

## FORMULATION OF A NATIONAL ICT POLICY

**e-Sri Lanka - Consultative meeting held on 13<sup>th</sup> June 2002, at the JAIC Hilton**

**Welcome-**

**Mr. Ajit Ekanayake,  
CEO, Council for Information Technology (CINTEC):**

I'd like to thank all of you for being present here today and participating in the consultation meeting on the development of the National ICT policy. Presentations will be made on the areas of Industry/Market Creation, Infrastructure, Human Resources Development, e-Governance and Regulatory and Policy matters followed by a summing up by the World Bank Mission and thereafter the response from the Honorable Ministers. We would like to start immediately and I would like to invite the Secretary of Economic Reforms, Science and Technology, Mr. G Hewagama to give the inaugural address.

**INAUGURAL ADDRESS -**

**Mr. G Hewagama,  
Secretary, Ministry of Economic Reform, Science and Technology:**

Good morning Ladies and Gentlemen, Governor of the Central Bank, Secretaries of Ministries, Mr. Eran Wickramaratne, Advisor to the Minister for Economic Reforms, Science and Technology, Mr. Nagy Hanna leader of the World Bank Team and the other members of the team, distinguished participants, ladies and gentlemen, it is my duty to welcome you all for this Consultation Committee meeting. I will not take too long in my welcome. I have to say a few words.

In this current Information Age, all countries, developed and developing, are embracing information and communication strategies in order to enhance their competitiveness and also provide wider opportunities for their younger generation to participate in national development. As you all know, Singapore, Korea, Taiwan and India are countries in the region that are recognized to be in the forefront of ICT utilization in various spheres of their economy in pursuing development. The Government of Sri Lanka too has decided to give utmost priority to ICT development in that the Ministry for Economic Reforms, Science and Technology has initiated measures for the formulation of the national policy on information, communication and technologies incorporating detailed action plans for key policy sectors. In fact, we drafted a draft Roadmap some time ago, but now with this consultation we can revisit that and refine it further. In this exercise of developing a national policy, or a Roadmap for IT we are mindful of its impact on other development sectors on ICT programs and reciprocally the ICT delivery requirement. We have invited you all eminent people in this area to participate in today's meeting. Your observations, comments and views on enumerating the policy development and action plan in key areas would be of great help especially at this stage of revisiting our Roadmap. I am pleased to announce that the World Bank and the Swedish Development Agency are also assisting the efforts of our Ministry. The team from the World Bank is already here with us today.

On behalf of the Ministry for Economic Reforms, Science and Technology, I seek your cooperation and request you to contribute towards the success of our efforts. With that I wish to conclude my opening remarks and now I would like to invite Mr. Eran Wickramaratne, Advisor on Information Technology to the Hon Minister for Economic Reforms, Science and Technology to provide an overview of the framework for policy development. Thank you, Eran.

## **Overview -**

### **Mr. Eran Wickramaratne**

#### **IT Advisor, Economic Reform, Science and Technology**

My task is to probably explain to you the process that we are trying to follow, and I will do that very quickly because we want to stick to the timetable very rigidly and use our time profitably. As you know there have been many attempts by CINTEC, by USAID, by the Chambers, by specific industries in trying to arrive at a policy on ICT and our present attempt is not something new, it is part of the ongoing process that we are trying to draw together all these efforts and come up with a national Roadmap. The initial step is to arrive at a Roadmap which is a 33,000 feet macro level policy document.

The Ministry of Economic Reforms, Science and Technology which is also the Ministry of Information Technology is actually going to be playing a coordinating role. It is very clearly understood that ICT is not an area which can be restricted to one particular Ministry because it cuts across all of national life, and therefore the role of this Ministry is going to be in coordinating a national policy.

The role of CINTEC is actually being a coordinating secretariat and also it is an industry sounding board and CINTEC will play that role. The context of the Roadmap is not just in terms of ICT, but the context of it is in terms of the economic and social policy of the country. It is going to be within that framework. In trying to do this, initially we have set up a steering committee which comprises the secretaries of some of the Ministries, for example the External Resources Department played a role in actually initiating this process. The Secretaries from the Ministries of Economic Reforms, Science and Technology, Enterprise Development, Industry Policy, Investment Promotion, Telecoms and Mass Communication and Tertiary Education.

We also had representatives from academia and also from the private sector. We have also started, or got the nucleus for some working groups, and those working groups are in the areas of Industry/Market creation, Infrastructure, Human Resources which encompasses education as well, and Policy Reform - we have divided it for the purpose of this seminar into two, both e-Governance and the Legal and Regulatory framework. Now as a part of that process only we are having this consultation because we want the process to encompass ideas from across the different industries.

We want to have a bankable Roadmap, a vision that is practical, a document which we can proudly take around and try to line up resources with the private sector or using multilateral channels. We recognize that there will have to be organizational restructuring if this national effort is to be taken forward. There has to be a balance between consultation and a balance between actually getting things done. Somebody described it as 'You need to have a bull in a china shop approach to actually get things done'.

So, I would say that we need a balance between consultation and actually pushing things and getting them done. One of the things that we would like to arrive at is what kind of response would be needed by Government whether in terms of fiscal incentives or other initiatives given the overall constraints in the economy. We are looking at basically partnership, public/private partnerships and we are also looking at case studies of other countries to see how actually we could make this work.

We are having various groups collaborating with us, among them is the World Bank and I would take this opportunity to welcome the team leader Mr. Nagy Hanna and the World Bank. We thank them for their support and they're here with us today. However, I would like to make it very clear right at the outset, this Roadmap is our Roadmap, it's not the World Bank's Roadmap, it is our Roadmap and we are thankful for the assistance that we are getting from the different sources in making our Roadmap - a bankable Roadmap. We have the commitment of the President and the Chief Information Officer of the World Bank in this effort. The World Bank will help us develop a program that will go beyond the initial Roadmap and also, we are looking for resources and we will enlist their assistance in obtaining those resources.

The Swedish Mission has already started their work and it is a nine-month mission and they will particularly be looking at specific areas coming out of this discussion and particularly they have identified capacity building as one of the areas. We are looking for bilateral cooperation. USAID has done a lot of work through the cluster initiative over the past two years. We will look forward to working with that initiative. The Minister of Science and Technology has been to Malaysia and we have signed up an MoU and we are getting some assistance in the areas of the Registration of Persons program which Malaysia is doing successfully, on the project management system which the Prime Minister of Sri Lanka is very interested in and also we have looked at the Multimedia University and the possibility of collaboration in those areas. As you have read in the newspapers this week, both the Prime Minister and the relevant Ministers have been in India and we will probably hear more about that when they are here with us later today. There has been some interest in the areas of getting assistance particularly with children's education.

Just to go to today, how we have structured the day is we have one-hour sessions, 15 minutes for presentations, and 45 minutes for discussions. The sessions will be as they are in your program. At the end of that we will have the World Bank sum up, the World Bank's role here today is not to give us answers, but more a role of listening, they are very keen on listening to the views of the industry, and also, we are going to greatly benefit by their experience and comparative country experience. At the end of it the Minister of Economic Reforms will be here. I'm afraid that the Minister of Mass Communication may be too late for our sessions because of a previous engagement. I would request you to please limit the discussion to the topic at hand because there will be a lot of overlap otherwise and to make your verbal presentation brief. We welcome written submissions because that will be useful for our ongoing work. I want to thank Naresh Duraiswamy from the World Bank for his efforts and also, we welcome the Deputy Director, Brad Herbert who is here with us. I would like to invite the team leader Dr. Nagy Hanna maybe just for a one-minute response at this stage before we hand over to Mr. Ranjith Fernando who will be chairing this session. We are glad to have Shirley Tessler and Mr. Barr and Anil Srivasta who has particular experience on working on the Andhra Pradesh Roadmap. So welcome to all of you.!

Thank you.

**Dr. Nagy Hanna:**  
**World Bank**

I'm glad to be here. We have begun to listen to different points of view since we came but I think this is our greatest opportunity to have varieties of stakeholders in one room. So, the first one to thank is the Government of Sri Lanka and particularly Mr. Eran Wickramaratne for inviting us to be here to have an opportunity to listen and to provide some advice on a very exciting exercise. You are on a very important journey. My impressions from the few meetings we have had so far is that there is a very high level of commitment to this area not only as an industry but also as an enabling tool for development.

Information Communication technology is increasingly being used as a way of modernizing economies, making governments more transparent and responsive, modernizing various sectors of the economy enabling countries to integrate into the world economy and be able to compete in various areas and particularly in services, so I hope we can hear from you your actions to very interesting homework that has already been done and I would like to reinforce the point that Eran just made about the fact that this is really a Roadmap developed by the Sri Lankans and will only be implemented and can only be implemented by the various stakeholders in Sri Lanka. Our role here is to just provide any perspective from outside to relate it to the journey you are about to start on and we are very much encouraged by your enthusiasm, by your Government's commitment and we hope we will be able to contribute to this process. Thank you for inviting us.

**1. Industry/Market Creation**

**Mr. Ranjith Fernando -**

Thank you, Dr. Hanna. Good morning Ladies and Gentlemen, Honorable Secretaries, Distinguished members of the audience. May I commence proceedings on the first session? We have one hour's time. We are ten minutes into the time allotted to us. The procedure, as Eran mentioned, is to make a short presentation of ten to fifteen minutes and to leave half an hour for discussion. I think everything starts with the market and it is appropriate that we have the first session devoted to Market Creation and Industry, and to make you that short Presentation we have Mr. Dinesh Rodrigo, very appropriately chosen. Dinesh is the Chief Executive/Managing Director of Interblocs Limited, a software company and you may recall that they were the people who really handled the Internet payment system, payment gateway for Sampath Bank but before that he was one of the founder members of Millennium, the leading company here in software development, he was Director Sales and Marketing, so very appropriately we have Mr. Rodrigo to make the first presentation. May I invite Dinesh.

## **Mr. Dinesh Rodrigo - Industry/Market Creation**

Thank you, Mr. Fernando, for the introduction. Good morning Ladies and Gentlemen. As you all know, this presentation is just a framework to get the feedback and the input from you all, so we'll be trying to run through the presentation quite fast.

Before we jump into the market creation and the industry and market creation itself, I just want to take you all through the vision that the group has set for Sri Lanka and remind you that all content in this presentation is up for discussion and you all can give your comments after the presentation. And all the content in the presentation has been constructed from the previous reports and working groups in various industry segments.

So the ICT Vision for Sri Lanka is to ensure that Sri Lanka is recognized as the leading ICT enabled business sitting destination in South Asia by the year 2005, through the development of a state of the art and country wide physical and human ICT Infrastructure which would provide affordable access to local and global ICT related services/facilities to all citizens and businesses, thereby harnessing the Positive Dividends of a knowledge based economy towards the achievement of social and economic development.

Just if I am to articulate that Vision in point form, it is basically, establishing the right, the appropriate infrastructure; ICT as a primary industry for Sri Lanka; Sri Lanka to be the preferred business sitting destination in Asia; recognition as a regional leader; ICT facilities in Sri Lanka to be locally affordable and globally competitive; of course, as dividends, a knowledge economy and benefits to the public and private sector. This was already covered in Eran's presentation.

Basically, the Key Drivers for Vision Achievement are these and this is the time we jump into the Industry and Market Creation. We have identified some points here, one being a multimedia agency model; government to support marketing and exports; government initiatives to entrepreneurs; ICT enabled promotions but we'll talk more about government as a consumer, and 'why us?' is basically positioning, why Sri Lanka from the global point of view, why do they have to come to Sri Lanka?

The multimedia agency model is basically an abstract concept which can be implemented in many ways, but this is basically to break the demand supply loop, to say it in a simpler way, to break the chicken and the egg loop. This is in a situation where an agency can come in and set up and which will have promised guaranteed demand. There will be short term funding or subsidies so that they can operate this on a marginal break-even model, and by having this to attract other investors and customers into the country and as it goes, you kind of get the whole thing rolling then the subsidies and the funding can go out and it can be self-funding. A lot of IT companies here complain of not enough adequate bandwidth for international bandwidth to do IDCs, ASPs, Call Centers etc., so the good way to look at it is somebody comes in and ... that's one side of the problem. But the other side, that's the chicken, but the egg-side is basically nobody wants to set up the infrastructure because there's nobody to actually use it. So how can you break it?

The only way is an Agency to create the infrastructure and there are subsidies so that you can run this infrastructure at a marginal cost and thereby giving this Agency the ability to go out to the region, offer bandwidth and all that at competitive rates, get the investors and customers in and get the whole thing rolling. Once it starts rolling the subsidies can go away, government funding can go away and it can be a self-sufficient business. So that's one of the models that we have thought of, a multimedia agency model.

Going on to the second one - the government supporting marketing and exports. There are three things cited here which is international market access to Sri Lanka, actually IT companies in terms of setting up marketing offices or incubators at strategic locations globally to facilitate market entry for local companies. Market exposure for Sri Lankans or their companies in terms of trade show participation, one on one meetings and benchmark visits, some of these already happen, but it needs to continue. Inward missions to Sri Lanka to explore software development and partnership opportunities. Then of course IT enabled services, business process outsourcing, R&D, Enterprise application integration and Internet related services. That's inward missions to promote those. Going on to government incentives to entrepreneurs, joint ventures and partnership development; capital for knowledge-workers because today there are many incentives by the government in terms of tax holidays and so on, but not really anything to promote the knowledge worker, so that's where we're looking at funding of x number or n number of employees in companies where certain technical criteria are met; marketing and management expertise and services and of course project based funding.

ICT enabled services itself to promote the market because this is actually going beyond the traditional low-cost services that is currently a niche market, many countries which are into ICT are also looking at, so we can jump into this straightaway. In doing that we have to exploit Sri Lanka's professional base, look at emerging and of course growing markets which can be exploited for that purpose like legal, health, insurance, card services, call centers and banking services. Of course, ICT enabled services to be combined with software infrastructure to leap-frog into knowledge service provisioning. Probably a good example is that in most of the call centers out there many people tend to do level zero, level one kind of call centers which is just you pick up the calls for somebody and just route it but not really enough value addition, but actually what we should look at is to build up some skills and some infrastructure, so that the people who answer the calls can do level one, level two on the calls so that there is more value addition and that way we can differentiate ourselves in the market and that is the thing that is happening at the moment.

The Government as a consumer; Kavan will be taking the e- Government session separately so I'm going to skip that. The Government of Sri Lanka to lead the way with respect to ICT applications; set standards across the industry using leverage of being the largest consumer; seed the market as a lead consumer delivering benefits to the citizens of Sri Lanka and delivering economies of scale for the industry as a whole. Finally, we come to the positioning. Talk about Sri Lanka Inc as a software products and professional services destination, not really a low-cost software country, but more products and professional services and this is a trend that even countries like India is going into now. They were traditionally low-cost software services but now focusing more on products and wanting to go to the professional services level which is actually a business process outsourcing kind of service. So, the food for thought here is, like Ireland to Europe, Sri Lanka to Asia. That basically concludes this short presentation and it's open to the floor for discussion and comments.

## **Discussion:**

Thank you, Dinesh. I will open the subject for discussion now, but before that may I repeat the caution expressed by Eran that we should restrict our discussion to the particular aspect, subject of this session, marketing, market development, market creation, because we have the other main topics to follow later on. Some of the issues that come to my mind you may want to pick up, is in the question of marketing, market creation, how do we segment the market, do we really segment it on the basis of an industry, that is the demand that is driving the overall market both locally and overseas? Another would be what is our competitive advantage? How do we differentiate ourselves from the other countries who have really taken greater steps, advanced steps in this direction? What is our differentiating factor and I think the speaker before pointed out that it cannot be on the low-cost basis. He pointed out the preliminary stage of the development of a country and we've passed that stage and we need to look at other factors which will really help us differentiate ourselves from the rest of the world.

What is the branding that we can do on the Sri Lankan product? A marketing plan, the preparation of a marketing plan, how should we set about doing it? As we know India which has made great strides in this industry commissioned MacKenzies to do a complete study of the marketing plan some years ago. What do we do really?

So, we will now open the discussion. Yes?

Q: Has the policy been decided and are we discussing to communicate this? Because we are going through all these items, assuming that the policy has already been decided, am I correct?

Eran, would you like to respond?

The policy is an evolving process. We are at the beginning. There has been policy previously. This is an attempt to fine tune the policy that exists and to make it a bankable one, but the government, this present government hasn't really adopted a policy, so before they adopt a policy we are planning to fine tune it.

Q: So, you are assuming that these are the only four components in this entire policy cycle?

No, that's not the assumption. When the committee sat down to organize this seminar we had to get some facts.

Q: So, it's just a start? And just to add a question on the marketing side., I see three areas you identified, marketing of the e-services that we could provide from Sri Lanka, and obviously the development from Sri Lanka, and the third element is that we have to attract at least 3 to 4 Fortune 500s to make it recognizable here. There has to be a strategy for that. We strategically identify them, look at their needs, bring them here. That needs to be added to this one.

This is an attempt to revisit the policy, so it's not finalized and we didn't have a specific approved policy, so this is an attempt to revisit.

Q: Can I take up this question of market creation, which you started, Ranjith? You talked of a local market and a foreign market and I think if you look at the Indian example, they started by using the local market as a test bed and then went on to the foreign market. One of the problems that I think we're facing in the IT industry in the local markets is that the purchasing power is just not there to drive the small IT units that are trying to build up. This is partly due to the economic situation and I think the scheme of the multimedia agency may possibly be a way because I think, as we all know, the ICT industry can be a real jump starter for the economy, but it also needs the local market ability to buy some of these products which will in turn give the developers and the small groups starting the confidence to go outwards with the government support. So, I think one of the things that must be looked at is how to generate funds for local purchase and local market that would in turn help to go to foreign markets. The big companies have already gone, but if you are going to move this forward, we really need to get all the small companies and the medium companies to go the same road. Thanks.

Q: Chandra Embuldeniya from the National Chamber of Commerce. We did spend about 8 months preparing a report we forward for the IT sector and made a presentation to the Hon Minister and Eran about 2 months ago and that report covered all in the outline that was presented here now and also in addition to that it gives a lot of actions that you can take forward if you would kindly enable Manju Haththotuwa, the Chairman of the IT committee to make a few comments on these, I can invite him in the afternoon.

I didn't make a comment simply because I think that report has been in the public domain for quite a while and all the parties here who have made preparations have seen it so I didn't think there was a great deal to add and the forum here I felt was really to solicit new opinion and there are great ideas amongst the people here, so I thought that's really the primary purpose, so if there's anything more to add which triggers from some of the things people are saying, I'll certainly while I'm here, do so. Thank you

That might be useful Manju, just to highlight some of the in this particular area, what you've really pointed out can trigger a discussion on others that are not there on that.

Maybe what I'll do is towards the end, let other get some ideas and then perhaps add to that.

Q: My name is Kurukulasooriya. Now one comment that was made, a very valid comment, is that when we go to sell, or people want to buy software, one thing is that they're not perhaps that advanced here. The second thing is that they don't have buying power. Now I think one thing that comes to my mind is to give some kind of tax concessions to the buyers to purchase software. I don't know whether that is given by the government right now, but people will be looking at it when finally, they are going to purchase this software if they know of the benefit it will give them some incentive and the industry as a whole will grow.

The only thing about this proposal of trying to get government to help, I was wondering whether it was the task of all of us to really try and propagate the necessity for companies to do this because they are not buying computer software for the sake of helping the industry, they're buying it to help themselves and that would lead to productivity and therefore cost savings. So, I think it is an education process and that is the challenge before us perhaps, I'm just trying to respond to this whole question of trying to ask government support for most of our industrialists are used to that really, tax breaks which really try to trigger the industry, but isn't it a challenge to the industry that we should try and educate the people, the private sector as well as government. Government, certainly, yes, the lead in, taking up certain lead projects in computer, in the ICT area, but apart from that I feel it is part of the marketing challenge to educate the public and the private sector of the value of some of these because it leads to their own productivity and cost savings. Well, if they don't have the capital funds, that can be funded by a bank because immediately your viability and pay back is ensured by the very productivity that it brings to the company.

I think ADB was working on a project not as a direct tax concession but for the small and medium scale entrepreneurs they want to give vouchers which are payable to people providing services to SME, like computing services, any consulting service and accounting services. Probably that is the best way of encouraging in two ways, both marketing as well as providing specific vouchers for engaging these services. I think that ADB project was on, I don't know what the exact status is, but a year ago that project was mooted by the government.

Other countries for instance with the small and medium industries especially when they can't afford the software themselves, there are companies which cater to 50, 100 companies and do the accounting for them as bureau where the cost to the company comes down. So, some features like that even in our small industries sector here. I mean many of the companies in the outstations, cannot afford to buy the software themselves, but if you really hold out the services to them and services to a number of companies, then the cost comes down and perhaps create business opportunities.

Q: Mr. Chairman, my name is Palitha Rodrigo, just a few points to add on to what Trevor was saying earlier. The government is the largest consumer of IT and many of us have felt that when it comes to public sector procurement, there is no transparency in the evaluation process. It is important that the process be documented in the Requests for Proposals or the tender documents because it would help those in the industry to better tailor their solutions. We also feel that some of these procurement opportunities alienate the local industry. For example, there was a tender that came out recently where in my opinion possibly one IT organization may have qualified to bid for it. Subsequently it was revised and only 2 Sri Lankan companies primed it whereas I believe there were 6 or 7 other foreign companies. Now it is my opinion that there should be more emphasis given for local value addition, I'm not suggesting that the public sector buy only from Sri Lankan companies, but emphasis should be given or a higher weightage should be given for higher local value addition, thereby not only ensuring local support and other relevant services but also helping indirectly to build the local industry. These are a few thoughts that I have had.

