent in 2001. While decadal censuses indicates continuous decline of work force in agriculture sector, the agriculture production in the State is showing an increasing trend. However, its contribution to GSDP has declined sharply and is now at only 7 per cent.
- 5.32 The key issue concern seems to be one of allowing agriculture to decay because of the existence of alternative economic activities. This is especially so in the mining villages, where mining has privileged agriculture as a land use. However, we witnessed considerable interest in villages and, especially amongst youth in revitalizing Goa's agriculture potential and developing it through appropriate infrastructure, reduced wastage, improve input availability, resource conservation and support for agro based entrepreneurship.
- 5.33 Let us look at the agriculture crops, the areas used and the production. Rice is the main cereal crop of Goa, which occupies total cropped area of 47,104 ha during 2010-11 comprising about 29% of the total cropped area in the State. Cashew continues to be the focus among all horticultural crops as the produce is a source of cash having export potential creating rural employment, generating

additional income. Coconut is the main crop cultivated all along the coastal belt. Local cowpea known as 'Alsando' is a popular pulse crop.

- 5.34 The productivity in major crops of Goa viz paddy, cowpea, vegetables, sugarcane and other horticultural crops like coconut, mango, cashew is far lower than the desirable levels. The crop management practices, therefore, need to be modified to get the optimum yield. Multipronged approaches need to be adopted to improve the productivity. Promotion of use of organic manures and farming, mechanization, proper fertilizer management, water management, High yielding seed material, protected cultivation, etc. are needed to be attended.
- 5.35 Due to very heavy pressure on land and water resources with increase in population the availability of these resources for agriculture is getting reduced and is expected to further reduce in next 25 years considering the increase in inflow of tourist at 15-20% per year. The adoption of drip irrigation, protected cultivation, water harvesting structures, soil recharging should be immediately standardized and advocated for large scale adoption to safeguard of agriculture and to met demand of food commodities.
- 5.36 The cultivation of food crops in Goa account for 30-35% of the cultivated areas with horticulture contributing for the rest. The food crops are the primary needs of any state. To get maximum production per unit area per annum to overcome low returns from single season, these crops need to be intensively cultivated with rotations. Non availability of sufficient irrigation facilities or shortages of labour limit their cultivation such land should be converted to other uses such as horticulture sector.
- 5.37 The intensive cultivation of traditional vegetable or exotic vegetables under protected cultivation could be adopted to meet the demand of hotel industry besides the growing population. The cultivation of vegetable shall be intervened by government with demonstration of most profitable combination. The local

produce shall be facilitated for marketing by opening agriculture market all over State, so that the consumer or industry can source these produce in Goa itself instead of bringing them from outside the State. The cultivation of vegetable under cover shall help in making these available round the year.

- 5.38 New advanced machinery has become a boon to the farmers as it reduces the cost of cultivation and harvesting. Introduction of paddy combine has resulted in timely harvest of paddy reducing the losses and thereby increasing the overall profitability of the crops. Overwhelming response for the use of improved machinery is being seen. It is also expected to reduce the labour dependence by the farming community.
- 5.39 The National Horticulture Mission scheme which was introduced in the State in 2005-06 envisages development of horticulture in a Mission Mode approach and covers production of planting material, establishment of new gardens of fruits, flowers, spices, medicinal and aromatic crops, rejuvenation/replacement of senile plantation, creation of water sources, promotion of integrated pest management and organic farming, etc.
- 5.40 The State of Goa has a high rainfall. However, it suffers from the low availability of ground water in summer mainly due to porous type of soils which are lateritic. The water table is high in coastal area, while it is very deep in the hilly area. Open well, pumping of water from streams and *nallahs*, rivulets and canal water are the main sources of irrigation. Ponds and tanks which are recharged by natural springs also provide some support for irrigation. The total irrigated area of the State is about 26%.
- 5.41 The soils of Goa are red lateritic, and slightly acidic with pH of 5– 5.5. They are light & porous with low water holding capacity. The water table is influenced by rains and high percolation losses in drier period after monsoon. The soils are generally deep. The soils in coastal khazan land are generally saline in summer

but are rendered neutral in monsoon due to washing of salts due to heavy rains. These lands are cultivated with paddy in *kharif* (rainy season) and kept fallow in *rabi* (winter season). The pisciculture activity is also taken up in such area by tenants' association by impounding water.

- 5.42 The State uses very low levels of fertilizers and pesticides per hectare. The soils of Goa are rich in minerals which contribute towards providing very good taste to agricultural products of the State specially organically grown products. Above all, Goa has become a brand name by itself which can be easily adopted for marketing of produce.
- 5.43 Organic farming/agri eco-tourism is taking a momentum in the State due to heavy flow of domestic and international tourists in the State and also heavy demand for the organic food. There are about 2600 cashew cultivators who have been certified as organic cashew growers by Cooperative Society and the Cashew Processor in the State. The processed organic cashewnut is exported to European market at premium rate. Under Agri Tourism activity the tourists are expected to take advantage of the cultivation of spices besides other tropical fruits.
- 5.44 The State has 18000 hectares of saline lands locally known as khazan lands, which are low lying reclaimed/reclaimable lands. The khazan lands have to be protected from saline water inundation by construction of embankments marginal to the rivers and creeks. A sluice gate is an integral part of embankment. There are about 550 bunds with a total length of 450 kms. These bunds are repaired at a cost of 90% by Government or with 50% subsidy whenever tenants association repairs the same.
- 5.45 Due to the dominance of service sector the availability of domestic labour for agriculture has reduced over the years. This has also resulted in keeping the land fallow at many places. The problem has been aggravated as the size of holding

in the State is low where nearly 80% of land holders own less than one hectare of land. The activities of tourism, mining, infrastructure and other service sectors has been putting tremendous pressure on agricultural land for diversion to the non-agricultural sector which at times tempt the farmers to dispose off their lands for handsome cash. The farmers also expect similar returns from agriculture on lines with service sector. Due to the above situation, younger generation also tend to go away from agriculture and the State is becoming more and more dependent on food coming from other States. The food grain, milk, and vegetables are therefore, regularly brought in the State from adjoining States to cater to the needs of domestic and tourist population.

- 5.46 The Khazans are agro-ecosystems found in Goa. These are lands, which have been reclaimed over centuries from marshy mangrove swamps. using an intricate 3-tier system of embankments, bunds (dykes) and sluice gates. These lands are rich depositories of biodiversity. They have for many centuries been governed through common village management. These self-governing village institutions were known as *gaunkaris* or later, *comunidades*. Khazan lands are highly adaptable and can be used for agriculture during monsoon when the salinity goes down, for pisciculture after monsoons and for salt manufacturing during summer, when the water is drained out. Over centuries, khazan farmers have cultivated rice, selecting and replanting the best strain. There are 17 salt tolerant rice varieties used in khazan farming. This diversity is a result of centuries of selection by farmers, adaptation to the saline and poorly drained, acidic environment, breeding with wild relatives and local varieties and the evolutionary process over centuries. But these traditional varieties are today being replaced by six or seven modern high-yielding varieties. This will reduce the genetic background of rice varieties of Goa. Not only the traditional varieties, but also long established farming ecosystems are disappearing. This poses a danger to the long-term food security of the region.

- 5.47 Another major threat that challenges agriculture in Goa State is the damage caused by mining. Mining not only takes away the productive land, but also damages the agriculture in the areas at lower levels by siltation, depletion of water resources, loss of water table, dust pollution, etc. The agricultural reforms in the State have not helped in boosting agriculture and has also increased the tendency of holding back the land without cultivation or without giving it to the desiring cultivators due to fear of losing the land under tenancy rules. The contract farming with protection to the owners from losing land under tenancy needs to be designed to check this tendency of keeping the land fallow. Similarly, some legislation is needed to check further fragmentation of land and to amalgamate the small land holdings.
- 5.48 Against the back drop of challenges posed due to the various economic activities, the State has also emerged as a big assured market for agricultural produce. The State has a good purchasing power and the market rates are very often rewarding. The State has an excellent scope for production of vegetable, milk, fruits, flowers and spices due to assured market from domestic and floating population.
- 5.49 Due to low utilization of chemical fertilizers and pesticides, the products from the State are nearly organic which are sought after by tourists and there is a specific market for these products. The education level in Goa is high which has been helping the adoption of smaller agricultural machinery developed across the world. This has been reducing significantly the dependence on the expensive labour. Being a tourist destination, the agro tourism, and spice tourism, is getting importance as a part time occupation though this needs to be properly oriented to meet the growing demand in the world.
- 5.50 The organic farming with use of locally available biodegradable material and promotion of use of organic manures, vermin compost and organic certification are recommended in respect of crop like cashew, vegetable and spices. The

establishment of exclusive organic farming zones as suggested for promotion of this concept among the tourist and middle and upper middle class of visitors. It is suggested that Government may address the following issue for promotion for organic farming:

- Technical information about organic farming.
- Separate marketing facility.
- Better price for the organic commodities.
- Subsidies and lower interest rates.
- Providing a certification facilities
- Provide organic inputs viz., organic seeds, bio-fertilize, bio-pesticides etc.

5.51 The soil primarily needs to be prepared for cultivation of the crops. Due to inadequate labour force the agriculture in next a decade shall be totally dependent on the farmers capacity without any external support from unskilled Labour. The use of crop specific and function specific agriculture machinery should therefore be promoted. The ploughing of the soil, inter cultivation, weed control, pruning harvesting shall be mechanized. The different versions of the machines as per the size of holding and requirement shall be promoted. It is proposed to promote farm mechanization through Self Help Groups, NGO and Rural Youth to increase mechanization level to at least 2KW/ha. The system for repair and maintenance is also proposed to develop simultaneously to create additional employment.

