

4th Convocation
19th January, 2008

Address of the Chief Guest

Technology and Gujarat

Introduction

Its indeed a great privilege to address the Convocation of The Dhirubhai Institute of Information and Communication Technology. For an economist working in Gujarat, education and research in the frontier areas of technology is the key to achieving the State's potential. I would like in the few minutes at my disposal see if I can make a non trivial statement in this context to excite at least some of you to the State, since you have national and global reach. I genuinely believe that given the hard working people of Gujarat and their cosmopolitan institutions working on a national and global plane, technology and management of real resource bottlenecks like water and energy will set the limits of growth and the achievement of our almost unlimited potential. I had looked at technology management in this context in my convocation addresses at MSU, Vidhyanagar and at Gujarat University, a decade ago and am revisiting that thought since change is fast.

For those who deny it, Gujarat is one of the fastest growing regions in the country and perhaps in the World. One of its problems has been slow and erratic agricultural growth. This will be of the past since we now have Sardar Sarovar. But again much will depend on how we use it. Our Poorvi Patti, the adivasi talukas of the eastern belt show poor growth and bad social indicators, not very different from the BIMARU States and we need a larger actionable vision of growth for that region. Also we are a high performing State for technical education at the diploma level, but our higher education is in a mess apart from institutions like DAIICT, I am particularly happy to note that DA-IICT is not only a pioneer in introducing ICT as a discipline at B Tech level, but has also been innovative in offering a specialized PG program for ICT in Agriculture.

But these are all opportunities and not just problems. For each problem we have solutions for the land of Gandhiji is still rich in its institutions which solve problems. For each problem we also have success stories. The fastest growing region of the World has access to technology and resources. We are not a foreign investment State and in fact our record in FDI is poor. As Dr.Ravi Dholakia constantly reminds us, our savings can sustain a near 1 5% annual growth. We ae a foreign technology import and adaptation State as examples like BT cotton, pharma globalization, Chirag's Icenet and many others show. We are the water and to an extent soil constrained State, but we have all the agroclimatic regions of the World and in the vision of sustainability, all the resources which these contain and also in addition Gujarat has SSP. We need structures to replicate successes and punish

those who would destroy or wrong our heritage. I will give a few examples to whet your appetite, for groups like you must build and lobby for these.

SSP and Agro Climatic Policies

Given the physical and bio-genetic diversity of Gujarat, it makes it economically rewarding and resource augmenting, to follow a strategy of diversified and regionally differentiated agriculture. For example, in the agro-ecological zoning of the FAO, Gujarat and also India is one of the few developing countries studied which has crop production potential in almost all land class types dry semi and, moist semiarid, sub-humid, fluvisols and gleysols. Within it are seen the agro-ecological zones of the Developing World. Also the shares of moist, humid and fluvisol/gleysol agro-ecological sequences in India, approximate those in the Developing World and it is perhaps one of the few countries with some others like Brazil, China and Indonesia, which is "World within the World" (table below). This is indeed a great policy challenge and opportunity. This is particularly

Agro Climate Regions of Gujarat				
Region	District	Rain fall in mm	Climate	Soil
Southern Hills	Dang, Bulsar	1793	Semi arid dry	Sub humid Deep Black Coastal alluvium
Southern Guj.	Sort, Bharuch	974	-Do-	-Do-
Middle Guj.	Baroda, Kheda, Panchmahal	904	Semi arid	Medium Black
North Guj.	A'bad, G'nagar, Mehsana, S.K, B.K.	735	Arid to Semi arid	Coastal alluvium
North West	Kutchh	340	Arid	Gray Brown Deltaic
North Saurashtra	Amreli, Bhavnagar, Jamnagar. Rajkot, Surendranagar	537	Semi arid Med.	Blackcalcareous
Southern Saurashtra	Junagadh	844	Dry Sub Humid	Coastal allu. Med. Black

so in an emerging environment which regards bio-diversity as nature's bounty and not as earlier, a constraint to technological progress. Nowhere is it more true than in

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Water and energy are going to set the frontiers for the State. Even after Sardar Sarovar is reaped we are going to be one of the most water deficient regions of the World. According to the distinguished engineer V.B.Patel, former Chairman of the Central Water Commission of India, our per capita availabilities are going to be a quarter of the Falkenmark Index, which makes us worse off than Sahelian Africa. A model prepared for the UN by Kirit Parikh and me shows this, as also the fact that India imports more than two thirds of its energy, Gujarat will be a problem area.

