

- Good evening friends, you are all good guys. First of all I would like to greet my CEO, Mr. Andrew Philips of Penguin and my friend Mr. Udayan Mitra and all of you. I think there are number of others, lot of students, students please lift your hand, how many students are there? So I have to shape my lecture for you. Ok. Friends when I see lot of young friends in front of me and also above attending Penguin Annual Lecture 2012, I thought of sharing the essence of talk that I have designed on the subject 'Beyond 2020 – Sustainable Development Mission For The Nation And Nations', not only nation but nations. Dear young friends and experienced sustainable development profile of a nation depends or governs on 3 aspects. Number 1, a steady economic growth with minimum variation, for example a 9% GDP of a nation with a variation, a variation 1.5 to about 2%. That means steady economic growth with minimum variation.
- Second one normally the job profile is the function of technology, nature of business and market aspirations. The sustainability provides continuous income and growth assurance in such a situation that is sustainability. As you see it in the slide next one, I am going to tell you for millions of years humanity has always been taking, taking, taking, more and more of the resources from the planet and you will agree, we were only takers. At no time we gave anything to the earth to reinforce it, time has come to take less and less from the nature by recycling of water and better and better environment like increased density of the forest area. If we achieve these 3 areas I have explained, if we achieve sustainability that is A+B+C but that what you are seeing then it will lead to wellbeing of the people and continuous growth relatively. Wellbeing of the people happens if A+B+C happens. Is it sufficient? It is insufficient.
- Friends I was thinking on this mission of sustained growth of the nation what is the role of publishing house like Penguin Books India? Penguin is a great name. Apart from sustainability, A+B+C, the researchers experiences success stories, failure analysis of all people behind all the events has been presented in the form of books. And also e-books so that publishing houses become a partner in the sustainable development of a nation. Do you agree? Publishing house after all are knowledge providers. I shared with you the 3 aspects of sustainable development leading to wellbeing of the people and continuous growth. But one important message I would like to share with this audience and Penguin Books India that India also needs, India also needs sustainability in the value system. This nobody talks about it. Sustainability in value system. I have seldom come across such a type of books which will have an impact on our youth and experienced. So this is the summary of my talk, okay.
- Now I am going to the talk. 'Beyond 2020 – Sustainable Development Mission For The Nation'. Friends, I am very happy to participate in the 25th Anniversary year of Penguin Books India and deliver the Penguin Annual Lecture 2012. The

Penguin Books India has done a remarkable mission of sharing knowledge to millions of readers, my hearty congratulations to Penguin Books India. Penguin India has published many books but 3 of my books I want to refer, one is 'India 2020 - A Vision for the New Millennium' authored with my friend Y. S. Rajan. This book emanated out of the technology mission documents, evolved for India by TIFAC team, Technology Information Forecasting and Assessment Council team under my Chairmanship from the Department of Science and Technology. This book indeed is highly loved book by the youth and also the experienced.

- The second book is 'Ignited Minds – Unleashing The Power Within India'. I understand the book has reached a million copies with 38 prints in English and multiple languages and it has made positive impact in many lives. While preparing for the Penguin Annual Lecture, I reviewed the national ambience with reference to the Focus Vision for India 2020. In the continuation of National Vision India 2020, the sustainable development system becoming very important throughout the world. I authored another important book, 'Target 3 Billion', published by Penguin Books along with my friend Srijan Pal Singh. This book carries the research results on sustainable development and gives a roadmap for 3 billion rural population in the world, not India alone, 3 billion rural population in the world.
- Friends with 3 of my books I received tremendous amount of positive as well as negative feedback and also several questions. Today Penguin's Annual Lecture, 'Beyond 2020 – Sustained Developed Mission For The Nation' will provide 4 new thoughts and actions needed for sustainable development of the nation, for prosperous, happy and peaceful transformation. Now before that I want to tell you a story, you know in 1990s I was addressing in Ahmedabad an audience of 85,000 students. When I was in the middle of the talk one girl got up. She said Mr. Kalam tell me when I can sing a song of India? She asked me when I can sing a song of India. I didn't understand what this girl says. Then I called her on the dais, tell me what you mean. She told me you know I have a friend in America, in United States, she is Assistant Professor and he is my elder brother. This guy every Friday evening caught my father, mother and me and gives a story how America is beautiful, how American roads are beautiful, how American river is beautiful, how American way of life is beautiful. He was telling, my brother telling, I am fed up uncle that's why I want to see when I get, my brother sings a song of America, I want to sing a song of India. How to do that she asked?
- (Applause)
- Now it's a fantastic question and at that time only we introduced India 2020 Vision. I told the girl don't worry in another 15 years time, 15-20 years time definitely India will become economically developed and you can sing the song of India. And the