5.52 Good management of farm starts with management of soil. The soil nutrient availability in each field need to be assessed. 100% soil analysis of each parcel of agricultural land shall be adopted to ensure that the farmer make judicious use of the available fertilizer. The soil testing data shall be digitalized and crop specific recommendation shall be derived so that the farmer shall get ready reckoner of the fertilizer needed through external application. Considering the rising cost of fertilizers, the plant nutrients may be required to be applied to the crop through frequent foliar sprays instead of ground applications.

- 5.53 The farmer in Goa is very often involved in part time activities out of the farm and hence system with automated irrigation control is recommended. The pump operation, the irrigation time could be automatically controlled from remote point of work. The system could also help in providing automatic fertilizer applications to the crops. For the areas with limited water availability or water conservation/storage structures are advised. This harvested rain water shall provide water at critical period of crop growth to increase the productivity of the crop. The cultivation of crops like vegetables, sugarcane, coconut, spices, pineapple, arecanut, banana etc. could be brought under the drip irrigation system. Cashew and mango which are largely grown on hills slope could be managed through the water harvesting structures. It is proposed that 60% of the cultivated area should be brought under the irrigation in next 25 years.
- 5.54 Seed is the prerequisite for higher yield. The farmers in Goa cultivate traditional varieties of the crop which have low yield potential. Though the traditional varieties have unique characters such as taste, disease and pest resistance etc these varieties do not have potential to produce large commercial volumes to meet the growing demand of domestic population and the tourist. The state has therefore been dependent on other states for its food requirements, specially vegetables, fruits, cereals and pulses. The emerging market of flower is also catered by grower from other states. The State of Goa therefore, need to standardize the high yielding varieties that a suited to local condition and exploit their full potential.
- 5.55 With the flow of tourist the demand for flowers, fruits and vegetables has been increasing at fast pace. The round the year availability of agriculture produce is therefore a challenge. It will be highly beneficial to introduce protected cultivation system on large scale in next two decades to facilitates round the year cultivation of vegetables. The concept will not only help the availability of produce

round the year but also help in fighting climate change and get quality produce ensuring the economical returns from agriculture.

The types of protected structures recommended for Goa are naturally ventilated polyhouses, shade houses (suitable for winter and summer), Slightly interior places in Goa are more suitable.

5.56 The crops that can be suggested for taking up under protected cultivation, are:

Flowers – eg. Orchids, anthuriums, etc.

Vegetable- eg. Especially exotic vegetables like broccoli, lettuce, Chinese cabbage, red cabbage, celery etc.

Apart from high value flowers and exotic vegetables cultivation, even nursery activity like raising grafts, potted plants, etc can be encouraged to be taken up under protected cultivation.

5.57 As the State is located in heavy rainfall zone with heavy precipitation of about 3000 mm within a short span of 4 months the soil erosion and run off is severe. The calculated measures for checking soil erosion are required to be taken. The measures include terracing, contour bunding, contour trenching, gully pluggings, adoption of green cover, development of ponds etc., these structure help in harvesting rain water, recharge of ground water, reduce soil erosion and avoid siltation for sustainable agriculture. The state shall identify watershed area and plan for execution of the watershed development at micro level. The detail survey based on contour maps and agricultural potential areas shall be required to be done with satellite data.

5.58 The mining activities are expected to slow down with the depletion of reserves. The mining rejects or dump yards need to be revived for cultivation, enriching these soils with enriched city compost and adoption of micro irrigation can be help in reclaiming these areas for cultivation of cashew and mango garden that

could tap a very good export market. The flat areas upon reclamation could be developed for vegetable cultivation under open or covered system. The run off from the mines has silted paddy field in nearly 2500 – 3000 hectares. These soils shall be revived to improve soil aeration, microbial activities and reducing acidity. Government support shall to be extended for such revival of the lands for cultivation. These areas shall be developed under leguminous crop cover such as groundnut, cowpea or root crops like elephant foot yam, dioscorea etc.

- 5.59 The cashew, mango, pineapple, *chikoo*, banana are other crops that will to be promoted to meet the need of tourism industry. The crops shall be promoted in abandoned mining areas or comunidade lands and in private holdings under employment generation schemes. The suitable soil and water conservation measures shall be adopted for these areas. An area of five thousand hectares can be developed for horticulture crop in the next two decades. The emphasis shall also laid on to improvement of productivity and quality of the produce.
- 5.60 The state has already taken up developmental programme to upgrade the existing cattle population by artificial insemination with semen of exotic by per state need to upgrade the story cattle too with artificial insemination to get F1 generation with higher milk and meat productivity simultaneously acclimatizing to the local agro climate condition. This would reduce dependence of the state on input of heifers from other states which sometimes do not perform under local condition due to climate change.
- 5.61 Fish and fishers is one of the staples of Goa's life. Fish consumption is part of the DNA of a Goan and the fisher is thus an important part of Goa's life. Today however, there is considerable overfishing. Destructive trawl fishing continues wantonly in the state often in violation of the law. This includes use of banned craft (3 cylinder trawlers) and nets (below the permissible mesh size) and often fishing very close to shore in violation of the Marine Fisheries Regulation Act. There have also been complains regarding out-of-state trawlers fishing in Goa's

waters. There is also tourism and ore transport related demand for spaces that were previously occupied by the fishers creating some land and water use conflicts. Direct sewage disposal into the sea also creates problems for the fishing community and to environmental health of Goa.

- 5.62 The marketing system in Goa is inadequate to meet the commercial requirement except for few commodities. The Goa State Agricultural Market Yards are involved in facilitating marketing of few notified commodities. However, only cashew nut, arecanut, coconut and limited quantity of other listed items are traded through yards. The promotion of cultivation in spices, vegetables, flower, etc. therefore need to be linked to markets for providing platform for the grower to trade their produce.
- 5.63 The State at present depends on vegetables coming from States of Karnataka and Maharashtra which are brought and supplied directly to retail vendor. The local producer find it hard to break this linkage and to push his produce to market, unless he takes up self marketing. The wholesale marketing platform are therefore essential to be developed for such perishable produce every day. The local fruit like mango, banana, pineapple, chicku etc. could also be linked to such arrangement. This will help the buyers of large quantity like hotels, industrial, canteens to come to such markets for direct purchase from farmer beside retailers.
- 5.64 Goa is a market brand by itself. Lakhs of tourists either domestic or international visit this State every year mainly due to its greenery and beaches State need to take advantages. This factor and promote in agriculture tourism by taking the tourists to hinterlands. The State has a typical set up of mountain ranges on eastern side and beaches on the west coast. The area in between are undulating agricultural lands. The tourist could be taken to such area to expose them to the various agricultural projects. The agro tourism projects based on various concepts could be developed.

5.65 Finally, an aggressive Agri-policy for Goa with a ten point agenda:

1. Goa should be declared as an organic state.
2. Subsidies for chemical fertilizers & pesticides should be stopped, instead transport of organic manure such as treated sewage and garbage should be subsidised.
3. Seed bank of local varieties of rice, cowpea, millets, vegetables should be set up & seeds multiplied to allow easy access of good quality seeds to farmers.
4. Horticulture Corporation should be urged to purchase vegetables produced by Goan farmers at a fixed support price for each vegetable.
5. The quality of produce to be maintained by strict guidelines & checks.
6. The “Goa organic” brand should be developed & marketing of produce under this brand name should be encouraged.
7. Stalls for marketing by S.H.G.'s to be set up at Taluka level headquarters, Bus stands, railway station, beaches and airports.
8. To promote agri processing, a centre for processing, preservations, drying & value addition to be set up in each panchayat for agri/horti produce.
9. Cold storage facility to be made available in each Taluka for storing vegetables, fruits to reduce wastage.
10. Research centres such as ICAR should help in processing of fruits such as Jackfruit, karmal, bimbil, cocum so as to add value to the same.

Macroeconomics of Goa

5.66 Our starting point is the stark trend in the development of an aspect of the economy of Goa as depicted in Figures 1 and 2. The share of the output produced in the economy which comes from the tradable sector has been declining over time and its relative price has been rising. This stylized fact is at the heart of important governance issues in the state as well as its public finances. We therefore, first attempt to explain the origins of this stylized fact before attempting recommendations for the future.