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Good Morning, I'm Rohith Udulagama from Lanka Communications. Regarding the affordability of the software, actually there are 2 things. I think it is granted that most local companies find it difficult to pay a few million dollars or rupees up front to buy the software and see the benefits of it long term. But now I think there are new models like the ASP model where you can pay as you use it, such that the company can actually use the service and as you use it you pay on a transaction basis or volume basis, such that you actually derive the benefit and you pay accordingly but the thing is to derive those benefits the software must be developed from ground up to support those models. Now things like Oracle and other expensive software actually they have gone into this model because even in Western countries they are finding it difficult to sell a package for a few million dollars now. So, I think the local industry should look at those new technologies which should enable them to create a bigger market share and also get our companies locally to get the benefits of using such technology. Thank you.

My name is Anand Ponnambalam and I am from the SLIIT. I want to make a couple of comments on the points raised by Mr. Dinesh Rodrigo, one on call centers and the other one on ICT local affordability and global competitiveness. Now on call centers, I'm not too sure whether we should try and emphasize too much on level two and level three type of services because that certainly will follow and that certainly has the value add no doubt, but on level one services where we capture the largest volume of calls and that really will predicate the need for level two and level three and the volume certainly will compensate for maybe the lower cost involved in individual calls and also this is the area in which most multinationals companies have a problem of resources, and they rely on countries like Ireland, Mauritius, Sri Lanka and maybe many other developing countries for these type of services. So, level one is a critical area where CRM, that is Customer Resource Management services can also be captured and so it is not merely an overhead operations type of initiative, it becomes positive, pro-active, Customer Resource Management, CRM type of service and the level of expertise we can provide at level one will definitely influence a large follow-on type of business. The second point I want to raise is, this is on marketability, the second point I want to raise is the issue of local affordability and global competitiveness for ICT services. Now unfortunately in a country like Sri Lanka which is emerging and trying to develop itself and catch up with the global competitors, we have to rely a lot on regulatory issues and here I think local affordability for ICT services is basically the biggest obstacle to access of the Internet and usage of the Internet.

The current situation where we provide metered access and duration based costing is totally unacceptable. It has to be, if we want to encourage especially in the younger population, the students, and the Universities in Sri Lanka and the younger population to get involved in IT and access to the Internet, there has to be some kind of minimization of the costs involved. The biggest impediment at the moment in the schools for instance, there are 70 odd school centers all over the country, and to say that the infrastructure is not fully in place is correct, but there is certainly a minimum of infrastructure available in these centers and the only impediment to access is the cost which is prohibitive, probably a school's entire annual budget is only about five hundred rupees and we can't charge nine rupees per, or whatever the cost is, per unit on the basis of usage for computers. It is not like a telephone call where the average telephone call can be completed in 10 minutes, if you use the Internet effectively you need to use it for a couple of hours, maybe the whole day.

In the US for instance, you can get a local access for 10 cents and you can use it for 24 hours for 10 cents. Now that is the biggest impediment regarding ICT that I see. So that local affordability has to be there

Can I interrupt you, **are there any pricing strategies which are options which we really can think of?**

That comes to my next question of competitiveness globally. The only way we can encourage the ISPs to provide this service is for them to be able to cross subsidize and here again we have to have the regulatory commission to come in. That is where the telephone companies are not allowed to monopolize the volume of voice calls, because here we have voice over IP, that is voice over the Internet which is well established now, the quality is not maybe great but it is becoming better and so if you allow the ISPs to provide accessible telephone voice calls then they can cross-subsidize that to provide the computer usage which is absolutely a sine qua non, we can't proceed without that especially for the younger generation. So those are the two types of things that we have to get into and the Telecommunications Regulatory Commission has to really get involved in this and take a proactive step, they cannot just be reactive in this situation.

Q: I've got one comment, Mr. Chairman. I'm Ruwanthie from Asia Soft. With regard to the government's support in marketing and exports Dinesh spoke of, I would like to add one comment where it is critical that Sri Lanka be positioned in the export market as a software development country where up and coming countries such as Ireland have been positioned, such as Israel has been positioned. I think it is important that initiatives be taken to position our country so that when you go out internationally people know firstly where the country is and that the country is a country that provides quality software products and services.

Q: I'm Professor Karunaratne, I'm from the Sri Lanka Institute of Information Technology. I want to add to the comment about the concessions provided for local service providers, contractors or other service providers, vis à vis the foreigners. Now I do not know, I think there are some Secretaries to the Ministries they are well aware and some secretaries who are very young and may not even know this, already it's available, because in construction industry or in any other service that's to be provided, Sri Lankans can be 20% more than foreigners, but not many people know about it and even the people who evaluate these tenders may not know that there is such a concession. Earlier it was there, it was removed, it was re-introduced, I believe it is still in that reintroduced state, maybe 15% or 20% and, there is nothing unusual because if you go to Malaysia to provide any service to that country, you can't provide that service unless you are tied up with a Bhoomiputra, you can't even tie up with a Chinese, you have to be tied up with a Bhoomiputra to provide that service, so when there are rules and regulations like that there is nothing wrong in giving not 20% maybe 30%, 35% even to boost up the local industry.

Anyway, if we have that thing, maybe even the present situation is enough, but does everybody know this concession is there, and the people evaluating the tenders do they know that if the local person is 10% more still he must be given, not the foreigner. Thank you.

Q: Hello, my name is Palitha Thenuwara. I would like to speak on one very important subject on the startup board today. Well, I came back to Sri Lanka after 14 years in US and Japan, I just returned two months ago. I was in the IT sector and I built a fully managed data centers in Tokyo, first to do in Japan, so I met Hon Minister Moragoda while on my visit here last December. I proposed to him, actually this is market creation what we are talking about. Actually, before we create market in this country, we have to educate our children. So, I think we have very few children in this country privileged to learn computers. There are so many unprivileged children in this country to educate these children we have to have Internet access to almost every school in this country, elementary to High School, so what I heard there are about 80% of the schools owned by Ministry of education, government, there are only about 20% private schools, International schools. These children are privileged children but we have a lot of unprivileged children.

We have to educate these children to go and compete in the Internet Age, so I propose to build an ISP, because we have Sri Lanka Telecom, they have a monopoly, also if I want to build an ISP here I have to pay 3 million rupees to get the license, so if you go to countries like Japan and US, it's free! So many ISPs some ISPs are doing well, some ISPs are going out of business, so look at during the last year, companies like Global Crossing, Exodus, PSI Net, Minstar, totally I think about \$ 50 million worth of bad debt, they went bankrupt, these are big telecommunication, global telecommunication companies, even companies like ---- today in deep trouble. So, we have to learn from these outside Sri Lanka and build the right infrastructure to teach our children first. I'm not doing IT business here, I just came to see because we are talking about policy for ICT, these are the most important factors rather than talking about tenders. So, we have to create our own policy, educate our children, otherwise where are we going to sit in five or ten years' time.

Can I just add a quick comment? I think the issue of tariffs and things we should take under Infrastructure which is the next paper, but just coming back to the local market creation there I think the NDB, in fact, Ranjith, when you were there, I discussed this with some of your people and NDB is one of the few banks that looks at this, there could be a three way arrangement between the banking sector, the developers and the purchasers locally, where the bank acts very much like in a housing loan situation, it would provide a means of funds to the purchaser and also guarantee to the developer, the funds availability to develop the product like the same system as a packing credit. Now unfortunately, as you very well know, even the ADB loan provides for this type of SME loans but most of the commercial banks have no experience in this and so credit officers don't even look at it. I think an important way of creating local market is to look at a linkage between the banking sector, the purchaser and the developer to provide the necessary funding force to drive the market forward.

Q: My name's Chuli de Silva. I'm here from the US Embassy but I like to talk to you about a voluntary work project that I'm doing for Lanka Academic Network because of the schools' issue that we have come across. We have set up a computer lab in a school in Anuradhapura, This was done about two years ago with voluntary contribution from LACNet, five computers with Internet access and we have joined the school to an international education resource network in the USA called "I learn", but the biggest problem with the project is access, affordable access, because of the cost of Internet, but that is not the only thing, because when providing access to schools there are lot of other issues, the Principals, the other teachers, the education of the other school stakeholders, there are a lot of issues that need to be addressed in ICT policy. Thank you

Q: Mr. Chairman, my name is Nihal Ramanayake. I just want to make a few comments on this affordability of software, there were many comments made with regard to this. I'm in no way saying that the IT industry, the software companies should receive no tax incentives etc., but I think we have to look a little beyond that on the question of affordability from a point of view of a software user, consumer. Why should we not buy our software, that is the question. It's a matter the market should determine. If the price is right, if the benefits are more than the cost, we must consider, it's a prudent decision. Now there are a few things, simply by reducing the cost or the government supporting the pricing by way of taking on the burden of that cost would be only a patch job I would say. As a policy determining body, if we could look at a few other issues that exist in the industry, some things like this, now of course the government should get involved in these things. Now one thing that was mentioned was proper evaluation methodology. Now all that is not necessarily deliberate things that people do, simply because the proper evaluation methodology, the scientific way of looking like this, this type of education is not with us in the industry, very sadly. The Universities, the Technical Colleges and I would say mainly the Education Houses, there are so many, should take on that type of job. I know I worked with the Universities as well. I'm very happy to say at least some of the Universities have amended their curricula to support the computer science graduates that will be coming out in the industry etc. That's being done, but ... Another aspect is the credibility of the company. So those are areas which we should in the long term should be looking at, not necessarily, I'm not saying that incentives at an early stage are not necessary, it's not pivotal that they should be there for the development of this. Thank you.

Q: Ravi Corea, from PriceWaterhouseCoopers. I'd just like to voice two thoughts that came to mind from the discussion this morning. One is we're still talking about the importance of the local market, and that is acknowledged everywhere in the world. I think people have developed their credibility and everything through sales to the local market, but what is emerging is that it is small, and whatever we do it is going to continue to be small unless the whole economy takes off. We're using ICT as a strategy to make the economy take off so once again we have a circular argument. I think we should, while taking all these initiatives, be having a very, very specific strategy at taking on the export market. I don't think we have that. I don't think we're ever going to sell or position ourselves in the export market in ICT by going as a nation and saying Sri Lanka is great in ICT. We've got to go as an industry and I would like to see our policy encompassing at least one definite step to do that.

The second part of it is to do with training and awareness and that came out of a lot of comments here. I think you, yourself, Mr. Chairman mentioned that the industry should be raising awareness in the user community, and Professor Karunaratne's comment that there are concessions already here which are not being implemented because people are not aware is a really bad one. So there seems to be a need for a definite action as part of our policy for the industry to go out, government as well as private sector and make some kind of awareness program a priority.

Q: Thank you very much, we have roughly 5 minutes more on our session, can I ask Manju please.

Just to share a couple of thoughts from our own experience which are key to developing the software industry, after all that's one of our visionary statements to develop the ICT sector. I think there is tremendous opportunity out there and when you actually go across to overseas countries you see that people say out there, listen we've got plenty of water in the well there, but we're not going to bottle it and send it down to Sri Lanka.

Now the issues like Ravi said how many companies here have the bandwidth, the wherewithal to actually go out there and do this and this is where perhaps a role, government and other agencies can actually assist. I believe, like the tea centers, once we really identify key markets, and that's critical, we shouldn't go everywhere, because some of the things we have they don't need and some they want we don't have. So, once we actually do that through a global marketing plan, then we should actually decide to have a local presence which is common for all companies because not every company can afford to have a foreign office. We do this at great, great cost. We have an office in the US and in Singapore but I know that it costs a lot and that's not possible for smaller companies. So, one way out is to have a local presence in the key markets and actually they take upon themselves to identify opportunities for the various companies, and have a sensible and fair way to actually distribute that work. That's number one because they will not come here, we need to have some local presence. The second thing is government as the key purchaser, key procurer.

Now that again is a critical aspect of building the industry because currently government isn't the largest procurer of IT, they can be and they must be, and in fact all the comments articulated already about how we go about it is something we can take on board but once we do that, that gives something which hasn't been mentioned in the room which is a key reference site. You know a lot of companies like Dinesh's, ours and other product companies, one thing we always encounter is you need a key reference site and to our competition that has often been their own country, one of the government agencies has bought their software, so that is very critical again to provide a key reference site and you cut your teeth on that, you learn from those mistakes and you develop from that. So, I just want to leave you with those two thoughts.

Q: I'm Rohan Wijeratne. I like to take on after what Manju was saying. I mean the bottom line is that if you don't have your product already developed and the credibility, you can't go anywhere. Dinesh knows this because as you know we were together at the beginning. Millennium would not be where it is today if Colombo Stock Exchange had not bought the product. That's the bottom line. That was the leverage that we had to go to Mauritius, Croatia and so on. So that impetus is key. The other thing was on market creation. We also already have talked about the fact that we need a presence overseas, I mean Millennium took five years to get there, it's got a good product which it's marketing to a niche market.

I mean there are other companies which are marketing that have offices in the US, but either they've got big money that came into the company to give them the capital base, or they had some other help. Some NGOs have helped some companies to go overseas. Talking of call centers and things like that, which country is number one in call centers today? I think we have to ask ourselves that question. And we need to talk to those companies because they have established the credibility in their markets, get them to come in as joint ventures, we have to start somewhere.

Learn from our other industries, like the garment industry where there were joint ventures, which gave us the access to the market. So, I think government has a role to play. I have been there in the government sector, I've been in the private sector, asking government for money I don't think is going to work. What government's role should be to facilitate this through the BOI, the EDB and so on. To actually bring joint venture partners here, identify them, persuade them to come here as joint ventures. That would then those initial companies would become incubators. I think Millennium was a classic example of an incubator. How many companies have been set up by people who were the founders of Millennium?

So, these are the models we need to look at. Let's not try to say that we can do everything, because we can't. Manju said we need money to go out there, so what I'm saying is go out, identify the key players in both sectors, call centers, data centers and so on and bring them here as joint ventures. Let the people in those joint ventures then branch out because that gives exposure even to the venture capital companies. How many venture capital companies in Sri Lanka are ready and willing to put money into IT? Probably two. One is right here. So, the point is that if they are also putting money into something they don't want it to go down the tubes. So, my point is, go out, identify the market segments and persuade them to come in as joint ventures. Thanks.

Ranjith Fernando: I must close the session but let me also place a thought again on this government role because I mean, even coming to call centers, not call centers, offices in foreign countries, I mean if you get the government to set up an office in those countries, I'm sure it's not going to work, because who is the government officer who can market really, and with all due respect to government servants who are here, but I think if three or four or five companies can get together and set up one center out in another country, is that possible? Or the industry itself can. Government can chip in and really certainly help, that I would agree, but as to whether government could run an office.

I must also refer to some innovative ways of marketing. Yesterday we were at a small ceremony in the evening, creating a website for the ceramic cluster. Now this was done by the company free of charge, but now with that all the people in the ceramic industry are behind him to create their own websites. It's innovative marketing and now he has agreed to do websites for all 15 clusters that we are now handling and with that I am sure lot of business would be generated because he has done the cluster site and now others are coming behind him to do their own sites. So, there are ways of innovatively getting over some of these problems. So, with that may I thank everyone for the lively discussion that we had and thank you and hand over the proceedings. Thanks Dinesh for presenting the paper and starting off the discussion.

## 2. Infrastructure:

Thank you very much Mr. Ranjith Fernando and members of the Working group on industry/market creation for conducting the session. The next session is on Infrastructure and the Chair of the Working Group for that sector is Mr. Kumar Abeysinghe, Secretary Ministry of Mass Communications.

He's here today but he has requested Mr. Palitha Silva Gunawardena from the Telecommunications Regulatory Commission (TRC) to be the Chair of the session in his place. Mr. Rohith Udalgama will be making the presentation, Mr. Tilak de Silva from SLT is not here, and Dr. Hans Wijesuriya is out of the island but he was a key member of the Working Group. There are also Dr. Gihan Dias from the University of Moratuwa and Mr. Santusht Jayasuriya. I request all these members to come up. May I also convey a word of profound apology from Mr. Themiya Hurulle, Director-General of the Telecom Regulatory Commission, he's outstation on official commitments and unable to be present here today and with that note of apology, please may I now start the session and invite Mr. Rohith Udalgama, the Chief Executive Officer of Lanka Communication Services to make his presentation and start the base for the discussion that will ensue later on.

Mr. Rohith Udalgama:

Good morning. In developing this broad Roadmap for the infrastructure what we did was, we actually took parts of the ICT Roadmap that was developed by a committee headed by Dr. Hans Wijesuriya for the Ministry of Science and Technology. Unfortunately, Dr. Hans Wijesuriya is not here today but I think that is why this Roadmap has this Vision for Sri Lanka put down there. I think from the infrastructure point of view what we would like to do is, rather than say, this is the Infrastructure we have here, this is what we want to get here, what we would like to do is to approach it more from an applications and services stand point, try to get from the participants here all the activities they would like to put because if you take ICT, it's a wide area and it can touch everybody's life in the country. So, once we know what the key areas are on which we have to concentrate to see how the infrastructure can be developed to meet those goals because as a country that is somewhat resource poor in terms of capital and even in terms of human resources in this area, it is difficult to address all things at once. What we would like to do is to get comments from the participants to see which are the immediate areas where we can reap some results, then go into areas where we can get some results medium term and then of course the long-term objectives which may be four, five years down the road. So broadly I think this vision has been put down earlier so I don't think I will take time in going through this, I think you've all seen it. Key Drivers for the Vision Achievement.

I think where infrastructure is concerned, we want to have a base for very aggressive development of the ICT sector because in the past there have been certain efforts but they have been quite diffused, not focused properly. Then of course the other area is to look at ICT as a primary industry. Right now, it is one of the things but we'll look at some other things. Then of course the essential thing if Sri Lanka is to succeed is to be regionally and globally competitive.

Today I think many businesses and even users say the services are not affordable. In fact, if you take from 1995/96 timeframe to 2002 now, actually telecommunications services are now freely available and I think most of the time you can get a telephone on demand.

Unfortunately, on the other side, prices have escalated, many people cannot afford it. Same way in other areas where there has been a lot of competition like in the mobile area, prices are plummeting, users are getting the benefit, so as we go into further deregulation, affordability will automatically come because there will be many players who can be more efficient. Then of course in today's global economy which is knowledge-based, we look at ICT to actually arrest initially the downtrend in the economy. I mean if you look at today, if you take 6 months or a year back people were almost despondent, today people are looking up. Use ICT to further boost this confidence and to generate further benefits that you will get by using this. And then of course use ICT as the enabler for sitting businesses in Sri Lanka.

Where the infrastructure is concerned, I think the most essential things are widespread availability and affordability of services, telecommunication services. Today, in and around Colombo the services are well developed, almost every service is available.

If you go out of the Greater Colombo Area, that is a question and that leads to a greater gap in the city versus rural areas type of thing that must be breached in some way and certainly there could be some initiatives to try to reduce this.

This is related to the second point which is (local) geographic reach because today the service is not available all over the Country. And then penetration of Telephony and Convergent Services are matters I think with further liberalization of the market we can achieve these things. Global connectivity is an issue because we have a few sea cables coming to Sri Lanka. Most of the time we are compelled to use satellite communication, which may not be the best. Then of course there is the regional aspect of it because if you are not regionally competitive multinationals will not site themselves locally. I mean this is one of the problems with call centers where other countries are giving concessions and other things to get investors to come in and create employment opportunities. We have missed the first round but certainly we can go into the second round. And, of course, continually strive to use State of the Art Technology where we can leapfrog over certain technologies to get efficiencies which are currently available.

Now very broadly if you take the current situation with fixed line penetration about 7%; Mobile penetration is also about 7%; so totally about 14% availability of basic telephony services. Internet availability is actually a fraction of 1%. It's very little, I think according to the available statistics, less than 100,000 connections, but of course behind some of those connections are a number of users, nobody knows the exact number but anyway for the economy and the population in the country it is far below what is the international standard even for developing countries even in our state of development. As they say part of these problems are due to the cost of communication links and so on and so forth, those may be addressed.

We go on to look at around 2005, a three years' timeframe, we look at fixed line penetration about 15%; Mobile about 15% and at least 1% penetration of Internet. I mean, this is again a very, very low figure, but we felt this is a kind of prudent target to look for because there is no point saying we like to have 10% Internet penetration, which is impossible to achieve, because there are so many problems in the way, because as somebody said about rural schools, the issue is not only about giving the computer and the communication link, even the power is a problem, because many of these places you don't have proper power, and even if you give all the infrastructure, still the availability of teachers and other things are problems. So, I think all these things go hand in hand, 1% we felt is a reasonable target to go for, I mean it's a very, very low thing but then going to 2007 maybe around 25% for Mobile and fixed telephony and around 3% to 5% for Internet. Along with these areas of course the important area is the national backbone. Right now, I think only Sri Lanka Telecom has a national backbone covering most of the country, so there has to be some way of sharing this backbone or encouraging other operators to set up a backbone because without a proper backbone you will never be able to reach out to rural areas.