same spirit echoed everywhere but during 2003, a new thing I saw while interacting with the youth, I have so far met 15 million youth in the country. During 2000-2009 while interacting with the youth, I had seen a marked change in the thinking of the youth. They are always asking me what can I give to the nation. This is different. This girl asked when can I sing a song of India. This period 2003 to 2007 they started asking what can I give to the nation. Not one or two but thousands of students. That means youth are ready to contribute for the national development. During the last 6 months, I see a further change wherever I meet the youth. They always tell me I can do it. See the confidence of when I can sing a song of India to what can I give to. And then I can do it, that means transformed to we can do it. We can do it, India will do it. So this type of confidence level has come. So they are aspiring to see a developed India before 2020. So this experience gives me the confidence that certainly India will become economically developed nation before the year 2020. Another 8 years time, if our political leaders have a vision and push it. But the question is how to sustain the development beyond 2020 is the challenge. Now I am going to talk to you how India has economically developed, how to sustain it. Let me now focus on what are the new thoughts. First new thought is what are the mechanisms to ensure that the benefits of developed India reach the bottom of the pyramid to the user community pyramid. And there we are trying to see how technology, services and various policies all finally should reach the bottom of the people means the intended people.

- Second one how to monitor the progress of our development indicators using societal development. We have developed what is called we will talk to you, it will come in the slide, a societal development radar we have developed using that you can say what is the level of benefit that has reached the particular section of the people. Now let me give some case study how to ensure that the sustainable development reaches the people fully on time. Now if all those things finally, one great thing needed is leadership. If you are to do the sustainable development successfully and reach the people and what is the leadership qualities needed for envisioning great mission for national development I am going to talk to you. These are the four areas. You have seen the four areas in the slides? Ok.
- Now I am going to take up the sustainable development systems dimensions. Dear friends I would like to share my thoughts on how to reinforce sustainability in the development process. The areas which I am going to discuss are multi-dimensional and is oriented towards bringing sustainable development to 700 million people. India has got 700 million people who live in the 600,000 villages as you see it. The need of the hour is the evolution of sustainable system which act as enablers and bring inclusive growth and integrated development to the nations of the world. One such sustainable development system in the nation is provision of urban amenities in

the rural areas through creation of 3 connectivities, namely physical connectivity, electronic connectivity and knowledge connectivity leading to the economic connectivity. Today PURA system, it has graduated to a unique system for sustainable development across the world. There are a number of PURA established by many institutions in the country and government of India is also progressing PURA as a national mission. Since PURA is being progressed as a National Mission by the government of India through public and private partnership mode, implementing PURA in various states and also a number of private initiatives have started with PURA complexes. I am not going to discuss in detail. You can see here PURA providing urban amenities in rural areas. There are connectivities; you can see physical connectivity, electronic connectivity and knowledge connectivity. These three connectivities bring the economic connectivity to 700,000 villages.

- And now friends the experience of the PURA and how the PURA has become the special program has been explained in detail in the book 'Target 3 Billion'. These 3 billion refers to the rural population of the world. Today India or any other nation for that matter, how do they reach their reforms and benefits to the targeted population, based on the working with the multiple universities in India and abroad? During my teaching and research assignment I have come to the conclusion that it is the essential sustainable development system to be purposeful and successful. Hence we have evolved 2 unique systems. One is called user community pyramid. For monitoring the benefits of the sustainable development for the targeted population. Now let me discuss what is the user community pyramid. Water, energy, waste, pollution, mobility and bio-diversity, how they are going to be connected with user community?
- The second aspect is societal development radar. You can see the societal development radar to review and monitor how the user community has benefited from the user community. Now let me discuss user community pyramid for achieving the sustainable development. This is a new thought so I thought of explaining slightly in detail. User community pyramid goes like this. Sustainable development refers to mode of human development in which resources used aims to meet human needs while preserving the environment so that these needs can be met not only in the present but also for the generation to come. That is sustainability. Friends the world has so far seen the development, rapid development and social development, economic development and political development. But due to the dwindling of natural resources and increase in population leading to more than 7 billion in the world, today it is essential to think of sustainable development in every aspect of human life, in every sector of the economy. So far much of the data generated by the nation using the technologies developed knowledge acquired through various means of data collection over terrestrial as well as communication periodically. I was asking

myself what we learn from so many terrestrial and mobile networks, satellites for remote sensing and communication. So many ground sensors, so many flight systems, so much data received from various data capturing systems. When we analyse the data what is the resultant that can give us the rural population of 3 billion people to empower them with information knowledge, wisdom, to improve their own quality of life. I was thinking what will be the unique approach that will help to achieve sustainable development. I would like to propose an integrated solution for sustainable development through a unique model designed by me called user community pyramid. Which uses the convergence of technology for bringing development to the people using natural resources optimally for generations to come.