Figure 1: Share of Tradables in GSDP

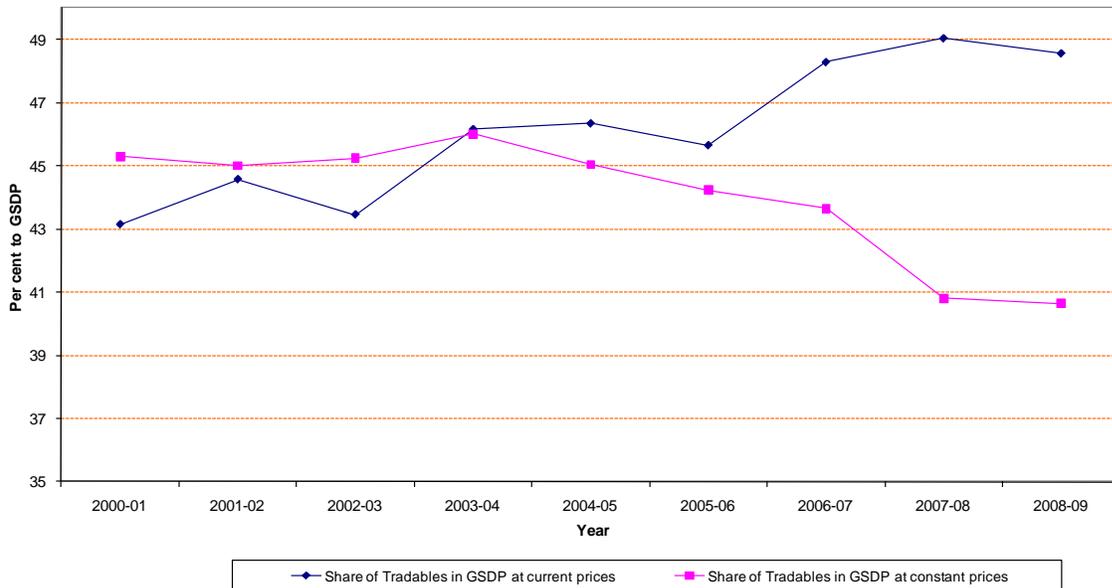
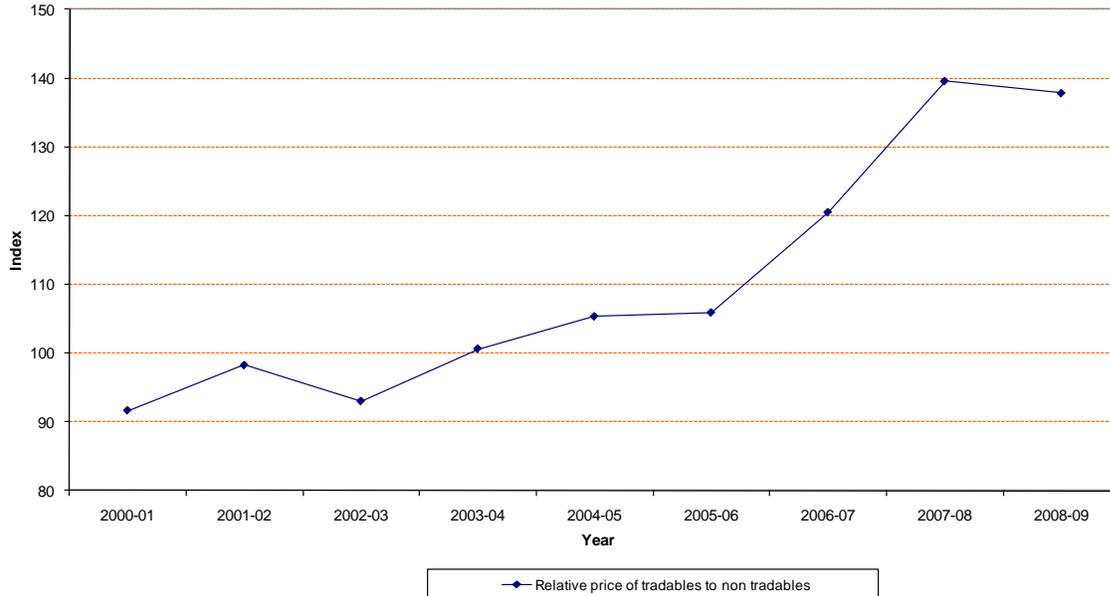


Figure 2: Index of real exchange rates



5.67 We proceed by defining what constitutes tradable and non-tradable output before providing the explanation for the stylized fact. An important distinction in macroeconomics is between goods that are tradable and non-tradable. Non-tradable goods can only be consumed in the economy in which they are produced – they cannot be exported or imported. The textbook example of this is the services provided by a barber. The clientele of the barber comes from the neighbourhood of the domestic economy and if the demand for barber's services drops he is unable to export the excess capacity to provide haircuts. Without the possibility of exports or imports, local demand and supply must balance and more importantly as a drop in domestic demand cannot be offset by an increase in exports, domestic prices can differ from foreign prices. Just like haircuts there are other goods and services that are not part of cross border trade. Housing and land rental markets are non-tradable too and rentals differ widely across locations. Many service sector activities such as those of lawyers, doctors, teachers, housekeepers, also provide services that are largely non-tradable.

5.68 Two main factors determine whether a good or service is tradable or non-tradable. The first is transport costs as lower transport costs improve the likelihood of a good being traded across borders. Many services are defined by this characteristic of high transport costs per unit of value. Technological progress in communications has enabled the cross

border trade of several kinds of financial and other services such as data processing and computer software. The second factor that determines whether a good is tradable is the extent of trade barriers that block the free flow of goods and services across borders. The higher are such barriers to trade, the reduced is the likelihood the good will be traded. In practice whether goods are tradable or non-tradable is decided not at an individual level but according to broad classifications of goods as in the standard industrial classification of the state domestic product. Goods included in the following categories of agriculture, forestry, fishing, mining, quarrying, manufacturing product by major industry are considered to be tradable.

Goods in the following categories of electricity, gas and water supply, construction, trade, hotels and restaurants, transport, storage and communications, financing, insurance, real estate and business services, community, social and personal services are typically considered to be non-tradable¹.

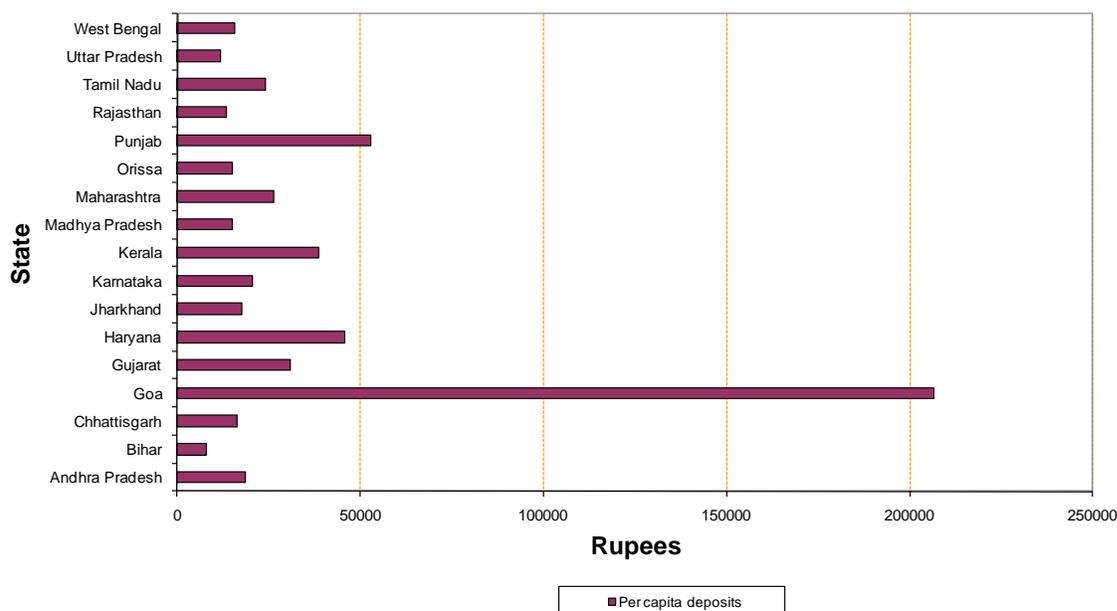
- 5.69 The data for Goa depict that tradables were 45.3 per cent of Gross State Domestic Product (GSDP) at the beginning of the decade (2000-01) and have declined to 40.6 per cent of GSDP by 2008-09 (Figure 1). In terms of current prices (rather than constant prices) the share of tradables was 43.1 per cent of GSDP at the beginning of the decade and this share has increased to 48.6 per cent by the end of the decade. This implies that whilst the share of tradables in real output has declined, the price of tradables has been rising over the decade. In fact, the relative price of tradables to non-tradables has been increasing over this period. (Figure 2). The index of this relative price was 91.6 at the beginning of the decade and ended the decade at 137.9 implying a significant trend growth rate of 5.4 per cent over the period (Figure 2).
- 5.70 This leads us to ask why is it that the share of tradables in state income declined over the decade whilst at the same time the relative price of tradables to non-tradables increased². Our explanation hinges on the stylized fact that the state has witnessed large

¹ There are obvious exceptions. Some construction activities are higher tradable as when construction firms deliver projects in different locations. Some transport services such as cross border transport and shipping are engaged in trade. On the other hand high transport costs and loss of freshness may render agricultural products like vegetables non-tradable.

² It is often stated that the increase in the share of tradables in current prices is due to the increase in the price of iron ore in the global market. The price of ore has been increasing since

emigration of the working age population along with high remittances. Goa has the distinction of being a state with the highest remittances. Punjab and Kerala receive remittances of a much lower order than does Goa. A simple way to capture this is to examine the total deposits of all scheduled commercial banks. As the deposits of banks in state capitals will include a large component of government and corporate deposits it is advisable to exclude such deposits in the data for bank deposits across states. The per capita bank deposits calculated in this manner are reported in Figure 3³.