These are going to be cutting edge problems. Land, water and energy will also determine the sustainable development paths for the diverse agro climatic regions of the State. Urbanization and its pattern is also important for land use, energy for transport within and between towns and sustainable development. Distance is a matter of transport networking and not just physical concept. The conditions on which larger resources can be mobilized for the infrastructure needs considerable thought. I hope we will work on the policies required to access the billions of dollars being allocated for infrastructure from the use of exchange reserves.

SSP and ICT

I don't know if you know it but SSP was planned by me in a strong ICT framework, as early as 1985. The system is designed in a manner that the irrigation authority will deliver in computer controlled systems measured amounts of water at the village level and farmer managed systems will operate them. The planning for these hydraulically controlled structures was on the most advanced of its kind when it was done. Econometric models of farmer behaviour in each of the 18 branches, optimal allocation models for allocation, conjunctive use-where alluded and are described elsewhere. In fact in a recent book I have written on the Interlinking of Rivers Project I have described these plans and been critical of those who ignore developments in irrigation methods. The SSP plans are described in detail in the plan I wrote called Planning for Prosperity (1989). Planning For Prosperity is your dream they said and will never happen. It will never happen.

First they said the water won't flow; but it did, Now they say it won't be efficient. I am not a habitual sceptic and can only give the counterfactual. Anil B. Mandevia in a paper on "Irrigation System Operational Management by Way of Canal

Automation" has given the details of the systems now planned.(See R. Subbiah, et. al., Sustainable Management of Water Resources , Delhi, Himanshu, 2005.). Information for efficient operation of canal system is now well on way to implementation at the ground level.

(The Times of India has carried a tender invitation. It reads SARDAR SAROVAR CANAL AUTOMATION PILOT PROJECT. IT IS FOR NARMADA MAIN CANAL REACH KM 0.0 TO 105.344, VADODARA BRANCH CANAL WITH JAMBUSAR AND KUNDHELA BRANCH CANALS AND SAKARDA BRANCH CANAL INCLUDING OPERATION AND MAINTENANCES OF THE REMOTE MONITORING AND CONTROL SYSTEM. Farmers irrigation Cooperatives are already formed.)

It will come. Mistakes will be made. But the inherent strength and wisdom of our people and the skills and resources of the future generations like you cannot be suppressed and will show, will show.

Eleventh Plan

The immediate past is not encouraging. As the mid term review of the Tenth Plan brought out,(2002/07) there were substantial shortfalls in education and HRD expenditures-and achievement of targets, But the UPA Government has given more priority to education and health and this is beginning to show. For elementary and primary education the Sarva Shiksha Abhiyan was in the right direction although the evaluation has shown scope for improvement. The dualistic nature of the economy is still a feature we have not fully come to grips with. This inspite of the considerable flexibility in administering the flagship programmes. For example I learn that in the SSA when an agricultural labourer migrates, the certificate to the child does not easily permit reentry in the new place of 'residence'.

In high school education the increased allocations for scholarships are welcome. The new programmes of vocational training are major advances. Entrepreneurship training for school dropouts for self employment is a step in the right direction and the new programmes are of a very large size. Certification by local Chambers of Commerce goes a long way in employability and is a new and welcome trend. In one area where I have some experience with a Certificate, earnings of around three thousand rupees per month are available to the modal trainee and if the certification is by the London Guild these earnings are doubled. The Planning Commission has been advocating PPPs here and the CII is engaged in a major mission.