- Friends let me now give you a visualisation of the sustainable development model using the convergence of technologies for remote areas development including rural areas covering 3 billion populations. I would like to present my visualisation of a user community pyramid structure linking the following: Natural resources, information communication, convergence of technologies, societal business model, application and users. Now let me discuss in detail how to achieve sustainable development in a given user community pyramid. What is the objective of UCP, User Community Pyramid? There are many national initiatives in the ground level as you know with the help of technologies to protect the environment and bring the sustainable development. Sustainability for safe drinking water, water for irrigation, reducing the pollution using technology and best practices, adapting more energy renewable resources to reduce the dependency on the fossil fuel, managing the mobile resources so that it does not affect the environment, and lead to further deterioration of health and environment, and entering the biodiversity thereby bringing peace and economic prosperity to the nation. How to do that.
- Look at the bottom of the slide. Now I am going to come to the pyramid, I am going to show you the bottom of the pyramid. What is the bottom of the pyramid? The users are called bottom of the pyramid in the user community pyramid. They are the vital link for the economic activities and the beneficiaries of sustainable development. You see that all these sea, land, river, mountain, forest. Can you see them? All of them are called resources which is marked here. Resources, natural resources are the basis for sustainable development. You should not damage the natural resources. We have natural resources such as sea, land, water, river, mountain, forest and climate change. The sustainable development of every aspect of the above is essential in promoting and protecting the environment. We have seen using the natural resources for the human development, using the science and technology and its application. But at the same time polluting the environment in the form of CO2 emission, deforestation, polluting the land, sea and river in the form of

industrial, municipal waste, fertilisers. Today natural resources are dwindling and the environment is polluted leading to the global warming. What do we do? Now I have proposed what is called convergence of technology. This side you can see the convergence of technology and today due to the convergence of technology such as bioscience, informative science, nano science and echo science, technology results into a clean green technology leading to multiple products and systems in water, energy, environment, pollution, waste and biodiversity. For example solar technologies have given the first 700 megawatts solar power in Gujarat. Nano fitted technology has given safe drinking water solution, and nano packaging and echo technology has given the bio degradable packaging solution. Research and development is certainly progressing using the convergence of technology which will give the clean products.

- Now friends for example I want to tell you, information communication technology, you can see that information communication technology, information collection generation and dissemination through communication network and technologies who are terrestrial satellite networking has attained a new dimension due to the convergence of geo-special technology. This has helped monitor and track the natural resources, helped to plan to improve the environment, and enriched the biodiversity. The information mining and its analysis will transform to knowledge. Information communication system will collect data from the land and space through the terrestrial network and wireless technologies. The GS, GPS and Geo-special technologies using satellite network may acquire and analyse the data for remote sensing resource mapping of land, water, sea, movement of path of the river, dimension through satellites such as Catosat and Oceansat. Catosat is an Indian satellite. Modern geo-special analytical tools may analyse data from data mining of the wealth of data generated which may enrich the knowledge of how to bring sustainable development in multiple areas such as waste, energy, pollution, mobility and bio diversity. We need to award innovative societal business models so that the research results of convergence of technology are used by human development in a sustainable way. Societal Business Model, what is that? At one side technology based system development resulted in our scientific research. Other side evolving innovative business model which will take the technologies to the usage of creating sustainable development systems.
- Socio economic applications for unique societal business model which will empower and enrich the users such as farmers, fishermen, skilled workers, people who are living in the rural areas, when the sustainable development societal business models are applied to result into the use of available natural resources optimally, recycle it without polluting the environment and at the same time make it available for the generation to come so that global peace and prosperity is assured. Now generic in

the bottom of the pyramid, enriching the bottom of the pyramid, which is the bottom of the pyramid. Now ultimately the research results will have to benefit the people with pollution free environment, green environment, safe drinking water, water resources management, zero waste discharge system will not pollute the environment. Using technologies will reduce the carbon footprint, use of renewable energy resources will achieve the energy independence, use of navigation and resource mapping to maximise the use of mobile resources as a river flow for the optimum utilisation of water, ultimately improving the biodiversity by enriching the environment which is congenial for its growth to manage a life cycle balance. The sustainable technologies have to help improve quality of the living conditions of the people. Then it is possible that the sustainable development has reached the bottom of the pyramid which is the ultimate benefit of the defined user community pyramid. You can say it is the User Community Pyramid.