Figure 3: Per capita Bank deposits amongst states



Goa depicts per capita bank deposits of INR 206,446 which are four times that of the second highest state of Punjab which has deposits per capita of INR 52,733. If we scale the per capita deposits by the per capita income of each state, then too as Figure 4 depicts, Goa's deposits

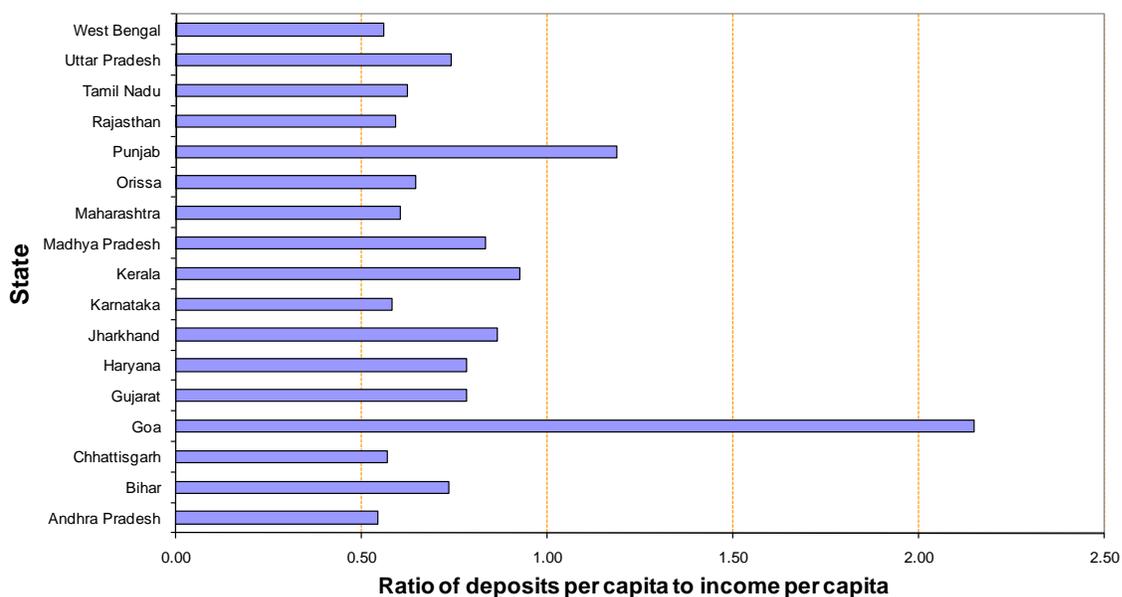
2003-04 and there was a substantial increase in January 2008 (by 65%). Such large increases in the price should have been accompanied by a substantial increase in the supply of real output to qualify as a sectoral price effect. To the contrary the share of output of mining in GSDP has been more or less constant over this period and it is this paradox that we attempt to explain.

³ Data are from Datta, D. (2010), EPW, Vol. XLV No. 44, pp. 99-105, October 30.

are 2.15 times its income which is still 1.8 times higher than that in Punjab (1.19 times income) and 2.3 times higher than the third highest state Kerala (deposits at 0.93 times income).

5.71 Such high deposits are mainly due to remittances and are not attributable to the savings out of incomes earned from within the state's economy. The emigration from Goa in 2008 was of 56,243 persons which amounts to 3.5 per cent of the population in that year. The Census of 2001 had estimated the out migration from Goa within India at 86,442 persons which amounts to 6.4 per cent of the population of that

Figure 4: Ratio of per capita deposits to per capita income



year. Our contention is that the high emigration from the state and the associated remittances are related to the compositional changes in the share of output between tradables and non-tradables as well as the rising relative price of tradables to non-tradables.

5.72 Regions differ in the income generated within them for two basic reasons – because they differ in their accumulation of inputs required for producing the output that generates incomes or because they differ in the productivity with which those inputs are used. There are several inputs into production that a region or country can accumulate. It is usual, however, to broadly identify three basic inputs that are important – capital, labour,

and land. Capital refers to the physical objects that extend our ability or do work for us. It includes not just machines but also the buildings in which we work, the vehicles used to transport goods and raw materials, infrastructure such as roads, etc. Labour refers to those in the workforce who are willing to work in various jobs as well as the quality of skills (or human capital) that they possess. Land refers to unproduced natural resources that are an essential element of production in an economy and which exist irrespective of human activity.

5.73 Land as an input in Goa occupies an important position because the state is unique in that its forest area as a percentage of its total geographic area is estimated to be 58.2 per cent⁴. This makes its density of population (persons per square km.) on area not under forest at 872 compared to the density on total area of 364 per square km. In addition large parts of land not under forest are not easily available for economic exploitation because they are either water bodies or khazan lands, properties with churches or temples, undulating land on slopes, lands subject to coastal regulations, and land that cannot be used due to inheritance laws. This makes land or unproduced capital an extremely scarce and valuable resource in the economy. In what follows we take it that the land in use by sectors such as trade, hotels and restaurants, transport, and government and community services is of a far higher area as well as value compared to that in manufacturing and mining. Thus the non-tradable sector has a higher land-labour ratio⁵ than does the tradable sector.

5.74 The other factors deployed in producing the output of an economy are physical capital and labour. Goa does not have a capital goods production sector and all capital required for production is imported into the economy. In what follows we suppose that Goa is a small economy within the national and global economy and unable to influence the price at which it obtains physical capital. Capital as a factor of production is taken to be available without restrictions in both the tradable and non-tradable sectors at an exogenously determined price. The other mobile factor of production is labour which in the case of Goa is associated with large emigration. Related to economic migration is the income flow from migrants to the country of origin – remittances.

⁴ This is data from the Forest Survey of India, State of Forest Report, 2003.

⁵ Technically this means that at any given factor price ratio of returns to produced human capital to the returns to land, the non-tradable sector uses more land relative to labour than the tradable sector.

- 5.75 In the Appendix we demonstrate how emigration and remittances affect the production of output in the tradable and non-tradable sectors of the economy when the land-labour ratio is higher in the non-tradable sector than in the tradable sector. When emigration takes place an important input (labour) required for the production of output becomes more scarce. However, this input is used relatively more intensively in the tradable sector than in the non-tradable sector. As a result there is a decline in the output of the tradable sector relative to the output of the non-tradable sector. As the tradable sector production declines, however, it also sheds some of the other accompanying inputs required for production such as land and this input then gets transferred to the non-tradable sector which uses this input more intensively. The non-tradable sector then has access to more land relative to labour and since it is land intensive in production the output of this sector increases. Emigration then expands the production of the output of the economy in the direction of the non-tradable sector.
- 5.76 The secondary impact of emigration is that as it increases the ratio of fixed inputs (land) to variable inputs (labour) it enables more of a fixed input to be utilized in conjunction with a smaller variable input and so increases the output and income in the economy⁶. In addition emigration leads to an increase in remittances that further increase the income in the hands of residents. The rise in income and purchasing power results in a rise in aggregate demand in the economy – an increase in demand for both tradables as well as non-tradables. In the tradable sector the supply of output declined due to the emigration. At the same time the increase in income and the resulting increase in demand raised the demand for tradables from within the economy. If we add the effect of increased external demand for tradables due to instances such as the increase in iron ore prices in January 2008, we find that there is a decline in the output of tradables whereas the price of tradables relative to non-tradables rises as depicted in Figures 1 and 2.
- 5.77 This is what plausibly caused the share of tradables in the economy to decline at the same time as their relative price increased. For non-tradables, on the other hand, the increase in their supply limited the increase in the price of non-tradables despite the increased demand for the output of this sector both from within the economy and from without (by tourists for instance). In our set up it is the supply shift increase in the non-tradables sector that has resulted in a limitation on the improvement in the price of non-

⁶ This is due to the properties of the well known principle of diminishing marginal productivity.

tradables. It is well known in the tourism sub-sector of non-tradables for instance that tourist arrivals – whether domestic or foreign – have been highly variable. Figure 8 depicts no steady growth trend with a positive growth rate of tourist arrivals offset by subsequent negative growth rates⁷. With demand for tourism over the years being of this nature the shift of the demand curve for tourism in response to Goa’s popularity as a destination has been muted whilst the increase in supply of tourism related services has been substantial resulting in the increase in the price of tourism services not been significant.

Appendix 1: Key Social, economic and environmental Observations

S.No	Sector	Findings
1	Social	
	<ul style="list-style-type: none"> ▪ Population density, distribution 	<ul style="list-style-type: none"> ▪ High population density of 394 persons/km² (North Goa: 471persons/km² and South Goa: 326 persons/km²); Uneven distribution, migration, floating population
	<ul style="list-style-type: none"> ▪ Urbanisation 	<ul style="list-style-type: none"> ▪ 62% population residing in urban areas in 2011
	<ul style="list-style-type: none"> ▪ Health 	<ul style="list-style-type: none"> ▪ Good coverage of medical facilities (compared to other states) : IMR and MMR low and declining further ▪ Rapid rise in chronic diseases such as cancer, heart disease and mental health problems
	<ul style="list-style-type: none"> ▪ Literacy 	<ul style="list-style-type: none"> ▪ Census 2011 : 87.4% (4th in India)
	<ul style="list-style-type: none"> ▪ Employment 	<ul style="list-style-type: none"> ▪ Unemployment rate higher than country average with gender differences; Lack of jobs and skill mis-match
	<ul style="list-style-type: none"> ▪ Income 	<ul style="list-style-type: none"> ▪ Highest GDP per capita (2.5 times the country average)
	<ul style="list-style-type: none"> ▪ Poverty ▪ Agri. products dependency ▪ Security 	<ul style="list-style-type: none"> ▪ Population BPL has constantly been lower than the national average; Fewer slums ▪ Decreased agricultural yields and changed consumption patterns ▪ Social evils on the rise
2.	Economy	
	Tourism	<ul style="list-style-type: none"> ▪ Tremendous growth (6 times in 3 decades). The average annual growth of international tourists is higher than domestic. ▪ In 10 years, 792 new hotels; rent back facilities

⁷ The trend growth rate of tourist arrivals for the period is 9.1 per cent but a quadratic growth curve gives a better fit to the data and indicates a decline in growth rate over time.