Higher Education in Eleventh Plan

Since I am in a great education institute in my State and at heart remain a teacher, I will end on that note, The Chairman of the UGC has been making the point with meticulous data for which he is well known to us JNU types that existing levels of enrolment are low. Also that they are lower for poorer areas and strata. Using NAAC

performance estimates he makes the point that existing institutions show a mixed bag of performance, as compared to the more strident critiques of the Knowledge Commission to the effect that India has no quality education, His strategy is to the effect that the best ones must be replicated, the average ones improved and the worst ones restructured.

The plan that for inclusiveness there will be much larger scholarships and a Loaning mechanism without collateral is very encouraging. The acceptance of a Central University in each State and a good college in each District is happiness.

The real challenge is in improving the system. I would as a teacher in Gujarat university now of twenty seven years standing as a Ph.d. Guide make the point that if the system fails, after five years the blame will come, legitimately on us. Accountability and autonomy are the real issues and we don't seem to be prepared for them in our mai-baap culture.

It is of some importance that we build fire walls for autonomy and that can be legitimized only by accountability. For too long accountability in Universities has meant that of teachers and karamcharis and not university administrators and the Ministers and bureaucracy in Shastri Bhavan and State capitals. This has to end. A Private University like DAIICT has to give its financial projections for years but a publicly funded one does not know its budget sometimes into the year. The emphasis on Backward Areas has to be d to the DAIICT for operationalization in detail and to the authorities for implementation, accompanied with bootstrapping strategies. The best talent must be encouraged to go there, for love if possible and for money if not. I believe this is practical, Some of us had produced a Rural Educational Policy draft in 1 992 at Pravara. It was lobbied for and remained on paper. At the request of the UGC, Abhijit Sen and I have produced the model of an Inter University Rural Development Center as a network model and we commend to the DAIICT for operationalisation in detail and to the authorities for implementation.

Education is for growth and professional excellence in a technologically exciting future of tremendous possibilities and interdisciplinary in applications. But education as a culture fest still continues. Macaulay in his minute on education of February 2, 1835 on education in India said ' Such wealth I have seen in this country, such high moral values, people of such caliber, that I do not think we would ever conquer this country, unless we break the backbone of this nation, which is her spiritual and cultural heritage, and, therefore I propose that we replace her old and ancient education system, her culture, for if the Indians think that all that is foreign and English is good and greater than their own, they will lose their self esteem, their native culture and they will become what we want them, a truly dominated nation,' This was bought to my attention not by a fellow teacher, but a great Indian soldier, General Rodrigues. Since Munnabhai and Gandhigiri became a rage a hundred and seventy five years later, Macaulay obviously lost out on education in a larger historical context. We need a civil society initiative to insist that accountability and

autonomy go hand in hand in education and will need to be structured and protected. Beginning with the Radhakrishnan Commission, every thoughtful examination shows that skills are terribly important and yet in the profoundest sense of the term education is a matter of culture, nation building and freedom. Arun Shourie an MP from our State, Sita RamYechury and Prakash Karat were all rebels in University, Philistines who think education is only implanting ideas developed elsewhere are inefficient for we must collaborate with others to understand how they developed good education in their own culture. education is only implanting ideas developed elsewhere are inefficient for we must collaborate with others to understand how they developed good education in their own culture.

The new systems will have to be of a Networking nature and this has to be a part of the institutional reform. Only competent universities will network both at home and abroad. Networks have to be with knowledge centres outside the universities and with businesses and users. This is not just for funds but to know the role of knowledge in a reform process. It is only a holistic approach which can be the base for preparing for the Doha Round: Regulation and the legal base for FDI and Domestic investment in the knowledge sector. Many countries are doing it. Global institutions are willing to help. The Indian debate is unfortunately in a sloganeering mould. But in the field there are exciting developments. The DOEACC in software training is the backbone of India's software exports and it is an educational reform. Will a hundred flowers bloom?

Conclusion

With all of you I am sure we will garner the demographic dividend of a young energetic and resurgent India. My plea is to urge you to make it happen. Jai Gujarat. Jai Hind and Thank you.

Dr Y K Alagh

Chairman

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