We feel a reasonable target is to have 100% coverage of the large cities in the next two to three years, definitely before 2005, and at least 75% of the medium towns by then, and going on to 2007, have 75% of the population having access to these services. Then we also looked at the situation of having broadband cables to the key areas in the City, probably like the Navam Mawatha, maybe the Free trade Zones in Katunayake, Biyagama where there's a concentration of high volume users we may have because right now the available service the maximum we can provide is about 2 meg but I think that is quite a low figure if you take for large enterprises particularly if you are looking for things like call centers, large number of software developers working- say if you have thousand or two thousand software developers working then I think having a connection of 512 KB or 1MB is not sufficient. So, the infrastructure will have to be created. Along with this situation would be the need to have the proper international connectivity. Right now, for Internet web browsing I think getting the services on satellite is acceptable, but if you are looking to do very business dependent services with software developers using the Internet, then you need fiber capability. Now that is an issue because currently we have only one fiber cable access from Sri Lanka, that is the Sea Me We 3, the capacity on Sea Me We 2 is almost over, and Sea Me We as compared to other international cables is very expensive because that is a consortium cable and like somebody said like this Global Crossing, other people put a lot of cable between trans- Pacific, trans-Atlantic and they bit the dust. Now that capacity is available at very, very cheap cost, but unfortunately, we don't have that benefit here, but we have to see some way of negotiating lower costs because there is no point having a national backbone and everything if we cannot reach out globally because ultimately the situation is the number of people in Sri Lanka being 20 million – and the buying power being very little. Our future is totally based on going to the outside market and trying to get some of the other markets and to capture some of that. So, these are a few things we are trying to target for the infrastructure.

Then in addition to this hard infrastructure we need to look at things like payment gateways, Electronic Transaction Exchanges, Trading Hubs, Internet Data Centers, Off-Site Data Farms, Disaster Recovery.

Now these are new businesses we can look at, ISPs and other TelCos can look at providing some of these services. Then Archives and Repositories; now these are types of businesses people are not talking about yet, so we have to see how we can enable these businesses and get people to provide them because all things go hand in hand in developing the industry.

This I think was covered in the earlier slide very briefly. What we also look at is not only looking at those blue-collar services like PO call centers or data preparation, but also look at the knowledge based services like legal, medical and accountancy. On those areas I think Sri Lanka has an edge on certain countries for instance because we are a Commonwealth country, certain accounting and taxation things are very much in line with what is in Britain and some of the other Commonwealth countries. We can actually get certain businesses there. There are some schemes people are already working on. Same thing goes for legal services and we can find areas to do these things. The other thing of course we strongly promote because we're coming from the TelCo industry is actually to use the World Wide Web and the Internet to promote Sri Lanka.

Quite rightly people say, actually before any exporter goes into the market and tries to get a foreign market, you need to market Sri Lanka because otherwise you go there and people ask where is Sri Lanka the only thing they hear is that Sri Lanka is a terrorist-torn country. So normally people wouldn't like to take a risk by coming to Sri Lanka and giving a project because what happens is they have this fear that even though you may be capable to deliver, other problems will inhibit you from delivering the product - for instance a buyer may make business decisions based on the software availability or the data preparation or the call center. For some reason if you cannot assure services to those people, that decision will be bad.

So, this is where I think we all have to get together as Sri Lankans, first have a scheme to promote Sri Lanka, then from there we go into promoting the various industries whatever people are doing, because without having Sri Lanka up there, as a country that is a reliable provider of whatever services, it will be very difficult to market any other product. Then of course we will also look at the situation of using some projects like the Millennium Stock Exchange Project, few things to showcase as successful projects which you can use to sell to other people.

Then coming to Infrastructure, which is the Big Issue. Actually, infrastructure for ICT is like building a road or water or any of these utilities, you have to spend lot of money up front and then you have to wait for a number of years to reap the benefits. This is a problem these days. Nobody likes to spend big money and wait for 5 to 10 years to reap the rewards because you don't know how the industry will change. So, in this regard, I think there are two things. One is maybe we have to look for some way where Sri Lanka Telecom's currently available infrastructure can be one option.

Perhaps the other option is to give incentives to new players to come in and set up infrastructure so that there is competition and maybe that will drive people to provide services. But this is a key issue, because without the infrastructure you actually cannot do anything.

Then of course we look at these situations like Leverage Liberalization Opportunities. I'm not sure whether in today's environment it is really going to be a flyer because five years ago if we had something where we say we are issuing five licenses, there would have been multinational players coming and bidding for those licenses, paying big money. Today, many of the TelCos actually have suffered, they are actually struggling to survive and in such a situation we can say Sri Lanka is giving some Telco licenses but not many takers will be there. Even those people who are takers will be those who are actually scraping the bottom of the barrel, not the top players like AT&T or BT or somebody because those companies themselves are now struggling to survive. And then of course the more possible thing, and since the World Bank is also here, maybe to look for Donors and Grants and those type of support where we may be able to use to boost the infrastructure.

Then of course the multimedia agency model already spoken of and then the Strategic Utilization of Cess and Infrastructure Development Funds. These funds are actually small money, what is available in the cess, I think, few hundred million rupees not even sufficient to fiber a few areas in the country but perhaps there might have to be some innovative way of getting more cess and other things, because for Sri Lankans a few hundred million rupees is big money, but to get a proper infrastructure it's a drop in the ocean, you need to spend billions, it's like developing the Matara/Colombo Highway or the Colombo/Kandy Highway, you need to spend billions. You can't spend a few hundred million and try to get the infrastructure. So, these are some of the challenges that I think government has to give the lead to show how these can be improved. Then of course the final thing and this is now actually happening is the new National Telecommunication Policy. Certain discussions have already taken place, drafts are being produced. Broadly speaking the new national Telecom Policy will be there to support this whole effort, the ICT effort. Within it, one of the key areas is to actually make the Telecommunication Regulatory Commission of Sri Lanka a much more powerful agency than it is today because in the last two or three years, I think from 1995 to about maybe 1999 actually Telecom services grew very rapidly, from about 1999 to now, that growth was retarded to some extent because there was a lot of fighting between operators, between operator and the regulator, many issues were there. So hopefully with this new policy coming into play, some of those issues will be taken away, and operators will be able to concentrate on rolling out services rather than fighting among themselves.

Then of course this is the ultimate goal, to transform the telecommunication from market structure and towards a more liberalized technology neutral situation. This is the goal of the thing. Then of course there is this issue of a Universal Access policy. Personally, I have some views on this matter, I will not voice them. But it is necessary to have services available island-wide to some extent, at least basic telephony services and soon even Internet access will be taken as a basic requirement.

And of course, then the encouragement of the multimedia, multipurpose community centers. Now this is one way where we can provide services to the rural people where we can have a center in every village where they can have telephony services, Internet and perhaps even a training facility, because I think many people when they talk of training they look at training people to develop software, to develop very high value things, but from the country perspective you also have to teach people basic computer literacy, because in the future even if you want to be a clerk you need to have some kind of computer literacy to do that job. So that has to start from the village, train a thousand people in computer literacy, maybe one or two people will become programmers or other technology professionals.

The other people need that skill just to do their day-to-day work and also be able to, I mean, it's almost like being able to read and write in the future, it's coming to that now. So, this is very broadly what we have put down here.

This is really just a few points to draw your comments and perhaps suggestions and then we will look at those things and make the policy recommendations to the Ministry and hopefully that will be taken as the highlights. I think all of us realize the importance of the link between telecommunication and ICT and the need for both these sectors to work together or work towards a common vision. The other is, of course, what he highlighted, the new National Telecommunication Policy, which is nearing finalization. We expect it to be formally adopted within the next two months or three months and he also brought out a word of optimism that the telecom operators will focus their energies on developing the networks and the sector, both sectors. With that I would like to introduce two of the other panelists who are with me. On my left is Dr. Gihan Dias, who is, as most of you will know, a Senior Lecturer from the University of Moratuwa and on my right is Mr. Santush Jayasuriya, Executive Director IT (Projects) of the Bureau of Infrastructure Investments. And with that brief introduction may I open the floor for views and discussion. At the outset may I ask either you Gihan or Santusht whether you have a few words that you would like to express at the outset.

#### **Discussion:**

Dr. Gihan Dias:

Yes, one I think is looking at this table on this slide, regarding voice penetration. By looking at it, it's a bit disappointing when you say that in 2007 we'll still be trying to reach only 75%, but as Rohith said maybe we should be optimistic and say 95% or what is realistic. But 75% even five years from today, is that enough? Shouldn't we aim for 95%, but if we aim for 95% and we fail, then there's no point just saying a number and failing. So, I think we need to look at that, and also another thing which is not really mentioned there is the fact that typically this penetration is for voice. Now, how about data, because for ICT we typically need data and not just being able to talk, and typically the data penetration rates are much lower than this. We found sometimes when we ask for connections, even in the Colombo Metropolitan Area they're just not available, so maybe we need to look at that separately from voice. Let me now invite views from all of you who are present here today. I would request each of you to identify yourselves before you give your observations.

Q: I've already participated. My name is Trevor Alphonso. One of the things that came out from Rohith's talk and the presentation, I think it's clear to everybody that we need to get the infrastructure in position if we are going to get this ICT story moving forward. At the same time, all of us in the Telecom businesses know that no telecom company is particularly interested in doing large-scale investments as Rohith pointed out.

But there is another way in which this whole thing could be approached and also tackle the rural issues. As you know Mr. Moragoda has been very keen to develop the issue of Sri Lanka being the Gateway to India. Now South India and areas like that are having huge telecom development because there are large markets.

If we could have backward integration using fiber cables and things like that, extend the facilities from there into Sri Lanka, it would immediately increase the availability of infrastructure facilities all over the island and also bring down tariffs. I just want to toss this idea because already the government is talking of using Indian currency in Sri Lanka along with the visa provisions and there is talk of the connecting bridge with India. So, these are not things that are impossible to think about because I know for a fact that there are a large number of companies now talking about the bridge, but the question of cables is simply laying cables, not a big job in that way. The other is to look at a base, if there is no way of getting a second operator to compete with Sri Lanka Telecom (SLT) to bring the prices down, is to use the model Mr. Paskaralingam has developed for the private sector where 49% assets are used from say Sri Lanka Telecom or whatever it is, 51% is working capital from the private sector in specific areas using Telecom as a base for example Cyber cafes. You could do it that way. A group of companies could form a company, 51% for their working capital and the new equipment, Telecom would contribute 49% of assets and you could have the cyber cafes going. I just want to toss these ideas at those participating to get their views. Thank you.

Thank you, Mr. Alphonso, and he brought out a very important fact of us trying to benefit from the position that India has developed for themselves and in this regard, he was talking about communication links between India and Sri Lanka and at least some of you may know that there are going to be at least two other sea cables running around Sri Lanka from Malaysia and Singapore to India and with, I think, the assistance of the World Bank and perhaps Rohith might want to say a few words on that.

Mr. Rohith Udalagama:

On the sea cables, I think there are two cables that are planned. Work was supposed to be started on one, actually from Singapore to Chennai there was a cable set up a few months ago, now that is commissioned, it is now difficult to get a spur off that because generally when they do sea cable implementation they normally tender for it before the project starts so that the whole cost is controlled. Once the cable is implemented, if you go and ask for a spur, the constructors of the cable will actually ask for an arm and a leg to do maybe 200 kilometers. They will ask for 50% of the cost of doing two or three thousand kilometers, because they know you are actually stuck with them. And that cable really goes to the North of Sri Lanka and at that time we didn't really want to make a strong case for it because of the uncertainty in that part of the country.

This second cable which will go South of Sri Lanka to Mumbai, we are trying to get a spur off that, at this point because capacity will then become no issue at all since we are looking at huge capacity. The reason is, even right now on Sea Me We 3 there is sufficient capacity but the cost is quite high. For our new cable the cost will be very much lower because they are looking at something like the cable capacity being a few terabits, about 9 or 10 terabits, so the thing is the cost per megabyte, and they're looking at giving the minimum capacity, SGM One, that is 155 meg, not 2 meg and all those things, so what the operators or rather the people who are doing the cabling feel is that this type of capacity will go in a huge way rather than in little amounts of 2 meg and 512 K and those type of things. So, this is the reason actually why the new cable is more useful than the earlier established one.

Thank you Rohith.

Q: My name is Anand Ponnambalam, I'm from SLIIT. I'd like to just exercise a little bit of caution and personally I would like to exercise caution on this whole concept of national backbone and trying to lay optical fibers and such high capital cost infrastructure. We are only too well aware of the chapter 11 bankruptcies that many of the firms that have done this on a global basis have gone through and they have much more resources than we have. I think we should look at it much more from a type of incremental building up of a national backbone to be more appropriate to a country like Sri Lanka. For example, I'll just give you a very brief example of VSAT technologies, that is, Very Small Aperture Terminal technologies which are used extensively in developing countries especially in Latin America and in Asia. I've worked with some of those companies, given consulting services and so on. The establishment of such infrastructure is very low cost and you are immediately able to reap the benefits with that type of technology without having to wait for the type of returns on investment like fiber optic backbones and so on.

Now these are technologies, VSAT and so on, that are well established, there is a large installed base, there is a lot of scope, a lot of experience in the use of these technologies and also although they may not be as effective for interactive type of communications like voice, the delays and all on the satellites are acceptable for data and so for computer based interaction it certainly is all right. So basically, what I am trying to say is that these are the technologies that are easy, that are very flexible, that are adaptable all over the country and based on the recent announcement that we have tied up with INSAT, that is the Indian satellite networks, we can have these services almost immediately available and at more affordable cost and to private enterprises as well. I think we should look at that type of technology more than the very highly sophisticated backbones that we may not be able to really sustain and support, leave alone deploy.

Thank you.

The link between this sector and the infrastructure is so serious that if we don't pay attention, yes, we might end up with what Rohith was projecting rather than what Dr. Dias would like to see, and we might only have an export oriented industry and very soon an export oriented industry without a local support base could not be sustained.

Therefore, I like to see that where this sector needs to be looked at more as a rural opportunity building exercise rather than and if we take that kind of commitment, then taking infrastructure out of Colombo, even putting a priority beyond roads today and then look at technology, whatever is affordable, commercially affordable to be implemented. So, I'm basically proposing the fact that, let's take this infrastructure very seriously otherwise there's no topic about ICT sector, and if you're taking it, and we need to take it outside Colombo and also try to find alternate ways of taking the infrastructure there. One. Number two is, on the policy, I think it's about time that we move away from a regulatory environment for the simple reason that to regulate you've got to have something. Without anything, I don't know what we have to regulate here. So first of all, we need an enabling arm, an organization a body, authority whose job it is to enable this industry. After the industry grows, we have a crop we can do whatever we want to do with it. Thanks

Thank you and I think Dr. Gihan Dias has a few words.

Dr. Gihan Dias:

I very much agree with you. Two things; I think one of the objectives of this house should be to figure out what exactly our goal is, in this infrastructure? Is it just to develop exports? In that case, it's fine. We set up three or four industrial parks, or software, parks, IT parks and make sure we have a huge amount of bandwidth and other things coming into that and then we're done. But if the objective is to make sure that there is IT infrastructure available to most citizens of the country, then we need to make sure it goes out. And are we doing that as a social service? Or are we doing it because it makes sound business sense to do so, due to the fact that there is an untapped market out there which we need to reach.

I think we should look at it from the second point of view. There's no point trying to do this as a social service. We have to do this, we in the sense, the industry, because the people out there are a market, they will pay money for their services. I mean it's not only people in Colombo who will walk around with their cell phones, I mean typically those who spend a lot of money on cell phones are not necessarily the people who make the largest income and not the people who spend about 50% of their income on their phone bills. I mean, not everybody, but there's a fair number of them. That is, I think what we should look at. And to respond to Mr. Ponnambalam's suggestion about VSATs; we have looked at VSATs at the University because we have Universities in various parts of the country and they are very expensive and Sri Lanka being a fairly small country as opposed to say India, VSATs are not the cheapest way of doing things, I think we can use other technologies, such as wireless for example, some new innovative wireless technology is coming up which probably will be cheaper than VSAT.

Q: Excuse me, well somewhat I don't disagree with you when it comes to the social issue, but I would like to bring three issues. One example is what happened in Japan few years ago. Japan was behind, compared to South Korea, Hong Kong and most of the countries in that region on broadband Internet access. The reason it happened is, in Japan local telecommunications were controlled by NTT, so the government found that because of NTT people don't have access to the Internet, they have to pay a very high price.

But I don't blame what the Japanese government did, they deregulated the telecommunication sector and gave access through NTT pipes to other competitors, other telecommunication companies in the market to access, share the same pipes, for example, and also backbones. So here we can look at SLT not as a competitor, but how we can share existing facilities without investing money to build our own backbone. That's one. And number two, I don't think anybody, any telecommunication company will come and invest money in this country today as you mentioned earlier, as Mr. Rohith Udalagama mentioned, many companies are going out business, especially big players, stock price is going down every day and everybody is very worried that company going out of business means no investor will invest money in telecommunication today.

So, I think the government has to do something first, looking at, like I mentioned earlier, giving Internet access to schools, build separate ISPs in the country with, well I don't know how we bring the cable, maybe we have to talk to companies like Global Crossing and they have cable up to India, on how to bring undersea cable up to here.

And participate with public and private, government and the private sector will own ISP and half of that is utilized by the government and half by other corporate clients and consumers, so like that how to cover the cost so that way we will be able to create our own infrastructure. I think, to do it that way will take a minimum of \$ two hundred million I am talking about doing that part. So, who is going to bring this money if government doesn't intervene, I don't think anybody will come from the private sector to do this kind of project. So, thank you.

Mr. Dilanthe Withanage: IT policy, telecommunication! In this country we have to think about electricity first because 60% of the country's population does not consume electricity. We have ten thousand schools, 30%, that's approximately three thousand schools without electricity and this is a problem we face!

Q: I'm from Sri Lanka Telecom

Just a word on international connectivity. As Rohith said we do actually have a lot of capacity available internationally, fiber capacity and of course then the next problem is pricing and just about six months back we actually reduced our prices because we are now following a policy of trying to benchmark ourselves against other countries in the region and we brought our prices in line with tariffs in India, in Singapore, and countries like that and we will continue that policy. Actually, from our point of view we have capacity, we have it at what we feel is a reasonable price compared to other countries in this region, but we don't see the demand. We haven't seen any big requirements, so perhaps that is one thing that should be addressed here, something to stimulate the demand, and of course from the point of view of VSAT services, we also provide VSAT services, so I just wanted to make that point.

Mr. Rohan Wijeratne

On this question of universal access, don't expect the companies to do it. I was a Director of Sri Lanka Telecom and I can tell you it makes absolutely no business sense for SLT to provide rural connectivity because the internal investment just does not exist, you put one connection in, it will take us 20 years to recover the cost. So, you have to find innovative ways of financing the rural side. The other question is, on the rural side, is there really a demand?

I mean on telephony, you can correct me if I am wrong, 50% of the subscriber base generates less than Rs. 500/- per month in call revenue. Just think about that for a minute. In a subscriber base of close to 800,000 of SLT, 50% generates less than Rs 500/- of call revenue a month. As a company, it makes the only business sense to concentrate on the developed areas of the country, the corporate sector. You see it's no longer a government entity, it's a company which has shareholders, it has an obligation not only to the shareholders but to the country, because if SLT cannot get the revenues it needs as the largest company in this country it will start defaulting on its loans. I don't need to go into the implications of that. So, for rural connectivity there are solutions. Part of the reason SLT has not gone out there is because of certain historical issues that have been there with the regulator in the last five years or so. Those can be solved. That's one approach. But some other approaches, I noticed you were talking about a fund to which contribution is made by Telecom. I don't see that really happening. I would tend to agree with what was said earlier like we're building the roads, infrastructure would have to come in with a concerted effort by the government then the

question is does it still make sense from a business point of view. This is just some food for thought. I mean these are realities on the ground. Thanks.

Prof. Sam Karunaratne:

I'm Sam Karunaratne, I spoke earlier as well. I want to just add on to Mr. Anura de Silva's very interesting comment. I agree with him when he said that you must have communication infrastructure before commuting infrastructure. That I agree because I can tell you one thing as the trend goes, commuting will have to give way to communication. I'll tell you why it is. What we could do with one watt, fifty years ago we can do with one milli-watt, that's one thousandth. Now if you are commuting, you can't reduce the friction, because you can't roll, you'll slip. The second thing is either you have to bring the man to the size of an ant, or something, one thousandth, to get that same efficiency. So, I fully agree with him that commuting will have to give way to communication.

Thank you.

Q: Thank you. If I can present a slightly different picture to the question of SLT, tariffs and rural connectivity. I think we really need to go to the rural areas, there's no doubt about that. Traditionally we have concentrated on the Western Province when actually today the need is away from there. Now the issue is one not of the ultimate cost selling price to the customer, the issue is the cost at which the service can be provided.

One of the reasons, and I may be wrong in this, that Sri Lanka Telecom finds it uneconomical is simply that its cost per line is high and therefore it makes no business sense to Telecom, but the fact of the matter is that there are technologies available which can make the rural sector still a viable proposition for example, from what I am told, with Telecom rates it costs over USD 1,000 per line whereas, -the cost in similar companies is about USD 360 a line. So, the issue is to find the technology that can deliver the service at the price at which the customer can afford, not to protect the company by saying we can't sell below this.