- Now friends you can see the User Community Pyramid. They are all the resources, the convergence of technologies, you can the societal business model, you can see users are there in the bottom. So always here everywhere in our country. Whatever the money spent, whatever the effort put, bottom of the pyramid is not benefiting. So I have built a model how all the User Community Pyramid, the convergence of technology one side, sustainable development another side, another side resources, all are linked and how we can reach fishermen, farmers, rural people, and citizens, civil administration, police administration, and judicial administration. I brought all of them through the User Community Pyramid. That is a nice thing we have got a User Community Pyramid. Now how to monitor, how much benefits have reached the people? Now for the purpose of establishing we have established what is called the societal development radar. The purpose of establishing a development radar is to review and monitor how the community pyramid has benefited the users. These are the development radar and the essential empowerment. And I am telling my friend to show you that this is the basis of our approach of development radar based on 8 essential empowerment attributes. Which are critical to the realisation of our goal, a happy prosperous and peaceful society beginning at the base of the pyramid of these traits.
- What are the 8 traits? What are the 8 attributes? Food and nutrition, access to water both potable and irrigation, access to healthcare, access to income generation capacity, access to education capacity building, and access to quality power and communication, and also the state of societal conflict. You know in a democratic society some conflicts are there but we should know what are the conflicts. Then access to financial services. And these are the 8 attributes. In the societal development radar, what you are seeing, we have given 3 targets which I have shown in the radar. Only the current status of 8 social attributes. This is what my

friend shows. This is for example a particular state. The second target is the medium term target. The third target is long term target with specific schedule. Societal transformers, in multiple nations can deploy when they are developing technologies what are the applications which will empower the user community pyramid and the outcome may be tracked and monitored to the societal development radar using by societal Panchayat leaders and district authorities, district magistrates. And the mechanism for monitoring the progress are implemented in an integrated manner. Then India or any developing nation can transform as visualised.

- Now let me give my visualisation of India as an economically developed India in the year 2020. In 8 years time with all our youth power, with all our resources and with a determination that India should become an economically developed nation. How in 8 years we should look like. A nation where rural and urban divide has been reduced to a thin line. A nation where there is an equitable distribution and adequate access to energy and quality water. A nation where agriculture, industry and service sector work together in symphony. A nation where education with value system is not denied to any meritorious candidate because of societal or economic discrimination. A nation which is the best destination for the most talented scholars, scientists and investors. A nation where the best of healthcare is available to all. A nation where the governance is responsive, transparent and corruption free. Minimal conditions, a nation where poverty has been totally eradicated, illiteracy removed and crimes against women and children are absent and none in the society feel alienated. A nation where prosperous healthy secure devoid of terrorism, peaceful land happy and continues with a sustainable growth path. Finally a nation that is one of the best places to live in and is proud of its leadership. These are the 10 pillars of development. I visualise in 8 years time with a background of 600 million youth power and the vision in front of us, definitely it is possible to work for it.
- Now how to do that. To achieve the distinct profile of India we have the mission of transforming India into a developed nation. We have identified 5 areas, one agriculture and agro food processing value addition which we don't do now, education and healthcare, particularly the women education which is the highest priority we have given, information communication technology to connect 600,000 villages in our country where 700 million people live. And the reliable and quality electric power, surface transport and infrastructure for all parts of the country. And self reliance critical technologies. In these 5 areas are closely inter-related and with the youth power progressing leading to food, economic and national security and above all earning capacity of the youth. We have employed a methodology of employment generation.
- As a case study let us take one highly populated state like Uttar Pradesh. How skill based environment mission can be realised. Skill based which I have presented