		<ul style="list-style-type: none"> Foreign exchange earnings from Goa is about 700 million US \$ per year Environmental Impacts: CRZ violations leading to destruction of sand dunes and coastal ecology; pressures on sewerage, waste disposal facility, electricity supply, water supply, transport, roads etc; Occupational shifts and social-economic issues, inflation of certain products
	Industries	<ul style="list-style-type: none"> Significant contributor to GDP (1/3rd) Water consumption share– 53%⁸ mainly ground water Major contributor to air emissions (24% in PM)
	Mining	<ul style="list-style-type: none"> 40% of the total exports of iron ore from India Environmental issues : Land degradation, Degradation of forest and loss of biodiversity, Air pollution, Surface and ground water pollution , Noise etc Conflict between mining and agriculture Governance issues: Illegal mining, enforcement of mine operating & closure laws
	Agriculture	<ul style="list-style-type: none"> Decline in agriculture: contributes 5.6% to the GDP, employs 15% of work force Less lucrative to workforce : land diversion for other land uses (land price increase) Infrastructure constraints : supply chain, efficient irrigation and information systems Impacted by mining and unplanned urban development
	Construction	<ul style="list-style-type: none"> Increasing rate of construction similar to other urban centers of the country is observed in Goa. Bye-laws do not provide for continuation of architectural facades relevant to historical places. Bye-laws do not provide for energy-efficient and resource efficient buildings Conflict of interest for hoteliers and CRZ /ecology. Green buildings are not very popular. Housing supply gap- rising prices
3.	Environment	
	<ul style="list-style-type: none"> State of Environment 	<ul style="list-style-type: none"> Air pollution : High PM emissions from mining (39%) and industries (24%) and transport (10%) sector Surface water : Deterioration due to domestic sewage and industrial effluents. Limited sewage treatment infrastructure Ground water : Exploitation – Mining, tourism, industries Forest : 1100 Ha of land diverted to other land uses, deterioration of quality Coastal : Degradation due to new resorts, settlements, infrastructure for tourist activities, sand mining, reclamation of shallow water bodies, shoreline constructions, sea walls, beach shacks etc Waste Management: Decentralized form of MSW management; cess on mining waste, No major facility of common hazardous waste management

	State of resources	<ul style="list-style-type: none"> ▪ Water <ul style="list-style-type: none"> ▪ Water requirement in rural areas is like a medium class town ▪ Water shortages are seasonal and user segment specific. ▪ Densely populated areas (high tourist concentration) tend to face maximum shortage ▪ 13 % of urban population served by sewerage system (India 28%) ▪ Land <ul style="list-style-type: none"> ▪ Competing demands for Land from different sectors ▪ Land use changes from agriculture to other sectoral uses ▪ Land degradation due to mining and industrial wastes ▪ Energy <ul style="list-style-type: none"> ▪ Growing power deficit
--	--------------------	--

Source: TERI ongoing DISHA study, **Table 1.1 Key findings of the report on social economic and environmental front**

6. सुशासीत गोवा (Well Governed Goa)

6.1 Shasan (Government) has to give the highest priority to good governance. And Goa should emerge as Sushashit Goa, the most well governed state in India. The need for good governance has been felt by all citizens in recent times in India.

6.2 The Finance Minister of India, in his budget speech for the year 2010, enumerated three grand challenges that the country faced. The first two were related to achieving double digit growth and inclusive development. As regards the third, he said,

“The third challenge relates to the weaknesses in government systems, structures and institutions at different levels of governance. Indeed, in the coming years, if there is one factor that can hold us back in realizing our potential as a modern nation, it is the bottleneck of our public delivery mechanisms.”

Three cornerstones of high quality governance are fairness, accountability and transparency in all endeavors in the public domain.

Improving Public Delivery Mechanisms

There are several challenges that await us. In terms of structures, how do we move from monolithic and hierarchical structures to manageably autonomous structures? How do we change the role itself from that of a regulator and a provider to a largely facilitative one? How do we change the current mistrust based system design to one that is based on trust? And further, from non-transparent, non-responsive and non-accountable systems to ones that are transparent, responsive and accountable systems? How do we change the current complex and archaic rules to rules that are simplified and understandable? At the same time, how do we create rules that are flexible and not inflexible, and dynamic and not static? How can our responses that are presently reactive be made proactive?

- 6.3 Let us deal with the issue of bottleneck of our inefficient public delivery mechanisms that the Finance Minister had referred to. It is true that there is a high cost of interacting with government departments, when it comes to the issue of obtaining permissions, licenses, etc. and it is often fraught with difficulties associated with cumbersome procedures that cause unwarranted delays. Gifts or informal payments are reported by required for electrical connections, water connection, construction related permits, for an operating license, and inspections by tax inspectors, labour officials, fire and building safety officials, sanitation and epidemiology officials, and even police officials.
- 6.4 Consider the construction business. Construction activity requires visits to various authorities such as town-planning departments, sewerage and water works, state electricity distribution companies, pollution boards, fire departments, etc. Some states have good practices. Gujarat, for instance, has created a checklist of such diversified requirements with a step-by-step guide along with a list of required documents and with a listing of officers' addresses and contact details. This is a useful first step that empowers applicants with information about the permit approval process and initiates demands for the timely disposal of applications with no side payments. Second, cities such as Bengaluru, Chennai, Gurgaon, Hyderabad and New Delhi have opened single service windows that centralize applications and forward them to the relevant authorities so as to minimize the number of visits, thus saving time. A useful third step is to transfer the single access service window into a one stop agency that processes applications internally and that has decision making powers by virtue of having representatives of various approval agencies at a centralized location. Goa should endeavour to provide a checklist of requirements and a one stop agency for processing applications.

- 6.5 With regard to registering property, all states have the same procedures – searching for encumbrances, drafting a sale deed, registering the deed at the Sub-registrar's office, and transferring the property title at the Circle Revenue Office. In India, it becomes time consuming in India to register a property because of the time spent at two offices – sub-registrar's office that verifies the property is free of dispute and registers the sale deed and the Circle Revenue Office that transfers the property title. To reduce the time required for registration and increase the efficiency of these two offices governments must computerize the land records. In Jaipur, for instance, better computerisation made it easier to search for encumbrances, register the sale deed, as well as for the transfer office to check the validity of the application and reduced the time on these activities from 28 days to 15. Apart from digitalization, rigorous staff training and performance management improves the efficiency of the office and reduces time as Gurgaon, which is India's top performer for registering property. Statutory limits that cap the time within which offices can register deeds and transfer property titles reduce the time taken effectively. In Goa computerization of land records and also limits for transferring property titles is long overdue.
- 6.6 Finally, there are important issues regarding transparency and oversight of government. The Right to Information Act has been a powerful tool in the hands of civil society. It has enabled it to obtain information from the government in a timely manner. Under this act submission at the Public Information Officer – the State Information Commissioner's office is the channel for submission of applications and citizens have sometimes to make multiple trips to submit the application. Since there is only one office situated in Panaji, considerable time is consumed. An RTI call centre should be set up to be the single nodal point for use by citizens to file RTI applications or appeals or complaints over the telephone. It could also be used as a centralized database for all applications received and the responses given. The “Jankari” RTI call centre in Bihar, where citizens can file information requests on a telephonic channel under the RTI is a

good example. In addition an RTI portal for submitting RTI requests online could be a universal access point for submitting RTI requests by citizens through the internet. Such a portal can be accessed even from remote areas. Citizens can access it from their homes. Such a portal would serve to create a centralized database of RTI applicants and should contain links to all the Ministry and department websites of the appropriate government, which should, in turn, provide a comprehensive list of agencies and offices under their control along with proactive disclosure of information. Such a portal could also be utilized by the RTI call centre for a request for information.

- 6.7 In Goa, the Vigilance department should be completely free from political interference so that the government officers will be able to take up positions. The Goa Lokayukta Bill 2003 provides for the establishment of the institution of Lokayukta to inquire into the grievances and allegations against public functionaries in the state and would investigate allegations of corruption. The passage of the Bill has not had a smooth ride in the Legislative Assembly. On being sent for Presidential assent it was sent back due to a query pertaining to the contempt of court powers, which were vested in Section 19 of the Goa Lokayukta Bill. As the powers to deal with contempt of the court are vested only with the high courts and Supreme Court the state government has been advised to drop this section 19 of the bill. Also there are provisions in the bill, which are in contradiction with the state vigilance commission. A small state like Goa does not require multiple anti-corruption agencies and it would be advisable to discontinue with the state vigilance commission once the Goa Lokayukta is set up. More importantly the bill had made recording of evidence confidential which is not in consonance with the Right to Information Act. The government has withdrawn the bill and is considering reintroducing it later this year. The setting up of such an anti-corruption government organization at the state level authorized to investigate public servants accused of maladministration and graft is an important governance reform that is long overdue in the state.

6.8 Recognizing that the largest incidence of corruption occurs in the interface of government departments with private suppliers of goods and services to the government, Transparency International has advocated the incorporation of an Integrity Pact (IP) to bring about a binding agreement in order to limit the possibility of corruption in government contracts. GGJDC recommends the state to implement such a pact. The Integrity Pact is an agreement between a government agency and all bidders for a government or public sector contract, where mutual rights and obligations are established so that neither side will extort or offer bribes, collude with competitors to obtain contracts, or engage in abuses while implementing contracts. The Integrity Pact is a specific tool used to build transparency in public procurement, consultancy or service contract, bidding or licensing process by public institutions and private agencies. It involves an undertaking by the principal that its officials will not demand or accept any bribes, gifts, etc. Appropriate disciplinary actions can be taken in the case of violation. A statement by each supplier or bidder that it has not paid or will not pay any bribes is mandatory. Violation of the implementation of the Integrity Pact results in cancellation of contracts, forfeiture of security deposits and performance bonds, liquidation damages, and blacklisting. Monitoring is a key element of IP implementation and public access to all relevant information is a necessity. It calls for a forum in which representatives of civil society can discuss the contract itself. The existence of an Independent External Monitor, who is approved by the CVC and which will be delegated with the responsibility of protecting the rights of civil society to monitor the contract averages well. Monitoring procedures are specified and at the conclusion of the contract a certificate of the status of being corruption-free is issued. More than 40 central Public Sector Undertakings have signed IPs and many of these are in the field of mining such as Coal India Ltd., Manganese Ore (India) Ltd., Hindustan Copper Ltd., and others such as BHEL, MTNL, NTPC, etc.