Q: My name is Ramathas

Regarding facilities available in rural areas, to schools, community centers etc. Now is it a part of a social welfare of a social overhead, or is it a part of generating economic growth because in a country like ours as somebody in the UK has said some time ago, we started talking about social welfare before earning our own money. In terms of schools, as the gentleman said there are 3,000 schools which do not have electricity. How many schools have proper chairs and classrooms? How many schools have proper teachers? If Sri Lanka Telecom cannot invest because it does not make business sense to invest on those areas, it's up to the government to invest in terms of social return, in social welfare. But the government's priority is to put social welfare in terms of buildings, basic necessities like electricity, basic necessities like providing teachers and school buildings is much more important from a national perspective. The opportunity costs of providing this investment in terms of communication is much, much higher compared to the other necessities that are required in the rural areas.

And what is the economic return we are going to get? We talk about the Information Age as if everything, everybody is going to be in the Information Age, nobody is going to plough the land, nobody is going to manufacture the machinery in factories, everything is going to be IT; but it is not. It may make sense in developed countries where they have all those infrastructures and facilities and they have surplus funds to spend on these social overheads. Without us spending on economic overheads, without spending on social overheads like hospitals, schools, we are trying to invest in social welfare, in entertainment, in leisure. What is the value each one of them is going to contribute to the national economic growth, to the GDP? We have to look at it. Therefore, it is better to concentrate our resources, maybe not in the Western Province, but identify the provincial capitals and spend them there, then we will get better economic returns after that we should be able to spend on those social overheads. That's my point of view, thank you.

Q: I'm Yasa Karunaratne from the Computer Society of Sri Lanka. Well, the cost of using the Internet for students' homes and various places has been discussed, and if you look at the figures in the United States if you pay about USD 10 or USD 20 you can use Internet 24 hours a day for one whole month which works out to less than 1% of an average person's salary in the United States. But in Sri Lanka if you connect your computer to the Internet and if you use it 24 hours a day for one month it will be well over Rs. 50,000 a month, it may go to Rs. 80,000 because I have the bills. Now that works out to about 500% of an average person's salary, so this has been discussed at various meetings and seminars but nobody has come up with a practical solution. I would like to propose a practical solution which is practiced in most parts of the world and which was practiced even in Sri Lanka some time back which can bring down drastically this horrendous difference. The solution to this problem, I think the gentleman from the Authority here, he can play a big role in this.

Now why is it that a person who is using the Internet in USA, now why is the cost so small, USD 10 or USD 15 for using it 24 hours. The reason is within an exchange, or within your own city in United States or most countries, the telephone calls are not billed. Even in Sri Lanka, in the 1950s and so on if you were in Kandy, all local calls were not billed, if you were in Gampaha, all local calls were not billed. So, if the local calls are not billed the ISPs can operate in that city and provide that service so that it is only the ISP cost that will go to that customer. So, I would propose and I hope you would give consideration to this and implement this so that our nation or our people in this country can use Internet at a very, very low cost compared to what it is today.

I think there has been a few comments on metered access and flat rate access.

I would just draw your attention to a flat rate billing that occurred for two days about 2 years ago, on the New Year's Day if you remember, and the experience was at that time that nobody could get a call through because the networks were jammed. The other thing, of course that was spoken was low income that is derived from some subscribers. There I would like to reflect on another perspective where some of these subscribers may not generate outgoing revenue but they will certainly generate incoming revenue and particularly with a large Sri Lankan expatriate population working overseas. These telephones might be generating incoming revenue in substantial amounts. That might be an area that one might need to look at closely in assessing this situation.

Q: Thank you Mr. Chairman

I think I must draw your attention. My name is Shehan Baranage and I am representing the Federation of Chambers of Commerce and Industry. Well, Mr. Chairman we are here talking about a national policy formulation for IT, for information. I think most of the participants gave lot of ideas, inputs. Here we must also think about catering to the national requirement because we are here thinking of creating or formulating a national policy. Then we must also think of catering to the national requirement. For that we need the expansion of the telecommunication sector which is far remote at present. One gentleman pointed out that it is difficult for SLT to go to the rural areas. If SLT or any other service organization in telecommunication does not go and expand its services to the rural areas, how are we going to cater to the requirements, the IT requirements of that particular area? This has to be addressed very seriously because we know we have a lot of potential for the software industry, lots of IT companies can come, but provided that the required infrastructures, especially telecommunications infrastructure is widespread to the entire nation. Then only will there be the main base, and secondly, now we have totally forgotten and these gentlemen have pointed out about the electricity factor because about 40 to 50% in this country, from the entire population do not have any access to electricity from the national grid and for the machines, the computers, the connections to go, where is the energy to energize these machines so we have to think that as well. And even talking about the difficulties of expanding it to the rural areas, forget about the rural areas, think about Colombo. For example, I live in Panadura which is closer to Colombo.

I have all my computers, everything, but still I have not been able to get the telephone connection for the last one and a half years, so is this the expansion of SLT? Because the only excuse that they say is, *we don't have loops!*

So now who is going to provide loops? Is it the consumer? Or is it the State, or any other company? I mean this has to be addressed. Then if we give everything, all the facilities I don't think these private sector people will be there thousands of thousands private sector companies willing to come and invest in this country if the telecommunication and the necessary electricity is given for everything. Then our school children, I mean we have a lot of potential IT knowledge among our schools. The only thing is they should be given the proper equipment and the facilities, thank you.

Q: I'm Rohan Wijeratne. Trevor mentioned an interesting point, use of alternate technologies, I agree. I agree 100% with you. The cost of a line for Sri Lanka Telecom because it's a fixed line whether it's Sri Lanka or anywhere in the world fixed line has certain costs. But there are other solutions to it but regrettably, (I was hoping that Themiya Hurulle would be here and I would have told him as the new Director General of the Telecommunication Regulatory Commission), free up the frequencies and allow Sri Lanka Telecom to do wireless local loop. Four years ago, SLT asked for wireless local loop frequencies throughout the country, we weren't given it. Not only were SLT not given it, we were told to get out of the frequencies we had already been given, so this is the problem.

I think the solutions are there, one just has to break that box open and say what is the problem, why don't we want to allow SLT to also do WLL if they can, if that's going to bring the solutions we want, because if you open that up, whole areas will become affordable, cost effective for Telecom input, not only Telecom, even the others, Suntel, Lankabell, it becomes cost effective for them to do it.

There are regulatory drawbacks or impediments that are preventing. So, I think this needs to be looked at in this new plan that we are looking at, in the Telecom policy, as somebody mentioned, less regulation is good. I think I would agree with that 100%. Thank you

Thank you, Rohan, and I think we are now coming to the final stages of this session, so maybe a brief comment.

I have just a suggestion. The UN system is concentrating on ICT at this present moment. There is a very high-level ICT task force appointed by Kofi Annan and there are regional nodes, including an Asian node. And this task force and all the UN system is mainly concentrating on infrastructure and the problem of the digital divide, not only between countries but within countries. So, I think that we should also get involved with these meetings. Apart from the ICT task force there is also the World Information Summit which is supposed to be in Tunisia in 2005 and in Geneva in 2003, already with meetings in Geneva next month. And the UN CSTD, that is, the Commission on Science and Technology for Development, is also having a substantive theme on ICT and we could get some of these meetings here, I happen to be the Chairman of CSTD. So that's a suggestion that I am putting to this meeting.

Thank you, and Rohith you have the final comment.

Mr. Rohith Udalgama:

I think when you look at the situation many of the comments are quite true. On one side, the cost of the lines for SLT is over USD 1,000, but many other countries are doing it for less than USD 300. We have to look at how we implement those services and technologies in Sri Lanka such that the services can be made available to a greater number of people. The other issue that we always stress on is that if we share what is already available I think a greater amount of work can be done. For example, if you take the schools computerization project, the fact that electricity is not there is not a major issue because we can provide solar power for those things. What we say is, make it into a community tele-service center where, during the mornings, people will use it, schoolchildren will use it, maybe one or two youth from the area who are educated will be trained to provide the services to the schoolchildren and maybe in the evenings and late in the nights the rest of the community will use it for Internet access, for telephony and various things because I think there are markets which are untapped, there are more than one million Sri Lankans abroad, those people need communications. Now at the moment many of them are blue-collar workers earning about USD 100 or USD 200 a month. They cannot use the current services and actually communicate often. Now if we provide, because using VOIP and those type of technologies today you can provide a call to those people at maybe Rs. 25/-, not at Rs. 75/- when you do that you open out a completely new market. Sometimes some of these services even in rural areas will become profitable. I think communication is a fundamental right of a person and if you have your friends and relatives abroad you must be able to call them at least once a month. Then you can use facilities like email where you can actually do certain things, so I think it is this context we have to look at. What we feel is, the government is on the correct track. The purpose of this steering committee is to try actually to pull all the resources together, come up with one policy where we identify certain key areas where we can gain something by doing this. The other aspect of course is the national backbone. Already SLT has some backbone, and the capacity is not fully utilized.

Now the idea is to enable that capacity to be used by all other service providers at a reasonable price because if SLT insists on providing that at commercial rates then other operators cannot provide cost effective services because what must be borne in mind is that although SLT is a private company now, the network was created using national funds to a great extent and still there is some sovereign debt that is coming from those loans and other concessionary funds that were obtained by SLT to create this network. So now you cannot say, OK this is now a private company, all these resources will only be used by SLT, somebody else must start from scratch, I think it's not viable. So, it is something we have to look at, what are the possible things for the national benefit and that is where I think these committees are trying to see where we can pull the resources and quickly do something where we can gain some benefit short term.

Conclusion:

Thank you Rohith, and in conclusion may I draw your reference to two factors in the new national telecom policy. One is, we are trying to move to a regime of service-based licensing which might address the issue that Mr. Rohan Wijeratne brought and also, he and Mr. Rohith Udalagama were discussing sharing rights of ways which is also one of the provisions in the new national telecom policy. And of course, there was the other statement that with regulation, the lesser it is the better. Actually, if all the stakeholders have similar market power, there could actually be a period of self-regulation like in some countries like New Zealand and that's what all of us should strive for and perhaps put the regulator out of a job. And in conclusion let me thank Mr. Rohith Udalagama for his lucid presentation and the panelists Dr Gihan Dias and Mr. Santusht Jayasuriya. And also let me thank all of you all who contributed to this session as well and on behalf of Mr. Kumar Abeysinghe, the Secretary, Ministry of Mass Communications and Mr. Themiya Hurulle, Director General, Telecommunications Regulatory Commission, may I also extend our thanks to you and note that we will take all your considerations into view when finalizing our new policy. Thank you.

### **3. Human Resources Development:**

Mr. Saman Ediriweera, Secretary, Ministry of Tertiary Education and Training. Dr. Ajith Madurapperuma Senior Lecturer, Department of Statistics and Computer Science, University of Colombo. Dr. Lalith Gamage, Managing Director and CEO of SLIIT, Dr. Ravi Corea, Director, PriceWaterhouse Coopers, Dr. Harsha Alles, Director-General Gateway International and Mr. Manju Haththotuwa, Chief Operating Officer, Millennium Information Technologies. I would request the members of the working group to come up to the head table please.

The session which we are looking at is the Human Resources Development related to IT. The presenter will be Dr Ajith Madurapperuma of the University of Colombo, Senior Lecturer in the Computer Science Department, Member of the Working Group of JICA Industrial Master Plan and ICT cluster, Head of the HRD group. He's a well-known personality in the IT field. Without much delay I would call upon Dr. Madurapperuma to present it.

Dr. Ajith Madurappeuma:

Our sub group is on Human Resources Development and I think Dinesh said very clearly what needs to be done for market creation and I think one of the most important assets of market creation or resources is the human resources. So that was our task for the sub group. And we tried to, within the limited time we had, to define the scope for our work and we decided on a 5 year time Horizon ..... and then decide upon some Bankable Projects, projects that can be implemented within the given time, and then Prioritize what the most important ones are, then how we can Scale these projects on. And I would like to mention at this point that this list of projects that we are going to present is not at all exhaustive, we have decided on 6 or 7 projects that we thought were of primary importance.

At the end of the presentation you are most welcome to bring up any other issues that you think that we have not put here. And our approach to this topic was to find what we need to do in order to satisfy the market demand. In order to do that we looked at what we have and what will be our current and future requirements and what are the gaps between the existing resources and current and future requirements with respect to the market demand. In fact I didn't talk about the vision for the ICT sector because it has already been presented, well-articulated by the previous presenters. So let's go to the Evaluation Criteria that we used to identify or prioritize these projects.

The one was the Physical Infrastructure; do we have the necessary physical infrastructure to implement these projects? What do we need? The Geographical Distribution of it, can we implement it in all areas? The Resources, in terms of teaching and training, because HRD is very much conditioned by the existence of teaching and training resources. Then standardization, then the Adaptability to Market Trends, which is are we producing the right kind of people, are we teaching the right kind of things? Then the sustainability, how do we keep on maintaining these projects? And when you look and the training and education aspect of this we are identifying different levels, the primary level, the secondary level. That is education.

Then the tertiary education where we have the vocational education, the technical education. Then at the undergraduate level, then post-graduate and primary research level where we go into development of human capital. And using these two directions that is the different aspects of education and our evolution criteria, we identified several key projects. One was the enhancement of undergraduate education where we concluded that it is one of primary importance that we enhance the level of undergraduate courses in IT. Then the development of R&D capabilities in Sri Lanka then we also wanted to bring in the teacher training and the primary and secondary education, IT n primary and secondary education. The creation of business environments, the continuing professional development of public and other sectors, strengthening of vocational and technical education systems and the identifying how we are going to fund these initiatives. And we realized that undergraduate education needs real serious consideration. One aspect is that is we need increased numbers, we need large numbers, though there are figures that say we need thousand, two thousand annual graduates, but there is no exact requirements analysis done, but what everybody agrees is we need more graduates, more mature people to sustain our industry and its growth. So, one aspect that we're looking at is that we need to increase the current number of undergraduates produced in the Sri Lankan system, that is including all the government and the private sector university educational institutes, to two thousand five hundred. That should be one of our aims.

The other one is the quality of our undergraduate education. That is how do we improve the undergraduate levels, the undergraduate education to match what the industry requires, for example, how to we include the latest technological developments in our undergraduate curricula in a short time period so the results of this graduate, of training this graduate can be reaped, the benefits can be reaped by the industry immediately. One aspect, another one that came up is how to produce this large number of graduates that is required is to convert the existing graduates from other fields into IT. We wanted to bring up the issue of R&D capabilities in Sri Lanka because we do not want to, I think it has been brought up by Dinesh very well, that we want to bring up our intellectual capital as a marketable product rather than outsourcing etc., so to do that we have to develop our R&D capabilities, because at the moment we looked at that existing situation we realized that our R&D capabilities are almost nil. We have very little or nothing at all in terms of real research and development projects so we need to spend quite a lot, put a lot of attention to this and we need Centers of Excellence where particular technologies can be taken up, we need to forge links with leading international institutions, public sector, private sector and other commercial sector.

We need to develop the infrastructure for R&D, the infrastructure required for high level R&D because sometimes you need a high bandwidth, very high bandwidth for example for things like e-learning. Then we need a mechanism for technology transfer, how do we get the latest technology into the country to support these R&D activities and we realize that the most feasible way to do this would be to form a virtual coordinating body because we realize it has been successful in Sri Lanka at least in the Research Institutions when it comes to networking, the LEARN Committee which is a sort of a body that is made up of several representatives from several academic institutions has done a fairly good job in bringing up the bandwidth to the universities and other research institutions, so that could be a good project, and another thing that we would require to increase or develop our R&D capabilities would be to have a panel of international advisory panel, when I say international it is local and foreign people participating and feeding their input.

Though we do not see how we can achieve a change in primary and secondary education to reach our targets of 2500 graduates and R&D capabilities by concentrating on primary and secondary education we realize it is an important issue so we put it here. One thing is how to introduce IT at O' Levels of the educational system, I know that there are efforts underway, we need to accelerate those and bring them in line. Then one of the most serious problems that we would face in implementing IT education in primary and secondary education system would be a sufficient number of teachers. Even in the schools where there are computing facilities, there are no teachers. I personally know that there are several schools which are using outside institutions to train their students in IT because they don't have internal teachers, and those institutions can afford to do that because their students can pay for these private institutions to conduct courses, but there will be problems when you are trying to talk about entire Sri Lanka, and one of the suggestions is to use a multi-tiered approach like in the UK system where there are 3 levels where one is IT for teaching all the subjects, second one is teaching IT and the other one is supervising IT education and tie up some incentive scheme, self-sustain the incentive scheme to teachers who are in the IT because at the moment one of the problems that the country is facing is the moment you train a teacher in IT, he or she will not be in the school anymore because there are more attractive places to work for.

Then we need to think of how to establish conducive business environments. One thing is how to encourage entrepreneurship, and in that sense how to encourage some of the financial institutions to use venture capital as a collateral for funding. I know that there are things happening, the other day I was at one of these SLECCIC workshops on insurance schemes for software exporters and there it was brought up that SLECCIC is willing to, they are setting up an insurance scheme for software exporters and the HNB representative said that they are thinking of using the SLECCIC guarantee as a collateral for funding, so things are happening but we need more ways of encouraging these kind of activities, and then we need to think of how to support our talented to further educate themselves not only in IT but in other aspects of business as well, how do we build up our Human Resources.

Then continuing professional development, one of the most important things and all the speakers before and several comments from the audience confirms that we need to educate our masses. The entire population we need to educate but specially we need to educate our public sector employees going for things like e-Government and some of the aspects are we need awareness programs, we need public awareness campaigns, and we need technical skills upgrading for professionals, that is somewhat lacking at the moment.

I know that private sector institutions can, or private sector companies can send their people abroad and get them trained in high level technologies but we need a more national level effort and that we need to think of e-Learning environments as a cheap affordable way of educating the public and think about high level regional training centers using existing resources for example already it was talked about in the last presentation, the multimedia telecenters, multipurpose telecenters, use those kind of facilities to educate our public. Then we need to strengthen vocational and technical education systems, again the e-Learning systems come up as a way of using the high level educational material. Then to think and formulate plans how to match the product that is coming out of technical and vocational education systems to match the industry requirements.

So those were the basic projects that we prioritized. There was a large list of other projects as well but we wanted to limit ourselves to things that we think of primary importance. Other projects were there in the list but we do expect your input before finalizing these projects. Thank you.

Thank you Dr Madurapperuma. As you heard from the presentation we have tried to focus ourselves towards human resources development mostly in the tertiary education system, not forgetting the primary and secondary system which I would like to emphasize it on the previous presentations as well as the comments that the market driven education system is what we're driving at. Now towards this we have come across these points what we have listed here, priority areas towards uplifting the human resources development program. With these few comments I would like to open the floor for discussion.

Discussion:

Q: I'm Vijaykumar. I'm from the University of Peradeniya but I also was Chairman of the Committee for Computer Education at CINTEC. If you are trying to get market driven mechanism, I don't see any evidence of that in any of these things. This seems to be mainly on using the government system but I can see very little private sector involvement in this document.

Secondly, if you take the private sector there are very serious problems as far as education is concerned. You get lots of places that do not give any proper training at all. We do not have any mechanism at all to prevent that. Finally, if you look at the standardization methods available, accreditation methods, they cannot work because there is no possible way of policing these institutions. So, all in all what we have in this country is a lot of small institutions providing useless training and a few good institutions that are providing training at a very high price and which is not affordable to most of the people. As far as the universities are concerned this is a very ambitious target you have here, I come from Peradeniya, and at Peradeniya our present staff is exactly 2 assistant lecturers. Why is that? Because with the salaries paid by the university system you cannot keep, Ravi Corea very well knows that, you cannot keep the people in the system and particularly in Peradeniya because unlike in Colombo where there are opportunities for consultations and other additional income, in Peradeniya there are no such opportunities. (end of tape)

I will ask Dr Lalith Gamage to respond to this.

Dr. Lalith Gamage:

Several points; One is you said there is nothing about the private sector, when we said enhancement of undergraduate education, we didn't mean just government sector education we meant private sector education as well. And you also talked about accreditation and standardization, (in the second slide, right?) so that point is also addressed although that is not listed as a project. The price of education is also discussed, maybe we can, if there are other points, other people who are interested in discussing we can also talk about that, maybe I will leave that towards the end.

Thank you Lalith and I would like to invite Professor Mendis, Chairman UGC to respond.

Prof. BNNR Mendis:

Thank you, my name is Professor Mendis. I like to say first and foremost that we appreciate very much the concern of this floor that the total numbers on IT education must increase from 500 to 2500. That is actually the best statement I heard this morning. I like to thank Ajith for bringing that up and also the Chairman of that, Mr. Saman Ediriweera. Now coming to the fact that you mentioned, the universities will train part of this category, the SLIIT under Dr. Karunaratne will train some more and other organizations are training some more people. Now I will talk on behalf of the university sector only. Now right at this moment in time, I can straightaway take in 600 students to the universities if some simple provisos can be made. Firstly, the University of Moratuwa has a new Faculty of Information Technology Development in Sri Lanka, we're taking in 50 students now this year. The Vice Chancellor Moratuwa says he could increase this immediately to 500

students per annum if he has equipment and a new building. It is all priced, new building is going to cost two hundred million rupees, equipment is going to cost three hundred million rupees and if that is possible with that investment we can take in 500 students from the GCE Advanced level examination from the Maths stream or from the Biological sciences stream to do Information Technology as a degree in the university system. We can straightaway give you 500.