during the conclave on sustainable development for UP recently. This case study may help focus which will yield sustainable development benefit to the unreached. I have a sustainable development model I have put on a state and derived whether it is possible. You want to hear that? Yes you want to hear that. Now Uttar Pradesh as you know is the land of rich culture and where skills of different kinds have come together for the benefit of music, arts, dance, handicrafts, and many other dimension. I have visited many of them. The carpets of Bhadohi, metal works of Moradabad, glass work or Firozabad, mango products of Malihabad. How many of you from UP? If you are there, I have taken UP you know why? Because 200 million people live there. One of the largest state and 100 million are young people. Half the population are young people. So I am taking the case study, I presented to the UP authorities also. So you will find glassware of Firozabad, mango products of Malihabad, leather work of Kanpur and Chikankari of Lucknow, are historical industries which are famous worldwide. Also there is scope for creation of industrial hubs in the state through planned industrial revival policy. Creation of investment friendly ecosystem and development of industrial parks. Now friends but the question to ask is whether the popularity of the product matched the economic activity which is being able to generate. And secondly how many relatively unknown arts, crafts and cuisine which are potential for being nurtured in a vibrant industry which support and technology marketing friends. Let me suggest a few ideas. For such skill based environment of the state it is true for the whole of India. We need to create a corporate skill map of the state of Uttar Pradesh. We have to make a skill map of Uttar Pradesh in India. That would mean mapping all the districts in the state. We have done that. This would mean mapping all the districts in the state with their core competencies in terms of skill across the dimension of arts, music, handicrafts, agro products, cuisines, literature and shown suggestively. The skill map of UP can come from the contribution of academic institutions and district administration across all the towns in the state objectively indicate the present state and potential of a particular skill set in the region. For example Moradabad is known for metal art work industry which is now substantially well known and developed. Of course it can become more valuable through technology addition. Similarly in Bareilly artisans have expertise in ornaments which need to be matched to the international market demand. The third example from the map is the folk music and songs of Pratapgarh region which are totally today known for local use only. It has the potential to be spread across the national, international music lovers. This can be mapped as skill index in the form of a present potential for each of the skill identified. This skill map was to serve as a reference tool to the administrators for the district and state level and needs to dynamically uploaded on the website for the investors to actively participate. This would be the guideline that they can use in the community pyramid. Now we also need to carefully draw, now skill map we have done.

- Next thing is economic map of Uttar Pradesh. Also we need to carefully draw economic map of the state across various districts and skill zones according to the per capita income and human development index. Such a suggestive map is shown here. The skill map, the economic map of the state will be superimposed and the gaps between the potential realisation of the skills can be identified. Finally academia, industry, administration, need to come together at the district level to bridge the gap between economic realisation and the skill potential across the respective districts. This may require targeted training across IITs ,youth workshop, marketing distribution support, investment like that. In this way each district will clearly identify its skill sets. For all the districts in the country also there is potential how to go about achieving the mission of developing an economy based out of their skills. Also they can benchmark themselves against each other, find the avenues of collaboration towards a common good for the state. This will lead to formation of industrial hubs in many areas including Lucknow, Kanpur, Noida, Meerut, Mirzapur, Bhadohi, Moradabad, Aligarh, Agra, and Sonipet. Create skill enterprise corporation; we are suggesting create skill enterprise corporation with private public partnership. Similarly corporation can also manage a state branding of the skill products.
- Now friends now what is important I want to show to you, we have introduced what is called a societal, i.e. empowerment through societal entrepreneurship. It is a new idea that I want to share with you. Another example is value addition to mangoes in Malihabad and processing nutrition fortified food make it available to the masses with a priority to the local market with only the necessary margin on price. In this way the social entrepreneur will be the bridge among the local products, local nutrition need, technology, and marketing. At the same time venture would be financially sustainable. Also the farmers would be benefited; the customers would have access to quality products. So friends this would require the setting up of a total about 100,000, I have suggested to the Chief Minister, this would require setting up of about 100, 000 social enterprises across the state to serve its 200 million people along the dimensions. I have listed also, food and nutrition, about 20,000 social enterprises, access to water both potable and irrigation about 15,000 social enterprises, access to healthcare about 15,000 social enterprises, access to income generation about 15,000 social enterprises, access to education capacity building about 15,000, ;like this it goes on. Then access to quality power, communication and application about 5000 social enterprises. Like that I have given each of the social enterprises can employ about 50 social entrepreneurs, who can be educated unemployed youth which will be a partner in the development of the empowerment of the state of UP. Industry and academia can take the task of training these social entrepreneurs as per their need. This can be supported with a stipend against their impact along with socio economic line discussed above. So friends these social entrepreneurs of UP can work with the communities at the

grassroots level along the empowerment radar as indicated already. This will help find value added employment for the 25 lakhs unemployed and under employed youth in the state and also open avenues for additional youth. So each region can be mapped along the dimensions of the present and target state.