Panchayat Raj Institutions

6.9 Following the 73rd constitutional amendment Goa promulgated the Goa Panchayat Raj Act in July 1994. Initially the Act provided for the setting up of a two tier panchayati raj system at the village level and the district level. Though the Act was amended in 1999 to provide for an intermediate level panchayat in the form of the Taluka Panchayat, there has been no follow up on this. There are two zilla panchayats and 189 gram panchayats in Goa. The zilla parishads have 50 elected representatives (including 20 women) and the gram panchayats have 1,509 representatives (including 513 women). The functional powers of the village panchayats include, amongst others

- imposition of taxes (house tax, trade profession and employment tax, advertisement/hoarding tax, entertainment tax, drainage/garbage tax, etc.)
- imposition of non tax revenue fees (construction permission, sale of goods in markets, registration of births and deaths, certified copies, licensing of hotels and shops, sale of premises for transfer of house tax, etc.)
- licensing for construction of buildings, factories, hotels, shops, restaurants, etc.
- improving sanitary conditions and providing water supply.

Zilla Panchayats have no power to levy any taxes or fees and depend solely on establishment and other grants from the government. Goa has attempted to strengthen the administration of panchayats by providing grants for salaries to Sarpanchas, Deputy Sarpanchas of village panchayats and Adhyakshas and Upadhyakshas of Zilla Parishads⁹.

⁹ A Zilla Parishad Adhyaksha for instance gets a monthly salary of INR 6,500 and a Sarpanch gets INR 2,000. These sums need to be revised periodically.

6.10 As of 2005-06, panchayats' own resources constituted 28 per cent of their receipts¹⁰ and 72 per cent came from state support in the form of grants-in-aid and loans. Of panchayats' own resources, 64 per cent came from tax revenues and 36 per cent from non-tax revenues. House tax comprised the major component (72 per cent) of the tax revenue of panchayats. The major components of non-tax revenues are fees (46.5 per cent) and fairs and festivals (3.4 per cent). Matching grants are given to village panchayats depending on their tax collection¹¹ to be utilized for purposes as determined by the panchayat. The Directorate of Panchayats releases grants to panchayats too based on income criteria for project costs. Loans are also given by the state government for income generating projects, which have been used mainly to construct market complexes.

6.11 Obligatory services (57.6 per cent of total expenditures) and general administration (17.9 per cent) comprise the major heads of expenditure by the panchayats. The main expenditures under obligatory services are on roads (82.5 per cent of obligatory expenditures) and on street lighting (13.4 per cent). Under general administration expenditure on salary (26 per cent) and on maintenance and other expenditures (74 per cent) are the two items of expenditure.

6.12 Over the years the panchayats' own resources in their total receipts have been declining at a substantial rate. In 1999-2000 the panchayats sought state support to the extent of 32 per cent of their receipts. By 2005-06 state support was 72 per cent of their receipts. Given their high dependence on the state it would be advisable for the State Finance Commission to earmark a portion of the States own revenue for panchayati raj institutions. These resources can be distributed

¹⁰ Total receipts of all panchayats was INR 41 crore (410 million).

¹¹ For instance panchayats with annual income up to INR 50,000 are given 200% of taxes collected subject to a minimum of INR 20,000, panchayats with annual income between INR 2 lakhs and 5 lakhs are given INR 2.75 lakhs and 50 per cent of the additional income from taxes above INR 2 lakhs, etc.

amongst panchayats on the basis of criteria such as population or fiscal capacity of the panchayats.

- 6.13 Each Gram Sabha is mandated to constitute Ward Development Committees to prepare the development plan for each ward that is to be submitted to the panchayat. Annual development plans, after approval of the Gram Sabhas are to be forwarded by village panchayats to the District Planning Committee for consolidation and onward submission to the state government. The state has constituted a District Planning Committee for each district but plans are yet to be consolidated at the state level. An emphasis on participative planning should result in state commitment to seeing to it that annual development plans are bottom up.
- 6.14 It is also important that a State of Panchayats report is prepared periodically in the state to ascertain the issues that require the attention of the government. Finally, capacity building and training are important for elected representatives and functionaries of these institutions and the Directorate of Panchayats or the Goa Institute of Rural Development or some other agency should be entrusted with the task of conducting training programmes on a regular basis to help them with their duties and sensitize them to audit and accounting including fund management so as to minimize corruption. In fact, a Capacity Building Fund for periodic training should be set up by the state government to promote the exposure to best practices at panchayat level. A social audit by members of the Gram Sabha should be conducted to ensure that panchayats are utilizing the funds according to public purposes is also advisable. IT enabled e-governance of panchayats is also important to enhance the decision making process in such institutions. To provide effective services it is also important to interconnect the various organizations such as Directorate of Panchayats, district and block level offices so that information is available in an efficient and timely manner.

6.15 Whilst the above issues are important we believe that going forward Goa is going to become increasingly urbanized. It is quite conceivable that Mapusa, Porvorim, Panjim, Bambolim, Verna, Dabolim, Vasco, Nuvem, and Margao will become a contiguous area that resembles a single city. Increasingly then there is going to be a need to coordinate the activities of panchayats and urban local bodies especially for regulatory purposes and for the provision of public amenities. Certain technical and legal regulatory issues such as for construction licenses, etc. should be moved out from the purview of panchayats and into the hands of a central urban and town planning authority to ensure consistency of regulations as well as to ensure that technical and legal aspects are given due consideration. It is not always possible to have technical and legal expertise at local levels and in any case requiring multiple locations for such expertise implies the loss of benefit of a scale. Increasingly the provision of parks and playgrounds, cultural and educational facilities, roads, sewage and water infrastructure and solid waste collection will have to be decided on the basis of considerations of a movement today the creation of an increasingly higher urban dimension. This will allow us to exploit the benefits of scale as well as to allow people and goods and services to move cheaply and efficiently. Goa can take a lead in this direction.

Technology led Citizen-Centric Governance

6.16 The power of emerging technology in creating world class governance systems is in evidence today all around the world. Technology has been shown to significantly influence democratic participation, reduce civic illiteracy and voter apathy. It has become a powerful driver for political discussion, education, debate and participation. Extraordinary efficiency in delivery of public services and public goods can be brought about through the application of modern technology. This has to be coupled with modern tools of management based on

progress through partnership of various administrative disciplines, administrative-customer relationships and administrative-expert interactions.

- 6.17 If the 'front end' of public domain focuses on the provision of public services and goods the 'back end' relates to organizations, people, systems and processes. Therefore, to obtain high quality outcomes, the nature of organizations and the design of the process and factors that lead to optimization of capacity and human involvement are important. With the inclusion of civil society as a key part in governance, citizen-centeredness takes a pivotal role.

Fundamentally, we need to change the image/perception of our public administration system in terms of its structure, role, system, rules, personnel, work environment and response.

- 6.18 For achieving good governance, it is important to improve the civic engagement, which has three distinct dimensions, namely that of political knowledge, political trust and political participation. The political knowledge involves what people learn about public affairs, political trust involves the public's orientation of support for the political system and the political participation involves the conventional activities designed to influence government and the decision-making process.

- 6.19 Let us begin by looking at the bigger picture on how technology can influence the civic engagement. It is not an exaggeration to say that Internet is the new electronic cradle of democracy. Indeed, web discussion forums, newsgroups, blogs, wikis and social networking services are becoming transformative instruments today.

It is remarkable that the design principles that were established early in the evolution of the Internet had the principle of democratization of information embodied in it implicitly, if not explicitly. The lack of centralized control ensures that censorship or other attempts at control will be unworkable.

Internet moved fundamentally from mediated to unmediated information communication. Our society first moved from one to one communication such as through letters or landline telephones to one to many such as through radio and television. Internet took a leap forward by moving to many-to-many communication. This process of unmediated many-to-many communication on a large scale strengthens the process of democratization.

- 6.20 Development of novel tools is empowering bloggers, webmasters and owners of other social media. This is influencing the movement from a strictly informational use of the Internet to using the Internet as a means of social organization not requiring a top-down action.

Social networks can potentially act as a medium to help the government act more like the public it serves. Government and its agencies can share information with citizens, who share common interests and concerns.

- 6.21 A number of non-governmental sites have developed cross-jurisdiction, customer-focused applications that extract information from thousands of governmental organizations into a system that brings consistency to data across many dissimilar providers. It is convenient and cost-effective for businesses, and the public benefits by getting easy access to the most current information available without spending tax payers' money.
- 6.22 The great promise of technology can get limited by both IT illiteracy as well as digital divide between those with access to the media of e-democracy and those without. However, mobile telephony is changing the scenario so dramatically that the term m-governance that is the governance influenced by the mobile telephony is gaining currency.

Mobiles are rapidly revolutionizing our approach to and understanding of public participation in governance. Mobiles have already demonstrated that in the hands of a vibrant civil society, they are powerful tools that hold government and public institutions accountable, their interactions transparent and their transactions efficient. Conversations inspired, produced, stored and disseminated through mobiles are rapidly changing the manner in which we imagine the State, interact with the government and participate in the mechanisms and institutions of democratic governance.

e-Governance and m-governance in Goa

6.23 The state of Goa has implemented several e-Governance initiatives at the State and individual Department level. Implementation of these e-Governance initiatives and rollout of existing initiatives required a reliable IT Infrastructure including the high-performing servers, communication systems, storage capacity and state of the art security infrastructure. With an objective to consolidate its information processing infrastructure of various key e-Governance applications and individual departments, a State Data Center (SDC) has been established. This would provide a common platform for all the State Line Departments for sharing the IT Infrastructure required for their individual e-Governance initiatives. It is commendable that the state has taken a significant initiatives in e-governance as well as m-governance. The initiative of Goa Broadband Network (GBBN) is aimed at connecting not only the Government Departments but also each and every household and industry within the State of Goa. There is a provision for voice, video, and data transfers through a single optic fibre cable at an affordable cost to the citizens. All taluka's, 800+ offices, industries, households have been provided internet and intranet (as applicable) connectivity through GBBN. The video conferencing facility has been provided in all taluka's, jails and courts as well. IP video phones have also been deployed in talukas and a helpdesk has been setup for addressing the queries arising thereof.