Right at this moment in time the University of Sri Jayewardenepura in Sri Lanka says that they can start e-Commerce degrees, under the - degree program with 100 students if they only have seven million rupees. Now seven million rupees is something very mundane. We have here with us experts from the World Bank, we have JICA representatives, we have SIDA representatives. If seven million rupees is given to the Vice Chancellor of the Sri Jayewardenepura University, he will take in 100 students for e-Commerce. Seven million distributed 3 million for the infrastructure networking, 4 million for purchase of computers, we can take in 100. So straightaway we can take in 500 for Moratuwa, 100 for Sri Jayewardenepura. The University of Kelaniya in 2002, organized a new course on Information Technology and Management with 50 students and if we can put in some inputs there we will also be able to increase the inputs at that level. Now we have, I'm talking about this morning, we actually presented this very same argument to Her excellency the President on the 21<sup>st</sup> of last month, on the 20<sup>th</sup> of last month we took this up at Parliament, with the Deputy Minister of Finance and 2 Cabinet Ministers on the 21<sup>st</sup> and we took this matter up with the Treasury also on the 3<sup>rd</sup>, 4<sup>th</sup> and 7<sup>th</sup> of this month, now we're bringing it up again. I'd be very grateful if this forum can take this up as an issue, I mean there's no point us saying we want large numbers, we want large numbers but not doing anything, now we have didactic figures here. You give us, we'll give you 600 students if you just give us what the university system is asking. It's very difficult to do, but very easy to say, but I hope the Chairman will at least do something because we have given you figures, quoted you from the Vice Chancellor's own statement and we can bring the two parties together. Thank you very much.

Thank you Professor Mendis at least for making all these comments on my behalf I would say because we have been talking very much on this subject and I would like to invite Ravi.

Just a couple of comments leading on from what Dr Kumar said and what Professor Mendis said as well. Dr Kumar pointed out that the real problem was the dearth of staff and that has been our impression too and that has been my personal experience at Peradeniya and a couple of other places. While you can build up the infrastructure and the equipment what we saw as lacking was a real concerted effort to build up the teaching resources which is what is going to sustain the national university system. The private sector will manage because it is commercially orientated, and I wonder if there are any comments on how that is being addressed since the universities have sort of indicated that they only need infrastructure and whether it is being addressed adequately because it was not our perception that that was so and we felt that that was a key thing that needed to be done and a most difficult thing perhaps.

Q: Rohan Wijeratne:

I have a question for the university system. What are the quality standards you are maintaining to ensure that the graduates who will come out of this, - and actually I should also address Lalith there - because I'm curious what are the quality standards that are going to be maintained to ensure that the person, the graduate, as soon as the graduate comes out, is immediately *employable* and can become productive in an organization. Manju, you would have experience on the software side. I mean that is the other, that is a very important factor. I agree we need all these numbers of people but we also need very high quality so I'd like to know how quality is being addressed because that's vitally important to industry. You see we can go out, get business and we then say "*let's start recruiting*" and then we find that we need to spend another 6 months bringing them up, that's an additional cost, so I think we should not forget that quality should also be brought in as part of the program on this education side, I'm talking of university education.

That was one concern when the working group was sitting, actually there were several concerns towards this, how are we going to standardize our institutes because there are several institutes doing this graduate training in the public as well as the private sector. Anyway, I will leave the floor before I make any final comments to Dr Gihan Dias.

Dr. Gihan Dias:

Thank you, just I want to respond to Mr. Wijeratne as well as some of the things Professor Mendis said. Now, Mr. Wijeratne, I would like to distinguish between quality and employability those are rather similar, I mean they are going in the same direction but they're different. So one thing we really need is quality and as Professor Karunaratne mentioned one day when you try to have 500 or 1000 or 2000 people maintaining quality is the biggest problem because maintaining the quality of the students as well as getting quality staff to teach which is something we have been having a major difficulty with for the last 12 years or even more than that.

Then, regarding the other thing of employability, I think that's very slightly different from quality, lot of employers are not looking for quality, they're looking for numbers, so one thing we might want to look at is rather than undergraduates, should you also look at Diploma level 2 year or even 1 year course, or something like that program where we have a large number of people who are trained in a special technology, for example Java, which is different I think to our mandate as a university where we are not really supposed to train people who know Java, I'm using Java as an example, but are trying to train people who have a good basic knowledge of various things who would be useful not only today but ten years from now when all the buzz words we hear today would be obsolete, nobody will know what Java is in ten years from now but still our students should be able to be a manager at some place. So I think we need to distinguish between quality which we certainly need to maintain and employability and as far as our Department of Computer Science and Engineering at Moratuwa we have basically tried to maintain employability by addressing or at least talking to the employers, finding out what they need and trying to make sure our students get that knowledge as well as through our industrial training programs and the projects where we try to get the students to work very closely with industry.

Thank you, Gihan. Professor Karunaratne?

I'm Sam Karunaratne. It's a very interesting topic for me. Now looking at the figures, now in fact I was a Vice Chancellor of the University of Moratuwa and with NO money requested from the government we want to start IT education, we didn't want any money, there were other sponsors but the rules and regulations of the University, The faculty, The Senate, The Council, The UGC the various things, you know it does not allow an innovative system to work because it is universities are highly inertia systems they can only change incrementally, highly inertia systems and can only change incrementally. If you come with an innovative idea it is not possible because even as the Vice Chancellor, Head of the Council, I couldn't do it, so the Sri Lanka Institute of Information Technology unfortunately or fortunately is not in the University of Moratuwa but it was proposed to be within this, Institute of Information Technology, University of Moratuwa it was going to be, but because of this problem, the rules and regulations and difficulties, I'm not finding fault with the system, but the system is like a ----- I know the system, I've been a Professor for 33 years in the university so I like the system, there's nothing wrong with it, but that's how it goes, that's how it goes, so no money requested from the government so that was not possible, so we floated, not floated, had a company by guarantee,

The Institute of Information Technology of Sri Lanka is one thousand and eighty per year, and the government, we are within the Ministry of Science and Technology, input from the Government is zero, Nothing, so and in fact, what I request since it is going into the policy, two things I want to request. Without government input, without spending money, I know the government hasn't much money to spend, we don't want it, but I hope it is 2,500 we planned out that we will be training half the number required, 2500, about 1250 or about 1000 for the country and leaving about another 1000 or 1250 for the universities to train.

And our intake we have planned so that it goes from 1000 to 1500 in its final stages so that we could produce about 1250, half the requirement as projected for the manpower requirement at graduate level. We can do that; no money is required from the government. Now, what Professor Mendis said I appreciate, 500 students can be taken to Moratuwa with 900 million rupees for infrastructure but what he probably didn't realize is it requires another 50 million rupees for recurrent expenditure.

It is hundred thousand rupees per student per annum in the university for recurrent expenditure alone, well slight variations, hundred and thirty four thousand per student per year at the University of Moratuwa including what's that, capital plus recurrent, but when I was Vice Chancellor I was 80,000 rupees, now it's 90,000, 4 years later which is understandable, so if you have 500 you are thinking of 50 million recurrent expenditure in addition to 900 million infrastructure. What SLIIT model is we don't want anything from the government, but we will produce half the number or if the government can employ we can produce even the full number, but that of course is a bit bizarre to say that. Now, the unkindest thing that the government is doing is, now the government is spending 100,000 rupees per student in a university. In SLIIT, not even one cent but they charge VAT of 10%. Now the government wants to make money out of this SLIIT type of student whereas the government spends so much of money on the university student which I think is most unfair because it's the same the cross section of people you get to the SLIIT or another private institute or the university, same cross section, same parents.

You don't have VAT paying parents here, non-VAT paying parents there, it's not like that, parents are parents, children are children and it's most unfair and one of the other things is, second request is I ask the government gazette to be modified, you know the VAT is charged 10% Education and Poonac. In the gazette notification they were charging 10% VAT one line I looked at carefully to see if SLIIT students will have to pay VAT.

Yes, education VAT, so request to modify that gazette notification but I must say when at a time many people say "No money, No money" then try to get the students on to the road and so on, you know in difficult times you have to tighten your belt. You know Dr N M Perera was a kind of famous person, he wanted us to tighten our belts till it ached, you see there are times, it's not to criticize the government or something like that, to find a model where you try to do things without straining the government. We had a model and it is possible and I must say about the ---- Dr Dias said that maybe we don't want all graduates but in our system at SLIIT we take for an honors degree 1000 students but sure we don't expect 1000 people will do a special honors degree in IT.

We allow, in fact after 6 months, you can get out of the system and go for some employment with a certificate in Information Technology, with one year they can go with an associate Diploma and go to the industry, in 2 years they can get a Diploma and go and do something, 3 years you can get a degree and go out and 4 years you can get an honors degree. So, we are trying to cater to the entire cross section of the requirement of industry. So, if you want Java and so on you don't have to do that for a whole year, within the first 6 months it's done and they are available if you want to do kind of a low level or ordinary level programming. That way we have addressed that requirement. The second thing is the quality. Now for instance as you know there are institutes and institutes. Maybe it is a good thing. Go down Duplication Road you may see 15 or 10 IT training institutes. This is a good thing, in fact in ----- Street, I counted 15 radio stations a long time ago, I thought it was a great thing, now you can't tune from one station to the other because it interferes with the other so it has come to that. So, things change like that, but regarding quality what we say is, at least I could speak for the University of Moratuwa, I still am Professor there even although I'm Chairman of SLIIT, we have very good quality at the University of Moratuwa. In fact there was a time when students of the University of Moratuwa with a Computer Engineering degree they wanted as they joined 30,000, next year 60,000, engineers' salaries are in the 15 to 20,000 range, but now of course because the demand is less we have recruited from University of Moratuwa at 30,000 or 20 odd thousand and they are of very good quality. But how do we ensure the quality of our own students? The quality is maintained by,.. after all what is quality? It is with reference to some good thing, so the **Girton** university of Technology of Western Australia has a connection and 3 years of our course they give a degree, our degree is 4 years but in 3 years education, same program, 3 years education, a fairly good university, it's one of the best universities in Western Australia, in fact it's better than the University of Western Australia, in that the numbers are larger, they are ranked number one technological university in Australia for a couple of years, so we ensure quality by making sure that we compare it with something well known. In the University of Moratuwa from the time it started from 1972 almost every question paper was sent to UK or US or Singapore or some place, it was evaluated by a local examiner, evaluated by a foreign examiner, and the mark is given either average or whatever.

We are used to maintaining quality and the way that SLIIT maintains quality is in that way, it's kind of compared to other things it's fairly good quality, so what I want to say is, at a time when the government is in dire necessity for money it is not to ask for one billion rupees we will produce 500 or 600, it's not like that. My only request to the government is remove the VAT at least from IT education if not for any other education. If you do that, we are charging only 36,000 per semester plus VAT of 10%, I can drop that and there will be more students willing to come and affordable. Thank you very much.

Thank you Professor Karunaratne, still there is time for the session; In fact I would like to comment on one point about the VAT. At least we made an attempt on the tertiary education, not on SLIIT but on the case of general concern was there and we have written about this matter to the Treasury.

Q: My name is Ramathas. I'm sorry I have to make some controversial remarks. First of all, regarding the quality of the students that come out from the Training Institutes that are run by the so-called private sector mushroom companies or from the universities, excuse me Prof. Vijayakumar. The quality of graduates that come out of the universities are not up to the mark. I did an engineering degree.

In the engineering profession you have professional engineers, graduate engineers, technicians and tradesmen. If I were to compare the people coming out of these universities as well as the training institutes, they would be compared utmost to a technician level. The quality of the people required for a graduate engineer and a professional engineer are lacking. Regarding employability, we're talking about new technologies that are coming but my experience is the basic concept of IT technology has not changed for the last 20 years. The implementation could have changed over the years, how they are applied are changed over the years but the basic fundamental principles of IT have not changed for the last 20 years. The major breakthrough that came in IT for the first time maybe in the MIT in the -----project that was a -----  
- user operating system. Other than that, no major conceptual change taken place.

We talk about employability but if you give the basic education to the graduate he/she will add up with time. We used to have a joke in the Engineering Faculty about two Engineering Professors, Dr Mahalingam, well-renowned person and Dr Naguleswaran. Both went in the Volkswagen car. Naguleswaran's car stopped and he got down and so did Dr Mahalingam and Dr Mahalingam asked what happened to your car? He opened the bonnet and said my engine is missing. Dr Mahalingam said I have an extra one in my boot can you fix it there? That is about their practical knowledge when they were in the University, but they taught us the basic principles so that anyone could go out. As time changed, the application changed but basic fundamentals do not change, you can keep on applying. But what the universities are teaching in IT today I should say from my experience it's sadly lacking the basic fundamental principles that is required to be taught for IT graduate is not there. From one of the universities today somebody came and sat for an interview and I said, "What did you learn"? He said, "in database, I learnt about dBase". I mean is that what a university should teach? If they taught the basic principles of database they could go and get themselves adapted within 3 months they will be productive. As the technology changes, they will. But I do not think that they have that, but the basic problem as Dr Ravi Corea said, "Can you retrain the people"? Who could teach them?

Therefore my suggestion is to ensure the quality, ensure that we have a separate institution that would, maybe like SLIIT, which will be coming out of not from government funds, No, not by the regulations, the AR and FR of the government but which will have the flexibility which could provide a place where these very high caliber people could be to prepare the material and distribute to the universities because it is really sadly lacking in the universities, a real graduate IT engineer, this is my feeling. I stand to be corrected, but that's my experience in the last 10 to 15 years interviewing graduates out of the universities. Thank you.

Thank you. I have just got a note from Dr Wijesekera, where he has also raised the same two concerns, one was about the quality and one about the standards, in the sense, unified standards maintained by the institutions. Now in this regard because we have been talking about the universities I must also focus the attention of this forum towards the other areas of education system, on the tertiary education system. Yes, let me come back to you Mr. Silva. There are institutions which are technical colleges taking in about 20,000 students in the tertiary system and another more than 50,000 I would say in the case of vocational training. Out of these areas it has been found out you know IT sector has been very popular with the youth and that is in the public sector. Apart from that we have found that other educational systems, institutions are there who are also providing IT education to different levels. So, we identified on different levels. One is we could categorically say that it is in Certificate level, other one is on Diploma level and other one is Degree level. Now related to standardization we have given the task for identifying and standardizing these things to Tertiary and Vocational Education Commission, which is TVEC which is looking after it and I would like to get the views of Mr. Silva Deputy Director to comment on the accreditation system we hope to adopt. Thank you.

I come from Tertiary Education Commission so we are one of the bodies who have been, government body, who are supposed to do the quality assurance of the programs outside the university system. So, we don't go into the university system, but the programs which are below the university system which are very important also to this industry. So, the quality assurance is a very important role I think for the future growth of this industry and that is a very big problem today also in the education sector related to computer education. So many institutions who conduct programs also conduct programs, everybody knows that quality is a problem of the programs, the certificate level, diploma level and the higher diploma level programs. So, we have tried, the Commission tried within the last 5 years to make some quality assurance mechanism work, that is to prepare the standards. We have prepared the standards for 2 levels in association with the industry people and the universities, the standards for diploma level and the higher diploma level. Now we are trying to implement it with the assistance of the industry because we don't want to do a policing role so we don't have the capacity also to do that. So we want the industry also to take this seriously and come forward for accreditation so anybody in the industry, especially the educational institutes who are conducting diploma and higher diploma level programs can get the accreditation from us if they come within that minimum ...(end of tape)

... without the standard. So that is one of the problems. I agree with you regarding the technical education and vocational training system where I worked, one of the major problems are the teachers, we don't have the teachers required to do quality programs. So as in the university system also, in the other levels also teachers are a problem.

So, we have to look at this problem also and work on a long term, teacher education is not a short-term program, it's a long-term development process, so we'll have to, if we are developing the policy we'll have to look at these two also. Thank you.

Thank you, Mr. Silva. I would now call upon Manju to make his observations.

Manju: I just want to go back to Mr. Ramathas' comment about quality of our undergraduates and beg to differ actually because we, at Millennium, absolutely every single person, every software engineer has been hired from the local system. We have a few foreign graduates and some of our best stars are from local universities. So, unless we are hiring from 2 different places something is wrong here. We have had very good talent but one must accept that you can't in 4 years or even a longer period produce people that are all things to all men, I mean it's horses for courses, I mean you have people who will come with a basket of knowledge and the talent is up to the organization to grow, and I think there is no way you could disengage the organization and put the entire responsibility for to the university to produce something totally self-sufficient and complete, so we accept that you give a basket of knowledge to these people and then they come and get some on-the-job training and then off-the-job training also, so that's one point to make.

So, I believe we have a task ahead, a challenge ahead to maintain those standards and perhaps improve them but they are not as pathetic as which may have come across from comments like that. I believe we produce very good people here, comparable to triple I IT or I IT in India which is very well-known right across the world. I mean if you say you are from IT, people know that there is a minimum quality and I, we just don't do it in those numbers and therefore don't have that sort of reputation globally, but I believe the quality is as good.

The second point I want to make is going back to Rohan's point and Gihan's point about employability and as an organization, I think one looks attitude, we say attitude is altitude at MIT so attitude perhaps even goes ahead of the knowledge you come with. Now, yes, we do need otherwise we don't need IT courses, we can hire from others, other undergraduate courses. Primarily you do need some basket of knowledge relevant to the field but ultimately what is dominant is attitude because if you have the right attitude the rest will fall in place very rapidly. Thank you.

Thank you, Manju. I think this is one concern and when we were meeting, the working group, Manju himself was putting the same argument, this is the second time I think, this aspect was discussed. Any others?

I'm Ranjith Narangoda from Sampath Bank. I manage the Systems Development Department at Sampath Bank. With authority I should say that the quality of graduates that we employ is very good.

We have employed recently 5 graduates from the University of Colombo. They're all up to the correct standard, in fact, of course sometimes problems are there, like the language problem could be there, but we can't expect universities to produce geniuses for everybody, because we have to give them the proper training once they come to us.

That should be our duty, because we can't expect the universities to provide all the knowledge of an oracle, the present database knowledge cannot be given by the universities. But of course, the formal logic, the basic logic, the future thinking part, I think that comes from the university graduates, that is there, there is a lot of potential in them.

The other factor I see, which was not commented here is about the language. Now this is a national policy covering the whole country, so what about the other, this is not a university policy, it's a national policy, it should cover the language part of it, what about the books, what about books in Sinhala, right now there are lot of problems in that area which has not been addressed by the committee I think because it was not commented very much here, so that is one other thing which you should look at. Thank you.

Thank you and just to make a comment about the English language, we thought it is a must with IT! It is a must and we on the Committee, we have been addressing this though it has not been emphasized here but yes, I recognize, Professor Mendis please.

Prof. Mendis:

I am very grateful that Manju Haththotuwa and you, Sir, spoke on behalf of the university graduates. I must also reiterate that at the Advanced level examination in this country, 200,000 students sit for it and of that number 98,000 qualify to enter our universities. Of that 98,000, 30,000 say, we want to come to the universities and the universities take in this year 12,760, the best, the intelligentsia, the number one people in the engineering, maths stream go for engineering, University of Moratuwa, University of Ruhunu, University of Peradeniya. Out of 200,000 we take 600 people for these 3 courses.

After that how can anybody say the quality is bad because undergraduate entry is such absolute supreme quality, so I think I agree with you, Sir and you that the quality is not at all compromised. There are problems in the Arts stream, I agree. In the Arts entry to the university system we have tremendous problems with quality because of language, because of the far away remote areas from which they come and we are addressing that issue by programs of quality assurance and accreditation right now in the university system. We are addressing that.

We have got 2 experts from the World Bank, Jim Clarke and Carole Webb have come to Sri Lanka now for the fourth time helping as with institutional audit and subject audit purely to improve the quality of the university system and they themselves have agreed that the standards of undergraduate entry into the university system in Sri Lanka is of absolute superior quality. I'm sure Professor Karunaratne is not getting that kind of quality into his institution but the universities they get the number one and the best. And also, quality is dependent on the staff performance and right now we are addressing issues of performance appraisal for academic staff so that they deliver the goods the way they have to deliver the goods. So, those two points I thought I should share with the user. Thank you.

Thank you Professor Mendis. I would recognize Harsha Alles who is a panel member.

Harsha Alles: Unfortunately, I represent the minority here. Most of the people here are from the industry and from the university system. About schools, I would like a little more emphasis on some kind of investment on schools, because you will appreciate now you have realized the problem about English. Now most schools are trying out to have their medium of instruction in English, and that we realized after probably about two or three decades of Sinhala education or Tamil education. Now there is a saying that IT is as important as reading and writing, so if that is the case, I'm sure everyone here would agree with me that this has to start at, at least, secondary level if not for primary level.

But sadly nothing is happening in our country, and for this to happen we need to have some kind of incentives for the teachers even the so-called leading schools in Colombo have no problems with computers, I went through statistics of Hambantota district which I believe the most difficult area where even in Hambantota there are about 8 or 9 schools which have computers but no teachers to teach IT so there has to be some encouragement for teachers to use IT in their own work, maybe in every subject and of course it to be taught at least as a subject.

Number two, about private sector education and there was some mention about training centers down Duplication Road. In fact, you must understand that they also provide a lot of service. In fact, if you are talking of quality and employability most gentlemen here would kind of agree that where employability is concerned, there is proof that private sector, especially the private universities currently existing in Sri Lanka have even done better than the State universities. There is a strong point to kind of help these private sector organizations not to look down upon them always because they also pay VAT, they don't get free land, they don't get anything, they have to find everything for themselves, so it's not an easy battle so you need to consider their point of view as well. But at the same time, we have the Chairman of the VTEC, there has to be some kind of policing if the law doesn't provide, I think we have to look into that because at least the so-called good organizations suffer because of the acts of a number of other organizations.