- So friends finally I would like to say that in conclusion friends for all that what I talked so far, so far I have discussed sustainable development mission. How to bring prosperity to 3 billion people of the world through the sustainable development system called Pura and finally how to reach the research results of the sustainable development mission using the user community pyramid framework and monitor the progress of the sustainable development through societal development radar. For such an environment, sustainable development of the nation, youth of the nation, have to work together to create green, clean environment without pollution, having prosperity without poverty, peace without fear of war and happy place to live for all citizens of the nations of the world. For realising such a mission a nation needs a creative leader. This creative leadership I learnt from my experience in the Exodus Program, Defence Research Program, and PURA in the rural area. So from these three programs success and the problems we faced, and I evolved what is called creative leader of a nation how he or she should be. Leader must have a vision number one. Next one leader must have passion to transform the vision into action. Leader must be able to travel into unexplored parts. Leader never travels in the explored path of others. Leader must be able to travel in the unexplored parts. Leader must know how to manage success and failure. You can manage easily success. Failure is a very big challenge. Leader must have courage to take decisions. Leader should have ability in management. Every action of the leader should be transparent. And leader must work with integrity and succeed with integrity. This is the crucial point for the 21st century. Leader should work with integrity and succeed with integrity. For success in all the missions it is essential to have leaders who have the traits as I mentioned. And I would like them to be called creative leaders. I call them creative leaders. Creative leadership means exercise the vision to change the role from the commander to the coach, manager to mentor, from dictator to delegator, director to delegator and from one who demands respect to one who facilitates self respect. Let us create an environment of peace and prosperity through the power and experienced. So my best wishes to all of you and the Penguin tea, for promoting sustainable development mission beyond 2020. May God bless you all friends.
- (Applause)
- **R:** I can take some questions or some suggestions if you have some. Yes sir get up.
- **M:** (Question not audible)

- **R:** Yes sir. The idea is I shared my experience. What is the definition of creative leadership and definitely for example you know in 1960 there were two leaders. At that time we were producing 50 million tons of food. It was cheaper to come from America. One political leader C. Subramaniam and technology leader Dr., MS Swaminathan, they said what is this. We are waiting for the wheat ship. Why not we create our own food. And that decision of a vision today we are generating 250 billion tons of food. Sarabhai's unique vision of space at that time there was no communication satellite. But he visualised we need communication satellite. So friends visionary we need. I agree with you.
- **R:** Yes Sir
- **M:** Sir what about connectivity all over?
- **R:** Connectivity?
- **M:** Yes sir. We have got empowerment radar but I don't see connectivity in this.
- **R:** Connectivity. First thing connectivity. I said physical connectivity PURA, providing Urban Amenities means physical connectivity, plus electronic connectivity, plus knowledge connectivity equals to economic connectivity. What is physical connectivity? We need 7000 PURA in our country. That is 50-100 villages you cluster them. That means route, it needs facilities, it needs schools, it needs colleges, and it needs certain rail services. Then electronic connectivity, core competence you have to train them. So we have discussed what are the three connectivity in PURA that will lead to economic connectivity. My talk is only full of you need connectivity, physical, electronic, knowledge connectivity leads to economic connectivity. Ok sir? This side. No this side, this side because all the questions are that side.
- **M:** Well you have talked about how we can achieve sustainable development and how we can monitor those. But the thing is those people who are about to do all these things, the youth, I am belonging to the age group of 22 and I have seen most of my friends are not intending to think about creativity and they are not intending to go beyond the defined way. They all are in the race of getting a good job. I am an MBA student so I have seen in my college nobody is concerned about the new things or new explorations or contributing to the society. So how to motivate them? You know what they think? Yesterday we had a conversation in our managerial communication class that how we can contribute in society, what we should be at the time of interview, what should be our value system. Most of the pupils were saying that bribing should be there. If I am marketing guy then I should bribe the frontier guy to pass out my order. This is the kind of value system in us. So how can we....

