



**2nd May 2002: What is the state of our Informtion Society-
Point of view of the government**

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Thank you so much to give me the possibility to talk here about the telecom developments in developing countries. I am going to present to you a very different point of view to what you have heard so far today. Of course I do not allow myself to be partial as I come from a developing country myself. But I have lived 37 years altogether in the United States and I should say, my approach to the matter is quite a split one. And of course, what I am going to say, reflects my own personal experience.

Well understood, we are putting the stress on the emerging market in Africa, in South East Asia and in Latin America. In these areas of the world there are about three billion inhabitants. Two billion have practically never had a telephone in their hand. When I went to the United States at the age of twenty-two I had never made a phone call before. I was brought up in a small rural area. At least I had at that point an A-level in physics. So I knew how to draw or to conceive a telephone, but I had never used one.

I am now going to present three observations to you, which seem to me of interest. Afterwards I am going to tell you about my or our specifically Indian and Asian experiences. Then it is my aim to present to you some "lessons" I learnt during 25 years in industry. After having lived for 22 years in the United States I went back to India where I then worked in the telecom sector.

There was a vast gap between those who are rich of information and the others. Basic service was a major worry. A voice was then given to the broad public but also services in the sector of specific applications. Generally in the cities we use a telephone every day. We put the density of telephones in a direct relation to a certain richness and prosperity. But in fact it also reflects a more or less successful management of communication. The gap we are talking about refers not only to computers and telecom but also to alphabetization, education, health service etc. From the mentioned two billion people at least one billion is illiterate and there are also problems of salubrity, water supply etc.

We are in need of the main message. Because more and more investments go into modern infrastructure of developing countries. The developing world has been calling for help to improve its telecom infrastructure for twenty to thirty years. Technology, know-how and investment is necessary. These three rare goods originate from the occidental world. But those occidental countries have monopolies in telecommunication, they have an important bureaucracy. Those hierarchical structures work on a basis of privilege, and a performance of productivity is required from them in this modern environment. In spite of a whole series of programs supported by the World Bank and other charitable Organizations such as ITU or the UMO, very little has been done apart from speeches being held at seminars,

conferences, discussions at the round table and Thesis' being written. Little has been achieved and nobody wants to accept this as the real failure of the developing world, which we have ever had for the last 25 years. There is some hope. Hope comes from new technologies like wireless.

In this country capacity to pay becomes a major issue. During my about 35 years in telecom the cost per line has not changed at all. When I started my career in 1965 the cost per line used to be about \$800.-. Today it is still almost \$800. In the process we have gotten a lot of new features, a great deal of flexibility, automatic maintenance, all kinds of sophisticated software. But until the cost comes down on about \$300 to \$400 a line, a large number of people cannot afford to pay. If you want a phone of \$800 a line, you must earn at least \$10 a month to make economic sense. And since we have been focusing on needs of the western world, more sophistication, high productivity, efficiency, we have not been able to drive cost down.

There is a great connection between information and communication technology and basic needs. And that connection has not been really exploited properly. A lot of these countries will have to realize that the help is going to come from within and not from outside agencies. These countries will have to reform themselves to attract investment. It is a historical opportunity for a large number of developing countries to really set out to the future. Mainly because information brings about openness, accessibility, connectivity, networking, democratization, decentralization and as a result: social transformation.

To me information is a great social leveler. It puts two unequal human beings on the equal footing. It is a great opportunity for these countries to transform their institutions, their governments, their education, their social structure, provided they will accept the role of information for social reforms. So when I talk of information communication, I do not think of computers, of hardware and software, satellites, fiber-optics, gadgets, browsers - I really talk of using IT for human development. I think this is a great challenge for all developing countries.

At the age of 38 I sold my company in the USA to Rockwell International. With the bit of money I felt very empty. I had left behind in India hundreds of friends and relatives, who were still in poverty. So one fine morning I decided to go back to India. I then went to India, started a sort of commuting for a while and realized, that India, being a country of 700 million people, had a mere 2 million telephones, of which one million did not work. It was all predominantly mechanical. I had sold a company designing digital switches in the US, and I felt this would be an interesting challenge.

You need some arrogance to take on a task like that. You also need ignorance, because ignorance is a great asset. If you know too much, you will never do it! Fight me!

In the process one day I decided that I were to ask for a meeting with the prime minister of India. I got a meeting for ten minutes. I though wanted an hour, saying that it was really important to Mrs. Gandhi to understand my concern. After about eight months I got an hour with her and her son, who later became prime minister, Radjiv Gandhi, was with her. I realized, that the most important task was to convince the leadership that this is an important aspect of development. It is as important as agriculture, it is as critical as water and it is as critical as education. So there are no differences in investment between telecom and water. Telecom has to have the same priority as basic human needs.

In the process I really had to meet young Radjiv Gandhi, who was just about my age then. And we clicked. When he became prime minister, I definitely decided to leave everything in the US and to go to India. There were 650'000 villages in India.

To connect India we needed to connect at least 250'000 villages. Connecting the major metros - Bombay, Delhi, Madras - was not enough.