Things like scholarships, I don't know who is supposed to look into these things. I also represent the Association of Computer Training Organizations, which is a kind of umbrella of the private sector IT training organizations. We have for a number of years been talking about this issue that when people are offered scholarships and when people are kind of given hope, then they are misled, some government authority which has legal powers has to look into this, so I would kindly appreciate if these issues can be looked into. Thanks.

Thanks Harsha

Mr. Chandra Imbuldeniya: Thank you very much Harsha for those comments on the private sector. I'm President of the National Chamber of Commerce, Chandra Imbuldeniya, but I'm speaking as the former Chief Executive Officer of the Informatics Group of Companies and having been responsible for a private university I can speak very well because I know 90% of the companies here must have employed the graduates produced by Informatics. I think they are all very well employable and we have no problem with employability or the quality of education.

At the start of this presentation, the numbers were quoted for the future we need about 2500 graduates coming out from the universities. I think we have about 700 plus students at the moment undergoing undergraduate courses and I think during the last 4 years we have been trying to set up a university to produce about 5000 students having seen the potential for the future, but unfortunately we didn't get the land which was allocated to us at Malabe and so we have been, we were ready to pay for it but we didn't get it, so there you go, but that is a sad loss for the country actually.

But at least now I hope we will get that land as soon as possible to start this university and we are also working in collaboration with universities overseas to produce these graduates and those universities consider us as local campuses and they produce their certificate in Sri Lanka to our students without even mentioning the name of Informatics so when you interview your students you will see the foreign students, foreign graduates coming to you but they actually have been produced by us. Then the second thing I would like to say, you mentioned about the scholarships. We were instrumental and innovative at the beginning about 4 years ago thanks to Mr. Gamini Wickramasinghe.

We gave about 200 scholarships to students over the last 4 years; each scholarship is worth more than 1.2 million rupees, now I think it is worth even more. These are 5-year scholarships; the students work in the industry and also go for their lessons in the university. Now I think that was a very innovative scheme if we can apply that model in the industry as well. So, with that comment I like to say that the private sector is excellent, but I also want to mention one thing because I'm a member on the board of the TVEC.

I have seen statistics of numbers trained in the local training system in IT, I think out of about 60,000 students who have been trained, only about 20,000 students have found jobs, about 40,000 have not so. These are not the graduate level courses, but they're just short-term training courses so there should be something done about that. I think we at the Commission are trying to do something about it. Thank you very much.

Thank you. Because the time is limited, I would like to restrict to other areas other than on the same topic of standardization and quality. I would like to get a few comments on R&D, and with that, because another 5 minutes more actually we have gone beyond the allocated time. I would ask Manju to just comment on R&D and I will entertain one or two questions, it looks like there is a lot of interest on this education,

Let's just, do you want to move on to R&D? We just need to air some views on the other mini projects here so let's take R&D because it's something that moves out of this numbers game we've been hung up on for the last few minutes. R&D is a high value area, if it's commercially relevant, we can market these outside this country. Number two is that our education system and training also prepare people, I believe, far better than even our Western counterparts to enter into R&D and produce world class out of the box thinking in these areas. And the third point is, it is not an accident that if you look at some of the major clusters in the world in any industry that there has always been, and it's been around in R&D sense if you take the West Coast Silicon Valley, there is Stanford there. Take the east coast, there is MIT there, so if you take Toyota in Japan, it's Nagoya, that whole city and the whole establishment. So, it is very important I believe to talk about the R&D capabilities which are non-existent at the moment and hear your views on that, so open it to the floor and see what comments you have on this.

Ramathas:

Yes, in terms of R&D you said it is non-existent. For the last 2 years our company has been engaged in an R&D project to come up with a completely revolutionary application development tool which would cut down by around ten times the application development cycle. The problem is there is no government support for that. Because even for, there one is government support the second is there are issues in government support because in terms of disclosure because 2 years ago I would not want to disclose this product to anyone in the marketplace because I don't want somebody to take it over. So therefore, we need a mechanism otherwise purely the whole risk has to be taken by us completely. I do not know at the end of the day whether we will make a market success or not, that time has to say, but government should be able to give some seed funding for this kind of risky R&D project because till we have completed the project we don't know whether it is going to make a success or not, therefore we need some support from the government.

And with your permission, Mr. Chairman, I just want to make one clarification in the sense that about my previous comment I do not talk about the quality of the people who come out of the university, I too come out of the same system. I talked about the quality of the, not the other engineering courses, but IT engineering and I want to make it very, very clear. People have come out and done well because they are good, because they are on the top 2% , 1% or 0.1% so they made it with their own capability but I think we need to seriously look at the curricula under delivery because the very same people I took from the university when we did this R&D project, there are about 15 engineering graduates  
So, I want to make this thing as well.

Yes, I recognize somebody .. Yes, Lalith?

What we would like, we have listed out requirements if we can get more focused on to what we have proposed here: Centers of Excellence; Academic links with leading International Institutions and so on. If you can make comments on those then we can sort of work on these lines, so if the comments are focused then the discussion will lead to something tangible.

I'm sure that this has led to a very interesting discussion but it so happens that we are going above the time limits set out, so I would like to make a suggestion that we will limit ourselves for another 2 minutes, make it very short.

This question of R&D I would like to break it up into two because there is a dichotomy here, research on the one hand and development on the other hand. Development type of projects which the academic people want to do is tied up with the industry with hard stop times and deliverables we cannot compromise on, whereas research pure and so on is funded and we expect that from the government and other types of bodies to seed that type of work so basically there is that dichotomy, the academic people want to do both from the one point of view, the institution wants the revenue when it's a development job with the industry and the academic wants to do the research because of personal fulfillment and so on. So those are the two points and I think there is a dichotomy here.

Thank you

... Professor knows, the Arthur C Clarke Center had a concept of developing the township of the Arthur C Clarke Center to give the industry people to set up incubators, that is to develop R&D, incubator companies around R&D that is to have R&D on computers and as maybe he knows there is a dearth of resource people and lack of financing but also I would say that the Arthur C Clarke Center has identified grounds, that is lands for this matter also maybe that Mr. Embuldeniya needed some lands he could explore the possibilities of having some land there instead of Malabe.

Conclusion:

Thank you I think now time is limited we have to conclude this session. It has been a very lively session I would say which I enjoyed very much chairing it in the sense of the importance of the HRD sector in relation to the ICT policy As I know in the case of infrastructure, when we discussed before these sessions I was one time involved in infrastructure development related to that area but now I'm in the other side, HRD which as you saw is much more interesting.

So, with that I would conclude this session by thanking my colleagues here Dr Ajith Madurapperuma, Dr. Lalith Gamage, Dr. Ravi Corea, Mr. Harsha Alles and Mr. Manju Haththotuwa who have been associated with me in developing this presentation and all of you who have contributed and participated.

Thank you.

#### **4. e-Governance:**

The Working group will consist of Mr. G Hewagama Secretary Ministry of Economic Reforms, Science & Technology, Mr. Kavan Ratnayake, Country Manager for IBM, Mr. Eran Wickramaratne, Adviser on IT to the Hon Minister, and Mr. Palitha de Silva Gunawardena, Director TRC. Well, Ladies and Gentlemen we are behind time so I think we will have to get straightaway down to business. To start the base for the session upon e-Governance Mr. Kavan Ratnayake will make the presentation. Mr. Ratnayake started as a Systems Engineer for the government sector and associated with the sector for about 7 years. He is now the Country Manager of IBM SRI Lanka and Chairman of Ceylon Chamber of Commerce ICT Commission, Member of SLIIT and also the Arthur C Clarke Center for Modern Technologies. Yes Mr. Ratnayake

#### **Mr. Kavan Ratnayake:**

Altogether there are only about 8 slides. The first one is up, so I'll take some time. I have a few initial lead ups for you. The whole idea is to set up a framework for discussion and during this discussion we should stay focused probably at a national level, ICT level, not so much an institution level so that we will carry away some useful stuff, I think it's important to stay focused.

We don't have all the answers which is why we are here talking to you to collect the answers. So, the first thing for you is to set up the base line and some of this might be motherhood statements for most of you but I thought it's important to start right from the beginning. If you ask the question, Why are governments, why is this government interested in e-Governance it's mainly to be the catalyst for creativity and set a climate for growth and I thought this statement because it encompassed both of those aspects was the correct thing to show you, given all the hype about the private sector being the engine of growth, it's very difficult, I mean coming from the private sector to be the engine of growth if government is running blocked, so basically the intention is to be the catalyst for creativity and create a climate for growth.

And also, the word urgency is important, I mean I don't think we need to be at a speed that's reckless abandon because of what hasn't happened up to now, but the words *brisk* and *urgency* are important - a sense of urgency. Going to basics, most of the people agree there are 4 pillars that are basically, Government to Citizen, Government to Business, Government to Employee and Government to Government. These are the 4 different pillars of, when you take and it's important to deliver I think services in each one of these areas.

There has been a lot of work done, I'm not saying there hasn't been any work done so far because there has been a lot of work done by the different government departments and this is something we could build on for the future but there is, some of that stuff does not address the citizen or business.

The other point that we want to convey to you is that it is not just IT or the Web, there is process also involved, and you can do the process part possibly even without IT and the web though it's useful to do both together because then there's a general sense of excitement because doing the process by itself can sometimes be boring within the individual departments of the Ministry. So when you see G to C, G to E, G to G, G to B you know we're talking of Government to Business.

What do Governments want? We know the citizens do want quicker service, ease of interest and so on and so forth and businesses also want efficiency, ease of doing business with Government, but it's important to understand why governments want e-Governance and their main motivation really is so that they can continue to stay in power by providing all of these things: Enhancing the response to Citizens who finally vote, the response to business, efficiency, productivity, transparency, all those good things and good quality governance. Also, another major theme that's coming up these days especially with the GoSL is revenue enhancement and reducing revenue pilferage. While governments provide all of these interesting services for all of these reasons there's another aspect that's coming up. What we do see is governments are branding themselves, yes to provide services to citizens, to business, to look after employees and be more efficient but also as a competitive advantage. If you look at Andhra Pradesh the fact that Chandra Bawa Naidoo is so strong on e-Government he has branded that as one of the foremost e-Government things and I'm sure there's a World Bank consultant who .... (end of tape)

.... thinking State, Province or Government and you will find even during the Olympics in Barcelona they were talking of Barcelona being in Catalonia not in Spain and I think there is opportunity for the different districts, provinces also to start distinguishing themselves also by being forward thinking in e-Governance initiatives.

What the committee thinks are the critical success factors are probably these. I mean there are lots of others but you have to start reducing the numbers when you start talking of critical success factors I think it's difficult to have more than about 5. The draft version of the policy talks of the government as a consumer and here we're slightly trying to change tack and say the government doesn't want to do e-Government for the IT industry, it wants to do e-Government for the citizen.

And the result of that is the fact that the IT industry would also develop, but if you do it for the ICT industry I think we will lose our way. It's one of the things that we want to put before you. The other point is the leaders. Mr. Moragoda, Eran Wickramaratne and even the Prime Minister want to lead this from the front. We also think it's important to concentrate on winning some quick victories, that's not to say that there aren't victories on the ground, for example if you take certain departments, they're far ahead in their initiatives but also when you take e-Government maybe under the e-Government umbrella, it's important to win some quick victories.

Focusing on employee development, what is in it for the government employee is going to be a very key aspect that we have to answer? And also ensuring that the delivery mechanisms are in place across the country, I know this ties into the infrastructure question and reaching to the remotest part of the country, but without waiting for every nook and cranny to be accessed I think we can still start delivering e-Government services over the Web with the infrastructure that's in place right now.

This is really the only chart with some meat in it. Just to give you an update as to what's happening, what government plans on doing in the future is. There will be a leaders and stakeholders meeting in September if the peace process and other things do not get in the way, maybe this September 13th, 14th where about 120 stakeholders will get together and paint a vision for the country and set priorities and set in place a management structure. But before that what we hope to do is to develop a discussion paper so that the discussion doesn't go all over the floor, a paper to start discussing at this session because so that we maximize the 2 days that they are away. And this discussion paper is going to be developed by a consultancy group which is in the process of being commissioned by the USAID initiative.

Basically, the basic document that we're going to work towards is this document which will be available, I'll give you an email ID later, which talks of ten questions that the government should ask. It's a road map for e-Government in the developing world and the Consultant who is being commissioned worked on this and was involved in this document. That will lead to a Management Framework and Priorities as to what CINTEC does, what do other government institutions like the Arthur C Clarke Center do and so on and so forth and then the plan is to set in motion an awareness campaign. The header said 'Possible initial first steps...' because it's too early to start talking of registration of persons or, one of the things that Eran keeps saying is that he doesn't want to stop anything that's going on, there has to be continuity in whatever department whatever initiative, whether it's a Web or whatever, all those initiatives will keep rolling forward but these are some of the things that we can start looking at to start pulling the thing together.

One of the quick wins, going back to quick wins and delivering things to citizens is probably all the forms that they have to fill out, come to Colombo or to the department, stand in line and pick up, we think that this is a quick win that we can put on the Web very quickly, all the forms that are available and the delivery probably could be done through a franchise network which is the communication center being franchised with probably a logo or whatever to start printing the form, helping people fill it, being also there, if it's a passport delivery being also the center to which the passport will be delivered, so instead of looking for Punchi Nilame in Pallegama or wherever, you can find him at the branded franchise. These are some of the possibilities that the committee was talking about. For business an e-procurement portal. This has been done in other countries, I know it's going to be controversial, but it's possible to do this very quickly. Government wide messaging and collaboration, this is more for the employee, as to why his life is going to be easy.

A National Operations Room which is something I believe the Minister, the Deputy Minister is already working on and some of these things are already off and running. On project tracking for example the Arthur C Clarke Center is doing a prototype from where from the remote areas you could start entering the data, the project leaders will enter the data and can be viewed at a National Operations Room at the Central Bank and these are some of the things that are possible to do there for example the financial reporting, consolidation, there's an initiative inside the Treasury also which I think is being done by PWC. Geographic information is another, there are hundred different geographic licenses, different government departments, none of them talking to each other, everybody collecting the base information and redoing the work over and over again. Just setting in something simple, you know, not really the government enforcing anything, but getting a GIS Council into place and getting them to talk to each other we think will boil up to this National Operations Room some very useful information that has already been collected.

And just one other aspect. There's also a thinking that we should start collecting the base data first which is stuff like the GIS, with that aspect in mind, registration of persons is going to be an important thing because that's your basic inventory of people, teachers, schools you know, so those are logical places to start. But we're here to listen so that ends that session and over to you Mr. Chairman. Just one comment. If anybody wants to take a look at this document [ict@tci.lk](mailto:ict@tci.lk)

Thank you Mr. Ratnayake. I believe from Mr. Ratnayake presentation a lot of interest has been created among the participants. In his presentation he had flagged a basic issue that the government is the central player in the new economy, everything has to be done by the government, everyone is expecting to achieve their goals through the government, and everyone wants the government to give the vehicle. With that I open the discussion to the session.

## Discussion:

..... e-Government that we didn't think of earlier on.....do understand that providing forms and so on is an initial very good step but one of the key requirements in government today is the requirement for original signatures on forms and so on and so forth so that is something we have to address. Some government institutions do not even accept photocopies of signed documents, so signature verification by electronic means and security are two aspects that have to be very seriously thought of in e-Governance and the delivery of e-Governance services should address that aspect and that will take some time because of the legal issues that are involved so I think I would suggest that that would be taken up very early in the process so that at least some time down the line we will have some definite criteria for acceptance of digital signatures and so on. Thank you.

I believe we have a representative of the Attorney-General's department with us whether they would like to comment on that. OK, we'll leave it for the next session.

.....in the UK, these forms you can fill it up on line then the department sends it back to you, a copy for you to sign, witnesses and everything and send it back to them so they have overcome this question of requiring written signatures in the UK.

I think there were a couple of important points in the presentation, one, an important thing is once we start on this e-Governance road is to ensure that the information is regularly updated, for example in Singapore, you can get any information on any company which is not more than 10 days old. Now if you go to any of our government websites today, you'll find most of them have not been updated for at least a year and if like me you have tried to find the telephone numbers of these various Ministers, Deputy Ministers, you can't find it anywhere. I've spent hours on the Net because I can't get the numbers and when you ring one Ministry they don't even know that the other Ministry exists. So, the thing is, I think the first stage is to get up-to-date information to the citizen as the quickest way of showing the citizen that the e-Governance is something worth thinking about. The second, I would say equally important to ensure that these portals are regularly updated because this is a sad fact of government today.

Yes, Kavan?

Just a quick comment, something I didn't when putting the forms up, a possibility is to put it up at a site such as the Lanka Development Gateway which is being developed by the Ceylon Chamber of Commerce. That was, I mean traditionally I think Development Gateways, in fact I think it's funded by the World Bank, it's in government and here the government decided that we should put it at the and the Gateway is also trying to find ways of being relevant to the country and in finding revenue models to stay sustainable and that's one of the ideas that have come up that these forms could possibly reside at this Development Gateway and that could be a portal through which, and that will set in motion a process, because it will have its independent management and so on and so forth, the process of updating, I mean all of those could probably be contracted out.

Three components Kavan put out were IT, Web and the Process. I would think it was important we concentrate very much on the Process because the automation of the government department has taken place in previously. For example, if you take ETF it was computerized from the very inception 1982, now it is 20 years now. The other thing even after automation, where IT is included, not the Web, where IT is included to get a claim from the ETF department it will take lot of time. Once the Minister said if you pay thousand rupees we will process it in 2 days. So, because the fact is IT has been addressed, but not the process has been looked at all. The same thing I have had personal experience with the Registration of Motor Vehicles. It was started computerizing from 1983 or 84, but even now to get a vehicle registered with automation in the department you can't do it within 2 months and most of the time you run without the registration.

So in our policy we should have a strategy how we are going to overcome the problem of processing delays that will take place within the department because at least these two institutions the IT is not really delivering what it's supposed to deliver because of the problem that the process has not been addressed and re-engineered to suit the IT environment. So, for example if you have an RMV form to fill, it's not going to improve the final response from the government to the citizen, so therefore we need to have a strategy how we are going to have the processes looked at, re-engineered and that is not an easy thing because it involves change of people's frameset, mindset in the organization, but I think it is important that we have a strategy how we can change the processes within the government department so that IT and e-Governance could finally deliver what is expected by the citizens.

It's a valid point. It will take a little time for the government departments and agencies to be able to keep pace with these developments because we are working with the same set of officers for a long period of time. Until the officers are retired they will be there until they reach their 60th year. If we try to pull them out we will end up in fundamental rights cases, Ombudsman and so many other things, so we are facing that problem. We are trying our best to educate these people and to get the maximum out of them introducing these new systems. Thank you.

**Q:** I am Deshapriya from the Ministry of Public Administration. I would like to go ahead with one point that the previous speaker pointed out. Actually, I have been trying to put out something to provide some services to our Web, not to citizens, but to employees because the Ministry of Public Administration caters to the government employees. So, what I am trying to say is, that since I started this project about 2 years ago because due to the lack of IT expertise in the government sector, we have been facing many problems.

There are no people who are aware of how to put up a Web or how to update or do anything. Because you may know that now the passport application all the gazettes and everything is available online but if you are going to suggest that somebody from those departments collect payments on the web I don't think they are even thinking of that because the knowledge is not there. What I am trying to suggest is that as the Gentleman said that CINTEC or someone, there should be some unit to look into these parts.

Now the e-Governance has not been anybody's subject, I mean gazetted subject. It is not in any Ministry's subject list so nobody is guiding government departments or Ministries in this way. Nobody is asking anybody to put up your things on the Web.

So, what I am trying to say is there should be some unit to help in this regard now I have been trying because as a one example I like to point out now, we declare the Public Holidays, list of Public holidays, so all the government and commercial enterprises ask for the list of holidays. We try to put up in this Web, but due to the lack of knowledge we took lot of effort we started in 2001 but we put it up in 2002 so what I am trying to say is this is a real case, so the real difficulty for the government sector. So, somebody should look into this matter and one more thing that I like to point out now, if we are talking about the government sector there are many levels of departments and offices. If you go to a Divisional Secretariat or Pradeshiya Sabha, they are also supposed to put up their things finally. They have computers but they don't know, they have email services but they don't know how to send an email. So, the thing is in one sense we try to put up things because most of the departments and divisional secretariats they don't have Internet, they have email, so the Government Printer's, Government Printing Dept has put up their Intranet so anybody can dial up and download gazettes and everything. So this has become a sort of e-Government portal for the people who do not have Internet access, so they have at the moment they have Immigration Website hosted in their site and the Ministry of Public Administration inside that, so they are also catering because this is a case, it's still government sector, small offices they do not believe in the Internet. I don't know the reason, the heads of departments do not like to purchase an Internet connection Internet service because it cannot be controlled easily or something like that, they're not supporting the staff but an email facility is there. So we have developed something like the ----- portal at the Government Printer's Internet so many people can download, that is what I have to say, but I again stress the matter that somebody should look into, there should be a unit to help the government departments and Ministries in this regard pointing out the direction that we should go. Thank you

You all have talked about e-Governance, I think that everybody agrees that we need e-Governance because the bottom line is the government is there to bring services to the people of this country, fine. I'd like to pose a question to the committee because this actually comes up from the previous speaker's experiences. Take a simple issue like, if I may take from the slide, Kavan, electronic messaging and collaboration. Now, who is going to implement that? What is the structure that is actually going to implement that? You can't leave it to just a vendor .. (end of tape 4)

.. problem of people, qualified people, attracting qualified people into the public sector comes to what he was saying, the issue of maybe people don't have the right skills. I mean we were talking earlier of 2500 graduates coming out, I don't think that's going to be enough to manage all of the systems around the country when we bring in e-Governance, how are we going to address that because that is a practical issue. I mean if you all have thought about it I'd like to know about it, if not this is something that needs to come in, the strategy needs to come in, how you are going to address the implementation.