The services on offer includes

- a. Information Services on Education, Healthcare, Agriculture, Welfare, and Entertainment etc.
- b. Interactive Services like IP Telephony, Video-conferencing etc. and
- c. Transactional Services will be provided like e-Governance Services, B2C Services etc.

6.24 The initiative of State Service Delivery Gateway (SSDG): should achieve the cooperation, collaboration and integration of information across different departments in the states and local government to the central Government. Government systems are characterized by islands of legacy systems using heterogeneous platforms and technologies that spread across diverse geographical locations, in varying conditions of automation. This makes information collation a very challenging task. A single platform like SSDG can simplify this task by acting as standards based messaging switch and providing seamless interoperability and exchange of data across the departments and the central government.

6.25 “Lok Seva Kendras” are being established in all the urban and rural areas. The Lok Seva Kendras or the Integrated Citizen Service Centers (ICSCs) are envisioned as the “Single Window Service Delivery Channels for Government to Citizen (G2C) & Government to Business (G2B) Services for ensuring accessibility, convenience, transparency and timeliness in service delivery”. The services provided will be collection of utility bills, submission of e-Forms, delivery of various certificates etc.

6.26 Goa is the forerunner in the use of mobile technology for the delivery of services. With its exclusive SMS Gateway, Goa is taking rapid strides towards m-Governance. Going forward, the development of Mobile Service Delivery Platform (MSDP) is on top of the cards. MSDP is a combination of software

applications running on dedicated servers in State Data Centre (SDC) that will enable the development, deployment, delivery, and management of voice, SMS and e-Services quickly and cost-effectively. MSDP shall be based on open standards.

- 6.27 Goa also has plans to host services on a managed model through its state of the art State Data Centre. Managed Data Centre offerings would provide a comprehensive support for managing servers, storage systems and networks in the data centre. The offering should cover analysis, planning, implementation and full or partial operation of the infrastructure. The benefits that will accrue will include consistent standardized services, high quality, reliability and cost savings and the freedom to delegate the responsibility of operations as needed, 24X7 operations with defined service levels and continuous & transparent reporting.

Universal ID Card: The Game Changer

- 6.28 Ever since independence, there has been no shortage of high powered committees and recommendations to create high quality governance systems. Indeed some of India's best minds have been engaged in creating ideas to deal with these challenges. The problem is that it is not the power of the ideas but it is the power of the execution that matters. Further, it is the speed, scale and sustainability that matters. Great ideas do keep on emerging in India. One such path breaking ideas, which may begin to change the fundamentals of governance in India is the idea of the Universal Identity Card.

- 6.29 Indians have been using multiple identification systems. They include, for instance, passports, Permanent Account Numbers (PAN) for income tax, Voter Identity Cards to register and vote in elections, ration cards, and so on. The multiplicity of identity cards also renders the provision of services difficult to monitor, the intended beneficiaries missing the access to full benefits, leakages in the system with attendant corruption, loss of control, etc.

A single ID that allows all government-citizen relationships to be managed effectively and also that provides access to services and transparency in those services is potentially a great solution. Such a universal ID card would reduce the chances of corruption as the role of all intermediaries gets eliminated.

- 6.30 India will have the distinction of being the first country to issue a single ID. In a billion plus population, this looks an enormous challenge but did we not achieve the distinction of using electronic voting technology on scales that the world had not seen before? And imagine the impact of introducing a single ID on such a massive scale in the age of mobile phones and ubiquitous connectivity. The opportunity for effectively dis-intermediating layers of bureaucracy between the citizen and the government is enormous. When we speak of the vision of governance for Goa 2035, we will have to factor in the massive disruption in creating technology led citizen-centric services that is on the anvil.

Fiscal consolidation

- 6.31 In the long term, the state would benefit if it targeted revenue surplus so that it has the space to use this revenue surplus to cater to adequate capital expenditure. This requires the state to improve its tax administration and plug leakages in compliance. It should be able to tax more too to increase the revenue surplus. Goa is a state with a tax to GSDP ratio that is lower than the mean for all the states, which is unusual for a state which is in the highest decile of per capita GSDP. In addition, the fiscal deficit is way above the recommended Thirteenth Finance Commission target of 3 per cent of GSDP. The state should consider achieving a target of an aggregate debt to GSDP ratio of 25 per cent. Currently the debt/GSDP ratio is well above this target set for the states of the Union by the Thirteenth Finance Commission¹². A revenue surplus is the key to achieving the fiscal deficit and debt targets as it enables the state to pursue public investment expenditures that are growth promoting. The associated

¹² For the period 2005-08 the debt-GSDP ratio was 38.5 per cent for Goa. 62.5 per cent of the state government securities issued as on March 2010 were with a maturity above 7 years. Since 2005-06 all issues have a maturity of 10 years which means large repayment obligations from 2017-18 onwards.

increased economic activity makes it easier to garner revenues that bring down deficits and debt. GGJDC would recommend that the state conducts an independent review. A regular monitoring of the fiscal health of the state is desirable. Such a review process should ideally suggest strategies to reduce the budget deficits by surpluses in the future. Such a process will give a long term perspective to the fiscal policy.

6.32 The accumulation of large surplus cash balances when the fiscal deficit is high reflects inefficiency in cash management and an avoidable interest burden. Whilst states require a cushion to smooth out expenditures at the implementation level, existing cash balances should be utilized before the state resorts to fresh borrowings. Such balances could be used to make bullet repayments of market borrowings. Also, the state would do well to have an effective forecasting and monitoring mechanism in place for short term cash flows and developing skills and capacity in this regard could save the state from adding to its already high debt. Cost recovery¹³ of public services is another critical issue in the state finances. It is time for the state to consider making non-tax revenues a more durable source of revenue by looking at the commercial viability of some state provided services such as power and irrigation from a medium to long term perspective.

6.31 The budgeting process needs to take into account the medium term dimensions of fiscal policy. To make the connection with fiscal policy proposals that have an economic and development impact it is important to have in place a Medium Term Fiscal Plan as suggested by the Thirteenth Finance Commission. Fiscal consolidation is easier to pursue too when policy decisions are made by keeping in view a longer time horizon than just the immediate year when the expenditure or tax change is suggested to the legislature. Each expenditure proposal

¹³ This is measured as revenue receipts as a ratio to non-Plan revenue expenditure.

therefore should be accompanied by a statement as to how the finance for an item of capital expenditure will be maintained by a user charge or by a specific charge on the revenues of the state. Thus all items of capital expenditure should be accompanied by a statement indicating the revenue consequences of such expenditure in the future. Each budget should be accompanied by a Medium Term Fiscal Plan that provides such details about the fiscal impact of major policy changes and the future consequences on the fisc of proposed capital expenditures.

Land and good Governance

6.32 Given the huge scarcity of land there are a number of issues that the state needs to look into. Firstly, we suggest the government form a High Powered Committee to study the comunidades which hold large chunks of land so that rationalization of land use can be achieved. It is advisable to retain the community character of ownership while at the same time start utilizing land. The ways and means by which long leases of land may be given with ownership retained by the comunidades is something that should be explored. Secondly, with the passing of the Tenancy Act, land that is fallow is supposed to be given back to the government. This has not happened so far. It may be possible to use such land for contract farming. Thirdly, there is a tendency of private parties to ask for more land than is required. Parties should be asked to supply utilization plans before any further allotment is allowed. There should also be an audit of the land already acquired by the government that is unutilized. Recently it has come to light that about a fourth of the land in Goa's 21 industrial estates is lying vacant. Practically every CAG has urged the Goa State Industrial Development Corporation the need for more transparency in the allocation of plots in industrial estates and for the indiscriminate acquisition of land. Also, for properties given on rent by the government to private agents an Estate Agent officer should be appointed. Finally, there is a scope to have a betterment levy on land owners, when the value of the land increases due to public investment such as the building of a bridge or a bus stand.

6.33 GGJDC recommends a Magarpatta type model of acquisition, where the ownership of a large fraction of the land should be with the original holders of land. As of now industrial estates have been removed from the purview of village panchayats, which results in a loss of control of the village over an important resource given that it has still to deal with the pollution and loss of ground water caused by such estates. Instead in the Magarpatta set up, individuals and families can get together to pool their land into a company and each family can obtain shares equal to the size of their landholding. For instance, each share can be made equivalent to one square metre of land and shares should, for a period of time be allowed to be sold only to member families. Methodology should be developed to see that family members of shareholders get preference for employment generated in the company as well as shareholders get involved in bidding for contracts for development work such as supplying raw material for construction, vending contracts, landscaping, beautification, and security and maintenance contracts. Village panchayats are currently the licensing authorities for construction projects and if land is owned by the original title holders some of the genuine interests of the village will continue to be protected in a transparent and effective manner.

6.34 The state government should also enact regulations that promote a transparent development of real estate and construction. This should be done for the sale and transfer of residential colonies, apartments, buildings, and townships also. All the information about the construction, details of carpet area, proper conveyance of titles to owners, etc. should be disclosed. There should be restrictions on the collection of the entire amount of consideration before possession is sought to be delivered, and on the mortgage of land or apartment without the consent of the purchaser. Money should only be transferred after an agreement has been entered into or an allotment letter is provided. Reducing the stamp duty to 1 per

cent for registering property is also strongly recommended. This will help reduce the illegal transactions in the real estate sector.