We had to design a switch, which would survive in India dust, heat and humidity without air-conditioning. We put up a team of young Indian engineers. Everything you see today in the way of software export in India was launched at that time in the early eighties. Today India has about 9 billion dollars of software exports a year. In Silicon Valley every high-tech company is most probably owned by a friend of my cousin. Just in the span of 15 years the amount of wealth created in IT in the Indian community in the US is absolutely unreal.

We started the program and we decided to put small, rural exchanges all over the country. We provided public phones manned with handicapped people. We installed one million of these phones. They are standard phones with a meter, if you want to make a phone call you pay money, you make the call right then and then, the man who is running this phone gets the cash flow, he doesn't pay the telephone company for sixty days and makes a living. He feeds a family out of one public telephone. We have connected almost 400'000 villages. It was an uphill battle against bureaucracy and administration. But today in spite of all that effort, India has only 30 million phones for one billion people. There is a tremendous amount of accessibility though. You can go anywhere and call any place. And you don't have to walk more than may be one kilometer.

On the other hand China, which was at that time just about the same, has today 120 million mobile phones. I was seeing the Minister of Telecom in China and he said, Mr. Pitroda, we will have 400 million telephones by the year 2006. The growth there is of a different type. India and China are examples for the developing world in its effort to modernize telecom infrastructure.

I remember a meeting with Prime Minister Rajiv Gandhi, we had a call from the US, saying Reagan had decided that they will not give us the super computer because they thought we will use it for defense. What should we do? The answer was, let's design our own. That needs a lot of arrogance. We put together a team of 300 people, bright, young PHDs in computer science. In three years we had our own super computer. A year later we sold it to Canada, we sold it to Russia. The point is, there is such an amount of talent in some of these countries, but it does not get the opportunity to build institutions and infrastructure necessary for IT.

After these experiences I decided to go back to the US to Chicago, where my family lives. There after a year I felt very uncomfortable about TV and the world behind, in developing countries. So I started an activity with ITU in Geneva and set up the company called WorldTel with a small operation center in London. Our task is to invest and build telecom infrastructure. We have a project in Mexico and Azerbaijan. We have cellular licenses in twelve different countries in Africa, in Bangladesh, we also have a license in Zimbabwe. Investors include E-Capital, AIG, Intel, QIG-Investments.

We have learnt some simple lessons:

1. Unless there is political will at the highest level of a government, nothing much can be accomplished in many of these countries. If the leadership is not convinced and committed and backing you up, you can forget about telecom infrastructures, because it requires change, and you won't get any further just with bureaucracy.
2. Having gotten the leadership to agree to do something substantial, there is a need to put together immediately a national policy. A national policy, which is articulated, debated and discussed with all the key stakeholders.

3. And a champion; you need champions to execute. You need one champion who holds the link to the highest political levels to be able to execute these ideas.
4. There must happen a change, especially in telecom monopoly, and with individuals if necessary, and commitment to privatization. Privatization is a process not a product.
5. It requires ecology of privatization. What works in the US and in Europe does not work everywhere. Ecology in plan, the right kind of liber-laws, management skills, financial systems, private sector participation and so forth.

Conclusion: The three main commodities you need for telecom infrastructures such as investment, technology and management are very hard to find. It is a high demand even in advanced countries today. Therefore diverting these resources to Africa and South Asia is very, very difficult. One of the biggest challenges I have at WorldTel is to convince my investors to invest in Africa. They are reluctant in taking a risk, they want to make 15% or 20% return or they may prefer to invest in power instead. As a result these countries get starved of the right kind of resources. The integrated development with infrastructure, contents, access, applications and the whole set of things that come out of convergence of technologies needs a special treatment of the people, in order to make them understand and appreciate the policies. We have heard about E-governments, E-learning, Tele-medicine, - all these issues become practical when you look at human development, specially in these poor countries. Naturally the contents have to be in local language. The local contents have to be prepared, and all these are very, very demanding and difficult tasks in terms of execution.

For example I have been working with Africa for the last five years, and I have found that every little country has its own regulatory authority or its tribe. In some countries you do not have more than six lawyers. And if you want to contact the regulatory authority, it is just not possible.

There is a demand of 50'000 additional telephones. - You have that in one building in New York. - You see, the scales are very different. At the same moment of time these countries will not come together to put up one mutual regulatory authority. Everybody want their own. As a result the matter is a non-starter.

To me information technology is a borderless technology. Unfortunately many decisions are being made by people who's minds are full of borders. On the one hand we have a borderless technology, and on the other hand we have people who are just looking at their own little territory. In Africa in many countries, if you want to talk to your neighboring country, you will go by way of Europe and then you transfer a call next door. Those are the realities even today.

So IT and information society is not about computers and telephones and technology and software. It is really about creating a whole new world, which is a lot more global, a lot more united, a lot more integrated; it has similar values, global values, it is secular, democratic, there is a right to freedom.

All the dreams that we talk about and take for granted are connected with IT. The real foreseen IT is not technology, it really is transformation of the society. Until this message has gone across to the leadership in the developing world, I don' t think we will be able to really make the dent.

Development has been unequal and we are paying for it. I hate to say so, but the event of September the 11th has a lot to do with unequal development. There is a need of more responsibility with all of us, to make sure that we do not leave behind two billion people in the IT revolution and in creating information society of tomorrow. Thank you.