This session started by us coming here as listeners, so I would like to continue in that mode, but if you want me to specifically just point out what we did in Andhra, the entire government employee base starting from Chief Minister Naidoo down to the peon is computer literate. We have over the last 2 years entered into massive training contracts with 3 of the leading national computer training institutes, that's NIIT, Artec and CMC and have at different levels defined syllabuses, for instance the Chief Minister needs to use just an executive decision support suite called the Lightship for monitoring the State from his office on a minute to minute basis. So, he's taught how to use the Lightship. The peon needs to know just how to take a printout,

send an email, just that, so the entire government bureaucracy which is, I suspect at least three to four times what you have in Sri Lanka has been trained in using different applications and software as per their needs at different levels, and this has been done by the government in partnership with private sector players so that issues such as the quality of the infrastructure, quality of training material etc., is that equivalent to the best available so to the point, yes it is an absolute necessity and it is something which we addressed very seriously in Andhra Pradesh and I'm sure the Sri Lanka Government will also be doing that as part of the ICT road map. Thank you.

The lesson that we have learned from the Andhra Pradesh experience is that we have to train all our officers from top to bottom in this new exercise. Yes please?

... following on what he said, recently there was this 100-day program and we had a similar opportunity to do something like that when CINTEC organized some high-level people from the Ministries to be trained for a few days on IT usage, like email services, access of Internet and so on.

They were very receptive and I'm sure that if we do it on a large scale like you did in Andhra Pradesh it will be successful, because the feedback we got from these high level people who were directors and so on was very encouraging and what we have to do, of course, is do it on a systematic large scale and I would propose that CINTEC is a perfectly well positioned with their contacts with the Ministries and the departments to effect this type of program.

And there are many institutions like ours which is SLIIT but there are other institutions as well, ICT and so on which can certainly come forward and provide this program, but of course I should mention a cautionary point here, and that is that the main feedback we got from the high level people who were there why they were not using the basic infrastructure they had, basically most of them had computers, they gave the excuse that it was outdated but that was not so when we probed further, for simple email activity and access of the Internet to download text and so on you don't have the latest computers, so the infrastructure is there basically but they did not want to use it, or did not want to allow their people to use it because of the cost of telephone connectivity, so that boils down to that again. So here is the biggest problem, here is the biggest bottleneck and it is cost, cost of service, not only for the students, not only for the people in the rural areas but also for our government institutions and that is the only reason why they're not using it and it's a vicious cycle by not using it, they don't want to get out of that mode of sending letters and so on and taking time over the local mail and so forth. So basically, we have the same problem. Here again we have a way of doing it but we have to reduce the cost of Telecom services in this country and that is just the bottom line.

Taking a cue from the experience of Andhra Pradesh and recollecting what happened in Singapore about 20 years ago and also our experience in private sector successful implementation of IT projects. Even in private sector there are failed IT projects, successful IT projects. The successful IT projects come from a scenario where the chief executive officer is the project coordinator. He sits in the project review meetings of the IT project or a director level, both director level IT director takes charge of the IT implementation of the project. When Singapore did this about 20 years ago, they put a Minister in charge. An IT manager at Cabinet level was responsible for implementing all the IT projects of Singapore. In Andhra Pradesh, the CEO takes the lead in implementing the e-Governance. Therefore, here as well it is essential because even the process changes,

everything could be easily done with the existing people if a cabinet level IT manager is available to implement e-Governance because that managerial commitment should be there. I don't think it's a problem because I remember in 1992 when we wanted to run the Infotel Exhibition, a Deputy minister used to spend every week two or three hours in the exhibition meeting. In 1994 Mr. Themiya Hurulle was a Minister, he used to spend every two weeks at least two to three hours going through the detailed operations of the Infotel Exhibition. And I think it is essential if you want the e-Governance to be successful all the processes need to be changed, we need a full time IT manager at the cabinet level to implement the e-Governance, I think that needs to be emphasized. And in terms of learning IT I do not think from the CEO onwards of the Sri Lanka ----- Corporation he's always willing to learn because I remember in 1982 he spent 5 days out of the Colombo City on a residential course - he spent 5 days learning IT, therefore I do not think it should be a problem, so I think we should insist on an IT manager at cabinet level to implement the e-Governance successful.

Thank you, Mr. Ramadhas, I think the political will is already there, that is why we are having this forum today. It might not be out of place to mention a point which Eran had wanted me to make earlier on, the entire Andhra Pradesh experiment, the IT strategy of Andhra Pradesh over the last 7 years has been driven completely by bureaucrats, it is by officers of the Indian Administration Service of which I am one of the members who completely drove this experiment from scratch and made it happen but in a public/private partnership. So, government was in those areas where government alone could be in and government got out of those areas where government had no business to be in. It was that clarity, the game is about leadership, strategy and looking at this as a problem of national development strategy, it is not a game about technology at all and that is something that I wanted to place before all of you here.

The statement that I made about the political will proves because the Hon Minister of Economic Reform, Science and Technology is just here with us now.

I'm Samath Fernando. I just want to mention, access to websites and everything is currently limited to Colombo but access by telephone is available to everybody currently. But even now if I want to contact anybody by the experience of that gentleman, contact somebody whom we don't know the number why don't we think of implementing a Call Center for the government. We implement Call Centers for large private groups and everything, can we think of implementing a Call Center where every office, every government office gets connected, where we call one number to get any service. Any thoughts on that?

Well in the Ministry of Economic Reforms, Science and Technology we're doing it and we're going to introduce it to other Ministries as well. So, the starting point will be our Ministry - 510510

You can't get through to that !!

..... in fact most of the government departments do have an operator and there's a general number and they are very, very helpful to get at the number of a particular officer. There is an operator in almost all the government departments.

The trouble is we don't know the number to reach the operator. Well, the telephone directory is very helpful...

(Lot of chatter about the difficulties of finding numbers etc.)

Any other observations or comments?

Mr. Gunawardena

Just the one comment I was reading of a document which talks of the European Governments trying to provide services over interactive TV which may address in part the high cost of telecom services and the lack of accessibility of telecommunication in some of the areas initially. So that might be one area that we could think of as an option to provide some government services on interactive TV.

Q: Well I would like to know something about that in the Ministry of Public Administration we have been trying to communicate through email. We have been sending Public Administration circulars to more than 1000 recipients through email but sometimes this project has been hampered due to the security problem. I mean identification and security. So do we have any solution for this thing in the near future, I mean how can we, identification, regarding digital security, digital signatures?

Chuli de Silva. One question I would like to ask is taking information into the rural areas have you thought of converging with already existing media like the print media, community radio, that is there, you are only thinking of IT-based services but there is a possibility of converging with already existing media and getting the information across to the rural folk. Maybe the much talked about multimedia telecentres that have not come into being except the Kotmale Radio Internet project. But again, in the Kotmale project I think there is a need to assess it properly and learn from that experience because from what I understand sustainability was not built into the project and it ran into some problems. So, if you are implementing any other rural multimedia telecentre projects, I think it is good to assess the Kotmale project to see where it has gone wrong learn from those mistakes and

...

For the e-Governance working group purposes we did not concentrate on pushing the information out, we were concentrating on information where there had to be interaction and one of the discussions which Palitha referred to was using the TV medium where the information coming in, sometimes it's a question of bandwidth that he was referring to. TV could be used to get the information out

Chuli de Silva:

But the radio is the most pervasive, available, cheapest medium of communication at the moment and we have very good community radio stations, that network is also there so why are you not thinking of using that medium. Of course, you have portals and putting up forms and things but if you have one portal where all the forms are there, there is a tendency for that to get blocked but there are other mediums like community access, bureaus attached to libraries and things that could also work. There are other possibilities, the earlier mediums that were used should not be forgotten in the process.

When you talk of citizens services, maybe I'm missing the point, but the citizens services what you're referring to were somebody asks a question and the government answers is that it?

Yes, that also. Like somebody wants information on how to get a passport, whether you need to come to Colombo. You say that you can have a form on the web and you can download it.

So, you're talking of an awareness process

Awareness or whatever it is, you want to talk to somebody in the government, in a government ministry, a rural person wants to communicate with somebody in a government ministry, that could be decentralized or through community radio things that information can be put across and be available at libraries and other information sources using the print media or using paper based methods also. Because at the moment I think you are only focusing on IT and IT based services

Yes, well we could expand the scope but I think we're getting into areas of awareness and getting the message out about e-Governance efforts and where the different stuff that is available and how to access those services which would be part of probably any good e-Governance initiative. But the core issue we have is I don't think we have at the moment the ability to deliver reliability and accessibility in a consistent manner.

The question I wanted to ask was at the start of this seminar one of the points that was made was that we are looking at only a 1% penetration for Internet. Now for citizens services it presumes there is sufficient Internet users or access points where the citizens can go and use the machines and get information or the forms they want. Has the committee addressed this issue?

(Answer if any drowned in laughter)

Just before we close, actually we were pondering whether the e-Governance initiative should wait till the network is completely rolled out and you have the Internet access freely available across the country, but we believe that it is not so we can still get across with interim mediums, interactive TV and what Chuli de Silva was mentioning, Internet based community radio etc. So, these are short-term mediums which we can use to get e-Government across from now on until the network is rolled out and you have call centers or community tele-centers across the country. Thank you very much Mr. Hewagama and the panel members.

## **5. Regulatory, Policy and Legal Aspects:**

The next session is on Regulatory, Policy and Legal Aspects and the working group comprises: Ms. Dhara Wijayatilake, Secretary Ministry of Justice, Mr. Jayantha Fernando who is a member of the CINTEC Law Committee, Ms. Malathy John from the Institute of Policy Studies, (unfortunately she is indisposed today), and we would also like to invite Ms. Therese Perera, The Legal Draftsman, and Ms. Dilrukshi Wickramasinghe, Senior State Counsel to be on the panel. Thank you.

### **Ms. Dhara Wijayatilake:**

At this session we are discussing the regulatory and legal aspects. Jayantha has a pretty long presentation to make but before that may I preface his presentation by pointing out that the law steps in whenever the regulation is required. We have identified and we are working on areas where legal intervention is required. It is taking time because this is a new area into which government has gone in. We have already prepared legislation to deal with cyber-crime. What we are battling with at the moment are all of the evidentiary provisions that need to be included in a package that will make it foolproof because introducing information technology aspects into a legal regime requires also the complimentary aspects of evidence to be looked at very, very carefully and at this point of time we do not have the required regime to deal with cyber-crime and information technology issues in a court of law. Quite apart from introducing whatever legal provision is required we also need to enhance the knowledge of users and those who will be deciding and by that, I mean the Judges. We need to have, in the first place they need to know how to use a computer, Dilrukshi might agree that I mean if you have to decide upon issues they need to know how it works, so that is a big challenge that we have. We in the Ministry of Justice we launched a Website at the end of April and one of the very exciting dreams that I had was to make available on the Website judgements of the Supreme Court as soon as they are pronounced from the Bench. Now one of the biggest challenges that I had is getting the diskettes from the Court to be put on the website because for that I'm totally dependent on the Judges and it requires that they use computers and it requires also that even if they use computers they will give the diskettes to me. So, while we have been successful in getting some of these judgments very fast on the website, and if you access our website you will see some of the most important and most recent judgments without addition, without identifying - you know in the New Law reports, - without all of that, just the bare judgment on the website.

I must also say when we talk of websites I don't know who is responsible for, or whether there is any overall authority responsible for managing websites, I believe not. I had occasion to tell Mr. Ekanayake, I can't remember whether I told you or somebody else, but I discovered a website, a Sri Lankan website which has, it's Government Ministries of Sri Lanka and it has all the information with regard to the Cabinet as it stood in 1999 or so. So, my Minister is not Mr. Lokubandara, it's someone else and the Secretary to the Ministry is given on the site is the one who was there in 1999. I don't think that's good enough. This has nothing to do with the legal regime, let me ask Jayantha to make his presentation.

**Mr. Jayantha Fernando:**

Thank you, Madam. I believe some of the components of the slides Just to give an overview before we proceed to give you a basic outline of the status and the development needs as far as regulatory and legal issues are concerned. I will just outline some of the rationale that needs to be taken into consideration before addressing regulatory and legal aspects.

Now to give a background to the rationale for this area that needs to be considered, we all know that there is a new era of globalization that has taken off in view of the tremendous growth of information and communication technology, that's what we have said here. The development of Information and Communication Technology (ICT) infrastructure has resulted in an unprecedented level of worldwide communication and facilitated information sharing and today we are witnessing what is known as kind of a new era of globalization arising from information-based commerce. So, there is a lot of interaction of information and that has resulted in a new kind of globalization phenomena. As one famous writer, Thomas Freedman has pointed out, 'the new era of globalization "is the integration of capital, technology and information across national borders, in a way that is creating a single global market and, to some degree, a global village."

Now, how is it that some countries have benefited from this new era of globalization? There are several factors. I have identified two of them:

Firstly, we all know that there ought to be a very good, a sound infrastructure and, secondly, of course, there ought to be some kind of a facilitatory legal and regulatory environment.

Now talking about regulation and legal reform very often all people tend to demand reform just because there is some kind of technological development, but one must examine whether it's really necessary. So from an ICT point of view the term regulation itself is a misnomer because the more you have regulations the more there will be stumbling blocks to innovation and the development of technology. So that's why we say here "Laws should only facilitate the use of ICT and thereby provide a conducive environment for ICT based economic growth to take place and that will ensure economic and business development"

Now arising from that we have said here that "*All countries that are intending to be a part of the global business community, recognize that there is an urgent need to create a conducive, facilitatory and reliable Legal and regulatory environment to face challenges posed by the new era of globalization*"

So, what are the steps a country should consider before embarking on a regulatory reform process so as to provide that conducive environment I spoke of earlier? First step is to ask the question is regulatory reform really needed?

Over- regulation can hinder development in this area, if you have too much of regulation in place. If you do a study, comparatively from a global perspective, both from an advanced as well as a developing country perspective as well as newly developed countries, it has been revealed that countries where ICT has flourished the most are those without any comprehensive laws on the Internet.

Now we will explain it as we go along - I'm not saying we should not have laws, but when we introduce laws one must be careful not to impede development activity. So before regulation and law reform is embarked upon the government, the industry, that is all the stakeholders and the public - they play a very critical role - need to determine what would be the purpose and the effect of new laws or regulations. Is it to give government control or to limit the arbitrary government power?

Always governments like to introduce legislation so that they can have effective control of all spheres of activity, but is that what will actually help ICT to take off the ground? So, one must be a little bit mindful of these issues when you introduce legislation. Is legislation being introduced to preserve a monopoly or to promote competition? And finally, is the legislation being introduced to enhance user control over content and privacy issues or to diminish user control? Now that is more in the context of privacy issues. There are whole heaps of privacy, and data protection as we sometimes call it, issues that arise from time to time in all spheres of electronic forms of activity. Now is the type of legislation that is introduced to enhance user control or to diminish user control? So those are some of the factors that can arise when you introduce legislation.

And of course any process of law reform has to be transparent, that's why we say here that "*Regulation and legislative process should be transparent and open*" and of course, citizens and all stakeholders in the field of ICT should have access to all laws, decrees, regulations and judicial rulings including draft laws and regulations in print and through the Internet.

The law reform process should also support Entrepreneurship. That's why we say here that "Business laws and financial systems should allow start-ups to achieve legal status and pursue business without delay and the law should reduce risk or arbitrary government action and provide certainty while allowing flexibility in the market place for the ICT industry to take off ground. The regulatory and legal process should also be mindful of this third factor to ensure that the regulatory bodies which are going to supervise the functions that are, or supervise the subject matter that is included in the legislation, those regulatory bodies should be independent. There should be clear separation between, for instance, the regulator and the carriers and so on and so forth. That is in the case of Telecom area, and opportunities for reform should also be provided so that the entire series or the gamut of the law need not be changed as and when new developments in technology take place. Now, having said all that, or having given a very basic rationale, that one should consider or take into consideration before introducing legislation we will embark now to give an overview or a status of some of the reforms that have taken place or are currently underway.

Now we have identified some of the areas: Electronic Commercial Transactions; Computer Crime; Intellectual Property Laws affecting ICT based products and Domain Name Policy issues and Data Protection Issues. We'll briefly address each one of them one by one.

Basically, when we talk of a law, the primary purpose of a law is to recognize and regulate human conduct, that's a rationale for having any system of law in a country, and most traditional laws that were introduced over a period of time recognized and regulated the manual and mechanical aspects of human conduct. With the development in technology new types of human conduct came into being in the electronic media and the concepts that were introduced earlier to address the manual and the mechanical aspects became inappropriate or insufficient to deal with the new development in human activity.

So that's why we say that most traditional principles have remained unchanged and are affecting the manner in which protection can be accorded to the developments in technology. Now talking of electronic commercial transactions, one of the central legal challenges posed by E-Commerce transactions (ECT) is the ability of contract and commercial law to adapt to the electronic environment. We take the example of a contract here because that is the fundamental basis for all commercial enterprise. When we talk of ECT related issues there are numerous amounts of obstacles which we don't have time to deal with individually in this forum here, but to highlight some of them there are issues which can arise in formation and validity of on line contracts. Actually, as far as formation is concerned, remember, the basic principles of offer and acceptance will prevail even in the electronic environment and the present existing legal framework is adequate to recognize any forms of contract formed even by on line means. When it comes to enforcement, the current legal framework is inadequate or creates stumbling blocks before courts of law when one has to prove a contract entered into on line.

Then there are evidentiary and issues relating to proof and then whole hosts of issues, cross border issues, arising from jurisdiction etc. Basically for those of you who are not from the legal profession, jurisdictional issues can arise if two distinctive parties are in two different countries and if a dispute arises in respect of that transaction as to where the matter should be addressed and where and in which forum and in which country the matter could be adjudicated upon could become an issue if the matter comes into a dispute. Now, as an example, I have outlined here some of the obstacles or impediments that can arise when you have to enforce any form of contract before a court of law.

Basically, it results from what is known as a prevention of false ordinance concept which is prevalent in practically every British Commonwealth country section 18 requires that any contract that is required to be enforced in a court of law has to be in writing and signed by the respective parties. Unless otherwise those ingredients are satisfied, you can never bring a contract for enforcement before a court of law. So, the writing and signature concepts have not been defined broadly in this country and most jurisdictions have defined it narrowly so any electronic or digital signature will not have the effect of law.

Similar provisions exist as far as Bills of Exchange Ordinance, Sale of Goods Ordinance are concerned, that is the reason you have to resort to manual mechanisms of writing a check and signing the check by physical means. There's no way of having an electronic form of a check generated even if you have any form of Internet Banking it will not be valid in view of the restrictions imposed by the Bills of Exchange Ordinance. I have outlined some of the jurisdictional issues but since the forum is not from a legal background I will not endeavor to explain this in greater detail. Basically, there are statutorily imposed limitations that will prevent cross border agreements from being brought before a competent court in the event of a dispute. That is basically what I mean when I say all this here. Then there are further limitations.

When all of us embarked on the research in this subject area one interesting factor we encountered was that the reciprocal enforcement of foreign judgements ordinance in this country only applies in respect of a specified number of countries referred to in the schedule, so even as far as reciprocal enforcement, even if you have a valid judgement assuming all other areas of the law are accomplished, when it comes to enforcement we have a further difficulty because the enforcement of foreign judgements ordinance has not been touched for the last 40 odd years.

So, what are the requirements needed to create a conducive environment for all types of electronic transactions? The primary requirement therefore in view of all those obstacles, is to build confidence in the market place by ensuring that all forms of electronic transactions are recognized legally. So, in embarking upon any law reform exercise what are the factors that ought to be taken into consideration? Some of these have been formally, not formally adopted in the sense they were discussed at the legal and judicial reform project forum and there is a report that has been finalized in this regard which was tabled before the Law Commission some time last year and all these factors were outlined in that, so taking off from there, basically what we have said here is that Legislation should be technology neutral and should allow the market forces to develop electronic signature standards.

Now as far as that second point is concerned the Indian government proceeded to introduce the Indian Information Technology Act in the Year 2000 and they specified the form of technology that would be given legal recognition. That is creating lot of impediments in that country right now and that's why we, taking a lesson from that, we keep saying that the market forces should be allowed to develop electronic signature standards, all new technology forms should be given legal effect to as and when it occurs. So, specifying any form of technology in a given legislation addressing this factor should be carefully thought of before legislating in this subject area. Now a third factor here is to permit the contracting parties to decide on the form of technology they will use when entering into an electronic form of contract. Now this is a very important issue because this principle basically arises from the freedom that all of you have to enter into a contract itself. Very often the fundamental basis for entering into a contract and the fundamental right that you have to determine the law or the competent court that is going to determine that contract is not fully appreciated when you introduce this kind of legislation. So that's why we say that the contracting parties themselves should be allowed in the same way to decide on the electronic signature standards that they are going to use when they enter into any form of contract. Then talking of some of the security issues. We all know that there are Certification Authorities and so on and so forth which are empowered to have some kind of supervisory role when it comes to the issuance of electronic certificates and so on and so forth.