- **R:** Well I think you are giving a lecture now. It is like this. You know first of all you should not worry what others are doing ok? You do your job perfectly ok? You do your job perfectly.
- (Applause)
- **R:** One minute. That's all that is the end of it. You do your job perfectly. Second thing value system, value system comes from three people. Ok? Three people only can take care. After the age of 17 it is very difficult. Ok? Who are they? Father, mother and a spiritual environment. And third one primary school teacher. Ok? If you have missed that you have missed always. Ok next one.
- (Applause)
- **M:** My question is Professor Kalam, lot of emphasis has been given by you to cross domestic product. What about this concept which Bhutan has brought to the world of gross national happiness meaning a little less materialistic, probably less money minded, because materialism may not give happiness. What is your view?
- **R:** See my feeling is that India has managed a billion people of democracy. Ok? And naturally there are two components. One is the economic prosperity. We need it so that poverty can be reduced. Second one in my talk I said sustainability of value system. Ok? Sustainable value system. That sustainable value system comes in then definitely the combination will be happy citizens. We don't need to go anywhere. You just think what is needed for the country. OK? One more question in the middle. Now I am not coming there. I have finished three questions there. I have to finish three questions. One more question yes?
- **M:** Sir first of all thank you so much for the optimism and thank you Penguin for giving us an opportunity. But just a small question. Do you think we can sing the song of corruption free developed India beyond 2020?
- **R:** I want to tell you one thing. Recently I was in a college. There one young boy got up. He said "Mr. Kalam, I want to live in a corruption free India." Tell me what I should do. Did you see your question and the boy's question? There is a lot of difference. He says tell me as a young fellow what I should do to remove the corruption he asked. My answer was every home has got father, every home has got a mother. And it is understood 60 million houses are corrupt, 30% of the houses are corrupt in our country. 200 million houses out of that 305 are corrupt. That is 60 million houses. I said young fellow if you have got courage, if you find unfortunately your father corrupt can you go and tell him don't do that? For some time like the way you are silent even he was silent. Then he got up and all the youth got up. They said that if our parents are corrupt we will go and tell them and remove the

corruption. Now my answer to your question is there are two possibilities. One is Anna Hazare route. Ok? Anna Hazare route. That route is definitely going to one day bring us a very powerful law for anti corruption. If all of us work for it, powerful law. But what will that powerful law do? All the prisons will get filled up. Did you understand? Do you want that? I want to see how the young children can change their parents. Do you follow? Both should go together. Do you agree or not? How many of you agree? All of you agree. Fantastic. Ok. Now this side, this side. Yes you get up.

- **M:** Sir my question is while talking about creating leaders it seems as if it is more for creating business and management leaders. When it comes to creating political leaders or someone who can run the administration, our mentors, our parents, our teachers they say when you are reading newspapers read the financial part, read the business news but don't go into politics. It's a dirty area.
- **R:** My dear friend that time has gone. Now I meet young people, I said 15 million young people I have met. Every forum I ask how many of you want to become political leaders. At least 50 hands lifted up of young fellows. 50 hundred hands out of thousands. So there is a change in the attitude. So creative leader means it is not only non-political. Creative leader politics also...but it never was a creative leader. Ok? Mahatma Gandhi was a creative leader. So in politics also we have a creative leader. Ok?
- **M:** Thank you sir.
- **R:** Where are you sitting? Ok. The last one.
- **M:** Hello sir. I want to know that how can we manage our failures. I have not been recommended at SSB.
- **R:** What are you doing?
- **M:** Sir I am pursuing Bachelors in Technology in Instrumentation and Control.
- **R:** See it is a fantastic question because I want to tell you one incident. 1979 I was the project director/ Mission Director of SLV III. First rocket system for India with the satellite. I launched after thousands of people were working very hard. It was a failure on that day. Ok? In 1977 august 10th it was failure. Now what happened? On that say there was a press conference. Ok? .My chief at that time was Professor Satish Dhawan, Chairman India Space Research Organisation. He told me you are the Project Director. Mission Director. You have worked for days and days. I am not going to disturb you but you come for the press conference. I went there. Press asked all sorts of questions.

National Press, International Press, they said what so much of money you put in the Bay of Bengal, putting the satellite in the orbit. Like that you know lot of discussion was there. Finally professor Satish Dhawan said this is the first launch we have failed. Definitely our scientists will be given capacity building and management authority will be given, and a lot of empowerment. Then definitely we will succeed. Next year 1980 the satellite launch vehicle was launched. Rocket was launched. First stage worked, second stage worked, third stage worked, fourth stage worked, it gave 7 kilometres per second, and satellite went to the orbit successfully. Now what happened on that day? On that day there was a press conference. Prof Satish Dhawan told me you go and conduct the Press conference. Do you follow; when success came he gave it to his team. When the failure came the leader absorbs. See these qualities are how you can manage problems, manage the failures. You should have the courage to accept the failures of your people, subordinates, your team members. When the success comes you give it to your team members. This is a lesson I learnt and I shared with you. Ok sir? One more? Yes. No. This guy is asking a question.