- 6.35 It needs to emphasise that the current trajectory on macroeconomic growth has implications on governance. Let us deal with the issue of the emigration and remittances. The immediate consequences of emigration and remittances is that it increases the returns to labour as the reduction in labour supply increases the wage rate. There is a second effect that is also at work. The rise in the price of tradables which is labour intensive increases the wage accruing from labour and reduces the rental accruing from land. A third effect is that the household income of those emigrating increases because of the additional income stemming from remittances. All three effects together imply that emigration benefits workers but reduces the return to land. This has implications for governance in Goa.
- 6.36 Non-produced capital owners of land attempt to stem the reduction in the return to capital by influencing governments to set policies whose benefits accrue to owners of capital. The vehicles of redistribution are the various ministries through which government policies are implemented. This can take the form of a change in regulation or the liberalization of some sector such that the returns to assets change in a way that benefits a section of the society. An obvious example is zoning laws and regulations on land. This results in the accrual of rents to the beneficiaries of this change in policy. However, such benefits do not persist indefinitely and are always contested by other sections of society. The accrual of these rents are imperfectly protected as groups form with the objective of changing the balance of power in the government and even going so far as to cause changes in government so as to redistribute the benefits of policies towards themselves. With rents likely to be contested and the lack of an assurance that rents may persist, groups are locked into a conflict that leads to socio-political instability and a rise in activities that reduce the effectiveness of institutions such as crime, protests, and corruption. Such activities introduce

uncertainty about the returns to economic activity and slow down the process of economic growth.

6.37 With the government at the centre of this intensification of redistributive activities as groups attempt to extract rents and transfers from the rest of the society it reduces the effectiveness of the institutions of governance such as the bureaucracy and the legal system that serve as countervailing forces to such rents and transfers. Governments in such a state are also less well placed in their control over social forces and face a reduction in their ability to tax. Borrowing allows such governments to finance expenditures without imposing the tax cost that would reduce their current political support. The outcome is an unhealthy fiscal deficit and a shift of the burden of government to future budgets and future taxpayers, who will face the cost of paying for the interest payments on the currently incurred public debt. The sustainability of the borrowings due to the fiscal deficit is something that will concern us shortly. The implications of the current trajectory of macroeconomic growth on governance are clear. We note that groups in their search for rents and the extraction of transfers have not only contributed to the instability of the government but also have contributed to an increase in public debt that taxes future citizens who have not voted in the current government.

The size of the State Government

6.38 The ratio of the number of bureaucrats to citizens is 1 is to 27. This is seen to be a burden on the exchequer. There is a need to rationalize the size of the bureaucracy. This issue of a large bureaucracy, however, needs to be dealt with appropriately. For many goods and services provided by the government, there is no direct relationship between population and the size of the bureaucracy required for the provision of those goods. Consider, for instance, the example of a Health Department that is involved in sending out trucks to spray uniformly against mosquitoes. The service eliminates mosquitoes from the yard of Mr. X

and also from the plot occupied by Ms. Y as also from the vacant plots between them. If the vacant plot is built on subsequently by Mr. Z, he is protected at no loss to Mr. X and Ms. Y. The addition of Mr. Z to the population does not require an increase in the number of bureaucrats in the community, who would contribute to malaria prevention. The number of bureaucrats per unit of government provision of goods and services (in this example this is the unit of mosquito protection) does not decrease though the number of bureaucrats per member of the population does with the addition of Mr. Z. In government provided public services the production unit is independent of the size of consumer units by the very nature of the type of services and goods provided. For a small state, a number of bureaucrats as a ratio of the size of the population will tend to be high due, since the minimum efficient scale of public good provision is higher.

- 6.39 Certain technical characteristics determine the efficient scale of provision. Apart from the scale at which the government services are provided, there is the issue of intensity of demand that also results in variations in the scale of operations and the size of the bureaucracy. This is best expressed with the help of an example. The accompanying table provides an example of two communities A and B, which differ in their population sizes. A has a population of 100 and B has a population of 150. The number of bureaucrats in the two communities are 25 and 50, respectively. The bureaucrat to population ratio is thus higher in Community B. Assume now that the two communities differ also in their demands or tastes for various public goods. Suppose that community A wants 100 units of education to be provided, whereas community B wants 250 units of education. Then, it turns out that the ratio of bureaucrats to population is not equal to the number of bureaucrats per unit of education, which is lower in community B than in A. If we use population as a measure of the relative size of the bureaucracy we ignore the effects of economies of scale in the provision of services. This example highlights the point that variations in the intensity of demand may be associated with

changes in the per capita number of bureaucrats, which is unrelated to the size of the bureaucracy.

Table 6.1: Demand variations for public services and the size of the bureaucracy

Demand variations for public services and the size of the bureaucracy		
	Community	
	A	B
Population	100	150
Number of bureaucrats	25	50
Bureaucrat to Population ratio	0.25	0.33
Units of education	100	250
Average number of bureaucrats per unit of education	0.25	0.20

6.40 In view of this it would be appropriate for the state to have a Staff Selection Commission. Job creation should be on rational grounds and it should not end up as a burden on the exchequer. As of now, the state only has a Public Service Commission. It is well known that in order to obtain a government job in the state it is important to meet the concerned minister of the department or the chairperson of a parastatal. Side payments are made, which are collected by an affiliate or party worker who then fixes the appointment. In some cases the departmental positions have been filled by ministers from their own electoral constituency. This practice of making a side payment at entry into the government job ensures that those in public office are on the look out for earning rents at each available opportunity throughout their careers. This reduces the efficiency of the provision of services by these persons and the effectiveness of the delivery mechanisms of the government. A Staff Selection Commission, which is chaired by an individual with an impeccable credibility will go a long way in bringing transparency, reducing the transaction costs and also the potential for corruption.

7. स्वानंदी गोवा (Happy Goa)

- 7.1 Goa will become Samruddha (affluent) by 2035. But will this affluence mean that Goans will be happy? Happiness is not a measure of growth, it is a measure of people's feelings of well being. Goa is celebrated as a land of natural beauty, of serenity, as a land of happy people. Our vision of development for Goa should surely aim to preserve this heritage. After all the Konkani terms for development are 'Udargat' or 'Vikas', terms very close to the terms 'Utsarp' or 'Vikas' used in Jain philosophy to describe periods during which 'Sukha' or happiness is on the increase.
- 7.2 Happiness goes beyond satisfaction. Happiness just does not include material well being. There are eight agreed general contributors to happiness-physical, mental and spiritual health; time-balance; social and community vitality; cultural vitality; education; living standards; good governance; and ecological vitality.
- 7.3 There is a great challenge that the society is facing today. With consumerism becoming a yardstick for economic growth, the social, ecological and cultural support systems are disappearing. This is worrying, since it is these critical mediators that fundamentally influence happiness. Subjective measures like well-being are more relevant and important to happiness than mere objective measures like consumption.
- 7.4 There have been several attempts to look at the issue of happiness.
- World Happiness Survey: LES-led survey based on spending power and quality of life. Its findings clearly showed that money cannot buy happiness.
 - World Map of Happiness: This provides the survey of people's satisfaction with life based on social network, career, political and economic systems.
 - World Value Survey: This was started in 1995. It explores the impact of social and political changes on people's values, beliefs, freedom of choice.
 - Bhutan's Gross National Happiness: Based on the Buddhist doctrine of harmony with environment and fellow beings besides material comfort.

- 7.5 Coming to the last initiative by Bhutan, the term "Gross National Happiness" was coined in 1972 by Bhutan's then King Jigme Singye Wangchuck, who had opened Bhutan to the age of modernization. Gross National Happiness was designed in an attempt to define an indicator that measures the quality of life or social progress in more holistic and psychological terms than only the economic indicator of gross domestic product (GDP).
- 7.6 The vision for Goa 2035 has to be one where we see the material and spiritual development occurring side by side, continuously complementing and reinforcing each other. As per the Bhutanese model, the four pillars of Gross National Happiness are the promotion of sustainable development, preservation and promotion of cultural values, conservation of the natural environment, and establishment of good governance.
- 7.7 This GGJDC report on the vision for Goa 2035 has addressed the issue of sustainable development and conservation of natural development while dealing with the issues of Santulit Goa (Balanced Goa) (see Section 3). This Report has also addressed the issue of preservation and promotion of cultural values, while dealing with Susanskrit Goa (Cultured Goa) in Section 2. Finally, the issue of establishment of good Governance was dealt with when the Report examined Sushasit Goa (well Governed Goa) in Section 6. In other words, this GGJDC Report has included all the four pillars that are contributors to Gross National Happiness.
- 7.8 Happiness was treated as a socioeconomic development metric in 2006 by Med Jones, the President of International Institute of Management. He tracked seven development areas. Gross National Happiness was calculated by considering seven measures of wellness:
1. Economic Wellness: Indicated via direct survey and statistical measurement of economic metrics such as consumer debt, average income to consumer price index ratio and income distribution

2. Environmental Wellness: Indicated via direct survey and statistical measurement of environmental metrics such as pollution, noise and traffic
3. Physical Wellness: Indicated via statistical measurement of physical health metrics such as severe illnesses
4. Mental Wellness: Indicated via direct survey and statistical measurement of mental health metrics such as usage of antidepressants and rise or decline of psychotherapy patients
5. Workplace Wellness: Indicated via direct survey and statistical measurement of labor metrics such as [jobless claims](#), job change, workplace complaints and lawsuits
6. Social Wellness: Indicated via direct survey and statistical measurement of social metrics such as discrimination, safety, divorce rates, complaints of domestic conflicts and family lawsuits, public lawsuits, crime rates
7. Political Wellness: Indicated via direct survey and statistical measurement of political metrics such as the quality of local democracy, individual freedom, and foreign conflicts.

7.9 GGJDC proposes that Goa should become the first state in India to start this process of measuring and monitoring happiness sending a signal that Goa considers this to be the most critical socioeconomic development indicator. GGJDC also wishes that Goa becomes not only the happiest state in India but in the world. That should be our vision for Goa 2035.