- **M:** Good evening sire. My name is Chanakya. Me and my friends are civil service aspirants here. So I would like to ask you how our preparation should be oriented. Basically civil services students only study to crack the exam. But could you please tell us a different way.
- **R:** See how preparation should be oriented for services examination; you want to write the IAS exam? Ok. See I personally believe there is a four dimensional problem ok? For example in my life it happened. Many, many people's lives it has happened. You see the light? Bulb when you see who do you remember? The light and bulb?
- **M:** Edison.
- **R:** Edison you remember isn't it? And when the aircraft flies who do you remember?
- **M:** Wright Brothers.
- **R:** Wright Bothers. When the telephone bell rings who do you remember?
- **M:** Graham Bell.
- **R:** One Indian scientist is travelling from London to Kolkata in a ship in the 1930. He saw the sea was blue and the sky was blue. HE asked a question why? H worked hard 7 years and got a Nobel Prize. Who is that guy?
- **M:** Sir C.V. Raman.

- **R:** Sir C.V. Raman discovered back scattering of light ok. It is due to back scattering of light. Why are you remembering them? They are? They are unique. Why they are unique? They had four qualities. Great qualities. Number one they had a great aim not a small aim. They had...repeat with me...they had...
- **M:** Great aim.
- **R:** Great aim. They continuously acquired the knowledge through great books, great human beings, great teachers. Continuously acquired the knowledge. Third one sweat, sweat, sweat, hard work. Fourth one perseverance. They are not afraid of problems. They become the captor of the problem. Defeat the problem and succeed. Ok? So if these four qualities are there you are assured IAS.
- **M:** sir one question from upstairs please. One question from upstairs here.
- **R:** Upstairs? Yes I am happy. I forgot upstairs is there.
- **M:** Good evening sir.
- **R:** Good evening.
- **M:** Sir you talked about development so sometimes people maybe having justified or unjustified fears about development like in nuclear development. So don't you think it is important to answer those fears before we go on with the development and do you think we are doing enough for it?
- **R:** Well madam it is a good question from upstairs. I want to tell you the basically I also belong to that nuclear field. Now as soon as the Fukushima situation came I visited a number of sea shore nuclear reactors and I revered the nuclear reactors with my friends. And all our nuclear reactors had got 3 tier safety locks. So something happens the second tier takes over. So always radiation will be contained. It is a new feature our nuclear reactors have got. And also you should remember that the nuclear energy is clean energy. No fossil fuel. When you come in the car today for this place to attend the conference, one litre of petrol generates 2 kilograms of carbon dioxide. The whole world generates 30 giga tonnes of carbon dioxide. We should come out of it. We should go for solar power. We should go for wind power. We should go for nuclear power. We should go for Hydra power. We should go bio fuel. Ok?
- **M:** Sir I have one question.
- **R:** Last question who?
- **M:** Sir here from the balcony sir.

- **R:** You are the last question fellow get up.
- **M:** We talk about so often billionaires making money but that is not helping the people in the bottom of the pyramid. So how can we really bring the deficit in....?
- **R:** Mechanism is PURA. Mechanism is providing urban amenities to rural areas where 100,000 population you are giving capacity building. 100,000 population can be 2000 families. At least few people in the families will get capacity building, earning capacity. That is called sustainability. Instead of giving the money you do the capacity building. That is what we are planning. That is how it will narrow down. OK? So friends' last question is asked. Now the organisers have to say.
- **M: Sir** this side.
- **R:** Yes. Lot of people are waiting.
- **M: Sir** here from the balcony.
- **R:** Balcony. Balcony yes you can ask one more question.
- **M:** Sir whatever the research is done in the field of satellite technology we have achieved a status of developed nation. But why the same thing is not done in the field of talking ethanol as a fuel?
- **R:** In the field of?
- **M:** In the field of energy for vehicles, like ethane....
- **R:** See what I believe I saw recently in the Western India, I visited one village. That village generates 170 mega watt solar power. One single village, 209 entrepreneurs. 10 from outside the country and 10 from India. They are generating total state generates 700 mega watt power. It looks to me that we have the potential. What we need there is the creative leadership. Definitely it is possible.
- **M:** I am asking why the same research is not conducted for the ethanol. Because we have sugarcane, we have great fields, we have irrigation,
- **R:** Ethanol is a proven technology. What it means is the economy of it. Today the economy....for example something has come what is called Jatropha. Jatropha plantation has 40% oil content. So this can come in the minimum water conditions. So in Chhattisgarh they have millions of hectares where they are harvesting that one. So I believe the future energy will be bio fuel. It may be Jatropha based bio fuel. That is what we expect. Some research is going on in the agriculture universities and also industries developing for esterification machines for that and definitely in 5

years time you will find a lot of changes. Friends I have to go. What I want to tell you is that note down my email id. apj@abdulkalam.com. Remember apj@abdulkalam.com. You send your questions and within 24 hours you will get the reply. I said every day I see the mails. 24 hours you will get the reply. OK? Ok friends.