Now legislation that should be introduced must not have a mandatory licensing procedure and that's why we say licensing of Certification Authorities should be voluntary. Then electronic signatures created by electronic agents should be recognized, then finally we say that the recognition of electronic signatures from other countries should be given effect to.

Very often some of the countries that have introduced legislation in this regard have failed to give effect to electronic signatures from other countries, so that has been taken into consideration by our forum, and during the course of the discussion of the reform process the UNICITRAL model on electronic commerce was taken into consideration and also the uniform rules of electronic signatures which was enacted or brought

into effect last year has also been taken into consideration when examining the area of the regulation of Certification Authorities and the use of electronic signatures. I have given in my third item here, we have outlined some of the initiatives that have taken place so far.

The CINTEC Law Committee examined this area some years back and thereafter the activities were handled by the Legal and Judicial Reforms Project of the Ministry of Justice and there ought to be an open dialogue on some of these issues before final legislation is introduced.

Talking of Intellectual Property, moving on to a slightly different subject area. Some of you are quite familiar that an amending piece of legislation was introduced in June 2000 by which computer software was included as a protected item under the copyright regime so therefore all components of software whether it be the object code or source code form will be protected under the copyright regime and that basically complies with Article 10 of the TRIPS Agreement. Interestingly the very first case subsequent to the enactment of this legislation is now before the Commercial High Court. It is interesting to see how the matter will be determined, but at least you have the assurance that the learned High Court Judge having examined the balance of evidence gave a permanent injunction in respect of a copyright infringement arising from a software piracy source code. So, the matters are now before courts and you can be satisfied that some form of legislation has been introduced.

As regards computer crime, it is a well-known fact that the existing laws are inadequate and inappropriate to deal with computer related crime. Draft laws to address crimes directed at computers and crimes utilizing computers are presently before the Ministry of Justice and they are on their way to Parliament.

Talking of domain names, there were a lot of questions raised earlier. Basically, what is important remember is that there has been a lot of stringent kind of guide lines that were in place for some time which were liberalized with effect from the 1<sup>st</sup> of May this year. The new guidelines are available if you go to the website [www.nic.lk](http://www.nic.lk) <<http://www.nic.lk/>> you could get the new guidelines and Dr Gihan Dias is also here to clarify matters.

Basically, the new policy that was introduced from the 1<sup>st</sup> of May 2002 creates two categories of second level domains under both the open and the closed divisions. Under the open second level domain categories we have now introduced .com.lk, and a series of second levels and any categories that can come for example any commercial enterprise could apply for a .com, .lk and any other NGO or organization can go for their respective groups the hotels can go into that category and the fees will be less than the first level under the country code first level, top level domain name and registration will also be entertained via agents including ISPs. Now, some of the restrictions that are there will remain, read through them in that website but certain restrictions will be relaxed as far as the second levels are concerned, but under the closed categories, under the closed second level domains, .gov.lk; .sch.lk; .net.lk and .int.lk the registration will be restricted to the categories under which application is made for example, only government agencies will be entitled to apply for a .gov.lk, a school certified as a registered school by the Ministry of Education will be registered as a.sch.lk and a network, an ISP or whatever, a licensed ISP will be registered as a .net .lk and so on and so forth, and international organizations will be registered under .int.lk So that is basically what I would like to say here.

Finally, considering some of the other issues, we are also mindful of the obstacles and impediments arising from the European Union guidelines requiring European Community countries to ensure certain minimum levels of protection for data and information before such information is shared with other countries. So that prevents companies in the European Community from sharing data and information from countries such as Sri Lanka, India and so on and so forth. But an issue has arisen as to whether we should have stringent legislation or have a voluntary set of guidelines similar to that which the United States brought in through the safe harbor principles. Under the safe harbor principles, the companies that want to give assurance to the European Community can set down some of the privacy or the protection guidelines that they follow, and those guidelines have been given by the US Department of Commerce, and that is a kind of a voluntary set of guidelines. So as to whether we ought to have that type of voluntary set of guidelines or whether we ought to have legislation itself with supervisory control to regulate this area is a matter that has to be decided by the policymakers. Thank you.

**Discussion:**

Ms. Dhara Wijayatilake:

Thank you, Jayantha. You can address any questions that you have to Jayantha. Before that may I just outline to you on the legal and regulatory regime, what efforts are being made by government at this point of time to introduce legislation and regulation. The Electronic transaction draft is being prepared and there are several stages in the preparation of legislation and I think you need to appreciate those stages. First is the identification of the substantive issues and policies that go into it; next is to put it into legal language which is very, very challenging because these are going to be interpreted and very often we are also looking at who is going to interpret what kind of knowledge do they have and how will it be understood. We are not doing scissors and paste work in that we are not just taking legislation from other countries and just using it here. In fact, for the cyber-crime legislation we have our own autonomous predicated offences which we have identified and we have discussed it quite extensively. We then need to ask the different stakeholders, after preparing the skeleton legislation, we have to resubmit it to stakeholders and get inputs from those who know the substantive policy quite apart from the law. Then we need to be very focused on evidentiary issues because information technology is an area which poses huge challenges with regard to admissibility of evidence and we also need to be mindful of the fact that the evidence ordinance has its own rules. So, this is the framework within which we operate.

We have the Electronic Transactions Bill which is being prepared, the Computer Crimes Bill will be going to Parliament, no sorry, cabinet, in a week or two. Data Protection draft is being prepared. The Intellectual Property aspects there is no further action being taken at this point of time by us. So those are the Laws that we are currently working on. If you have any questions, please feel free to ask.

Q: Clarification required on classification of information and issues like that?

A: In relation to what area?

Q: Basically, because if you think about it we are leading to an information economy, whatever information we have in government and business and all that, so that will have value to assess them and classify them, in time to come declassify them, such issues?

A: No, no there's nothing that has been put in place, but basically there is a right as you know under the present framework, both under the Constitution and under whatever the legal system that we have there is a right to the freedom of information like almost although we don't have a Freedom of Information Act as such.

Q: Freedom can be there but at the same time there should be National Security Information, like National Sensitive information, like different varieties of information and to protect such information.

A: There is legislation at this point of time, there is legislation which the media feels is not adequate in terms of giving effect to the policy of the government to make information freely available. Now this is being addressed as an issue that is not linked with technology issues. A new Freedom of Information Law is being prepared and that will permit access to a lot of kinds of information, but this is not being linked with any technology issues, that's the Freedom from Information Law which is going to be enacted distinct from any of these efforts. You're talking of security

Q: To clarify - when it comes to information and news - when it comes to information we use the word news not information. But I have seen, in most journalists they ask for information but at the same time government has the right to protect some information ..

I am asking whether you have taken any steps on that issue, not in the context of IT.

A: This is what the Freedom from Information Law will address, it's not linked to technology issues but this is where certain, the law will recognize the right of an individual to make application for and receive information which is recognized by that law as being permissible to be released. Now this is information as opposed to news, news is what you, they get the information and make news out of it. Here a legal right will be recognized and there again the law will say what you do not have a right to and there the policy will be decided - What can be given as information and what the government has the right to retain which will not be permitted to be released. Any other question?

Q: I want to find out from someone if somebody comes to my website and tries to hack my website. If it is another country, personally Mr. Fernando said that most of the countries that have Internet access like US and Japan, and they have almost 50% Internet penetration. They have laws, they have books and you can go to a bookstore and buy a book on Internet law. I would like to hear that for example if someone comes to hack my website, how do I prosecute him? Do you have a law to fine him in this country? For example, if it's a local person.

A: Can you repeat that? Is your question whether if your computer is hacked..

Q: If somebody comes and hacks my website, how do I prosecute him?  
(Why don't you tell him how he makes a complaint and so on?)

Q: If somebody hacks my website is there a process for that?

A: The first step would be you should go to the Police station and make a complaint. When that complaint is made, under the new draft Computer Crimes Act..(laughter.). under the new draft Computer Act there are provisions for police officers, not all, certain police officers who have got authority to investigate into that complaint and find out who the culprit is and when the culprit is found, under the provisions ..

Q: Do we have a different bureau for that within the Police department?

A: Yes, there will be certain police officers, not all officers, specialized officers will be trained for that, those officers will bring the culprit before a court of law. The draft Computer Crimes Act will provide sufficient offences to bring your hacker before a court of law where you can give evidence and support your case.

There is also provision in the draft Computer Crimes Bill for obtaining the services of what we have termed Experts now I can see Mr. R.B. Ekanayake from the Commercial Bank here, he was a party to that Committee that prepared this legislation and actually adapted this concept. Unlike other offences we accept that computer crime investigations need specialized skills and special knowledge and we do appreciate that a lot of institutions that have ... (end of tape)

panel of experts who will be called upon to assist the police officers in the investigation, and the law prohibits a police officer to access a computer unless he also has the same expertise as those, as the expertise that is required of the experts. Only such persons are allowed to access a computer to obtain the required evidence for the investigation.

Excuse me do you have regulations to protect individual information, for example, if somebody comes to hack my website I can find out his IP address, so I call my ISP, whoever has that IP address I can find out the ISP. So, if I give my ISP that IP address, will that ISP give all the information of that person? Do you have a regulation to protect that situation is if it is a developed country you cannot get that information unless Police ask for that information? How is our regulation in this country?

Under the Computer Crimes Act, yes we have given, addressed that particular issue and special provisions have been made if the police or the expertise do go into and get the information, that they should not divulge it and if they do divulge it, it will be a criminal offence once again against them but as far as the rest of it, if it is not, if it does not fall under the Computer Crimes Act as of now, as of today there isn't but we are in the process of developing the drafts on data protection.

The Telecommunication Act also has similar provisions for eaves-dropping and other acts of that nature and other acts of that nature where the police can anyway go before the MC and file action against a particular person. I think the draft provisions that have been introduced are similar to those that are contained in the Telecommunications Act.

This question of the validity of electronic transactions on the one hand from what I understood, please correct me if I am wrong, Mr. Jayantha Fernando's presentation on the one hand said that the legal establishment is prepared to accept all the provisions of standardization of digital signatures, certification authorities and so on and all those aspects from the technological side but contrary to that the existing jurisdictional framework does not support any of these things because of the provisions for writing and signatures that have to be done on by documents and so on. Now is there a total mutually exclusive situation here?

No, in the sense the entire gamut of issues that you raised would be handled or included in one piece of legislation that will be introduced which will cover the entire gamut of issues that you addressed. So, the area of electronic transactions, the draft Electronic Transactions Bill will address issues relating to electronic signatures and certification authority related issues and also give validity and overcome the issues relating to writing and signature requirements.

I'd like to add some information onto the previous question addressed by the gentleman onto my right about hacking on to a website. Now I think we need to set up some sort of a training center, specialized training center for this because if you are to get an IP address, I don't think that's a good way of tracing a hacker because I've got in depth experience into this particular area, because I worked with some of the biggest names in the industry like Dr Solomon and I myself am a virus programmer and I worked for 3 I worked as a virus programmer separately in order to identify anti-virus programs. This was way back in 95 and then to have high security end programs you have to become a hacker to know what it is also. So basically, when you go to look at it, it takes about 3 to 4 years of additional programming and various other technical knowledge that is required in order to get hold of a hacker or to identify a hacker just by an IP I don't think it's possible. That's one main thing I think we should look at having specialized training for Internet Cops or whatever you may want to call it. That's one particular area, the other thing is when we look at the legislation that's going to be passed, like the lady put forward earlier, on the information I think you have to be more free on the IT based information because the new globalization trend takes place because of the information being moving in fast, you get it before your competition, so if you are to survive the game of information I think you need to relax certain things on that and have it in the legislation I think you have to address IT as a specialized area because that is very important and that has been overlooked in the past. Thank you.

From a policy discussion standpoint, there are many more obstacles, priority to the marketing side .....  
e-Crimes thieves being created so that we have some kind of resource

Mr. Wickramaratne, I think he's asking the question of you.

A: I'm not sure that I have an answer, but what we are trying to do is to create an enabling environment and if the enabling environment requires a certain legal framework I think that question should be looked in balance, then we will have to enact the laws to that extent and the idea is not to regulate, as Jayantha stated in his presentation, so I think that's the balance that we are looking for.

I think it is good in a way that we did not rush into legislation because we have learned from the mistakes of other countries and the legislative effort that is currently underway will only be facilitatory, that assurance can be given from the point of view of the reform efforts.

Mr. Ekanayake?

Anyway since the questions have been asked where the regulation versus need for legislation is looked after for a long time of years even in Sri Lanka we are talking about 20 years of using of computers and what we are intending to put it is not to regulate but to help the industry if they fall into trouble what action should be taken and what are the benefits that it can derive from the law other than having empty laws where you go to the courts and the person who has committed the crime escapes because since there is no law. So, what the law tries to do now is not to regulate but to prevent anybody who is on the wrong side or a crime has been committed there must be enough legislation to catch the person. Now that type of decisions has been taken in drafting the law and I'm sure that is needed currently because we have been there at last 20 years now.

Q: My name is Sarath Fernando. I have 2 questions regarding corporate Internet access users. Most of the large Corporates now provide access, On line access to most of their employees. One is if an employee during the office hours or using the official computers go on a cyber-crime type of activities, is the company liable? Second one is regarding the email policies. Now, most of the companies have given email access to the employees but they also retain access to open their mailboxes and go through the contents if it is necessary. Is there anything preventing this on the privacy side, employer/ employee relationship?

A: I think as far as your first question is concerned, under the present framework there is nothing that prevents a company from doing what you just mentioned, right?

Your first question was whether an employee who commits a crime makes only him liable the company doesn't assume vicarious responsibility for what he does. So as long as the company can establish that they did not authorize this, that it was unauthorized access and it was not within the scope of his legitimate business then just like in any other crime they will not be held liable.

In Sri Lanka actually for any crime you are personally liable and not the company. As far as your second question is concerned, throughout there have been many cases in the Western world and right now in Sri Lanka I mean most of the Sri Lankan courts will be persuaded by those laws, as far as the email is concerned your employer will have a right to open your email, that's the bottom line. There's a whole lot of cases and it's a whole like a lecture itself, but the bottom line is your employer can open it up.

Q: But that doesn't seem to make sense in that respect doesn't that violate any privacy law?

A: Most countries have this. It is a question of privacy, it's a question of balancing the employers right as opposed to privacy right of an individual. In the US where the privacy laws are more prevalent than ours, at least in 10 different cases the courts have unanimously basically adopted in each and every case that the employer has the right to open the emails of the employee because it has been given for the businesses purpose and therefore, they have the right to do it. It might be comforting for you to know that we are not legislating on it.

Actually, I'd like to add to that. are we referring to the company as the Administrator who is handling the mailbox or are we referring to the company as a whole with authorization? Your question is if an administrator gets into a company email system without the company's authority, is that what your question is?

Yes

A: That's a crime, there's no privacy here. that's crime.

Q: How do you differentiate?

A: It is specifically dealt with under unauthorized access under the draft Computer Crimes Act

Q: I don't think you've got my question, because the administrator himself is company when it comes to the Internet

Actually, they are exceeding the level of authority that has been given to them. Any other questions?

Q: Mr. Rohan Wijeratne. May I rephrase that question? I've an email account at SLT. I'm on dial-up access, my mail comes to the system there's a server, what if the administrator reads my mail?

A: That would revolve around the agreement that you have with them. As far as the Computer Crime Law is concerned, it says "Unauthorized Access", so you need to define *unauthorized* and see whether this was unauthorized. That would depend on the individual agreement that you have, but there are sometimes written and unwritten agreements.

Actually, answering to Mr. Wijeratne's question specifically I'm of the view that that can be that that is kind of dealt with under the present Telecommunications Act under which even interception of any kind of information irrespective of the media, right, could be an offence. So, under the presently prevalent Telecommunications Act that might be an offence. Kolitha, you have anything to add to that?

Mr. Kolitha Dharmawardena:

Not really on this question because I believe some of it will be covered by the Computer Crimes Act but if a person has the authority, if a person has the authority to access .....

Now that I have stood up, may I take the opportunity to make a few suggestions to the committee? One suggestion is that you all have contributed tremendously to the Evidence (Special Provisions) Act No. 14 of 1995, but within just 2 or 3 years we realized that it was inadequate in comparison to modern commerce and social activity. We have been making suggestions all along that the Law of Evidence should be amended and to what extent was the question. You know that there is a problem with the Computer Crimes Act because certainly we can have substantive law but unless as you pointed out, the Law of Evidence supports that substantive law we cannot establish these crimes in a court of law.

What I do suggest is, we've seen this problem and made some recommendations, of course in general, not in any detail, but I do think it is time for this country to actually review the entire Law of Evidence. My personal view is that the Law of Evidence though it has stood the test of time for 100 years, it is no longer relevant or it is indeed an inhibition to the social and commercial activity of the present day. I think, as in other countries, the emphasis should shift from admissibility to relevancy and all the rules of admissibility should actually be done away with. The second suggestion is with regard to computer crime itself. Now you've got the Penal Code regime for offences against property and we now have a Computer Crimes draft but there is something in between that we have really not examined in any great detail, and I would like to term it as commercial fraud. There are a number of areas which have not been dealt with either under the penal Code or the Computer crimes Act, and the model that I am looking at, the beginning of this model is the 1967 Act of England would be an ideal model to look at because it actually circumvented or went above, or went over the Common Law offences in England on which our Penal Code is based. So, I would think that's an area that should be considered and probably Dhara, Jayantha you will have a copy of the draft, the report I made I have given a 15-page report on this and I think this committee should look at it seriously because commercial fraud is a problem.

Ms. Dhara Wijayatilake:

Thank you Kolitha. In fact with regard to evidence, I don't think we'll bore this audience with the technicalities but we've been battling with the Solicitor-General a lot on the evidentiary issues and we are going to deal with the evidentiary amendments, amendments to the Evidence Ordinance or a new Special Provisions Act, we're working on it, we're very focused on the need for it. We are going to go ahead with the cyber-crimes law because we don't want to delay it but the cyber-crime law without the evidence supportive provisions, amendments to the Evidence Ordinance is of no value because admissibility and relevance are all vital issues so we are dealing with that as well. And as regards the in between commercial fraud crimes, Kolitha, we look forward to having you, even on the evidence I was waiting for your input, I never got it! Now I'm waiting for your, we will work on commercial fraud issues. Thank you very much and we look forward to your support. I believe our time is up so may I wind up this session, and thank you all very much.

## 6. **Summing up - World Bank Mission**

The next event on this program that will be the Summing up of the World Bank Mission and I would like to invite the World Bank Mission members to come up to the head table, Mr. Nagy Hanna, Ms. Shirley Tessler, Mr. Avron Barr. Mr. S Krishna, Mr. Naresh Duraiswamy and Mr. Suresh Peiris. Thank you.

### **Mr. Nagy Hanna -**

Thank you very much for inviting us again, it was definitely an important event for us and a learning opportunity and we were actively listening and taking notes and I'm sure that this will very much help also our input and our recommendations to the Ministry and to the government. I would like to make a few observations. I cannot sum up fully the debate it was a very stimulating one and there was a lot of give and take and we were excited by that. So, I will not sum up that I will just make a few observations which very much comes on or builds on what we have heard.

First, I think this is a very important opportunity for Sri Lanka, the whole revolution in ICT is an, presents an important **window of opportunity**. It also requires a sense of urgency because sometimes these windows of opportunity do not stay for too long, and also because it is changing very quickly the rules of the game for competition, for integration with the rest of the world, for preparing for an information society, for a knowledge society and we see some of this transformation in the creation of all kinds of global supply chains, competing in ways that we would not have thought of maybe 5 or 10 years ago. The creation of new services, globalization of services, India few years ago we did not have very much of IT services, today something like 11% of India's export is coming from the software services. So, both seeing it as an opportunity, as well as a threat or urgent, something that requires urgent response would be my first point and I think I could see that from some of the meetings we have had as well as some of the observations we have had today. I was concerned when we were invited for this workshop that we will only hear how to promote IT as an industry, although that is very important, I was concerned that this will not be seen more broadly as a tool for modernizing the economy, modernizing government, transforming the whole economy and society. I was encouraged to hear some of that today, although I think perhaps that vision needs to be much more developed. So, we do not see it just as a tool for exporting, as an industry in itself, but also as a tool for transforming all types of services, all types of industries as well as the government services itself too. And also, to be able to see it as an enabling infrastructure for the delivery of basic services for health, for education, for social services, for connecting people, for connecting communities for empowering individuals and communities of all kinds.

The second I would like to make is, given the vision that's been developed by the government, the private sector and civil society today in Sri Lanka, it's a very ambitious vision the worst thing that can happen is that this vision is then given to one Ministry or one individual and said now you are responsible for it, Eran or Minister Milinda Moragoda, you are now responsible to do everything and we are, some kind of a magic power will allow all these changes to happen.

It is not the responsibility of a single Ministry. It requires leadership, it does require a leading Ministry, it requires the highest level of government to commit it and to have what's called e-Leadership that can help enable environment, shaping the enabling environment and transforming all kinds of, enabling other agents to transform their way of doing business. But it does require **commitment of all other Ministries**, it requires Awareness by all the user Ministries, it requires many leaders at different levels, it requires management of these institutions to take the lead and not to see information technology or management information systems or MIS departments as something specialized or in the corner but as an enabling tool for their business, for their development strategy, for their business strategy for the way the government is going to become more responsive and more open and more accountable and more able to deliver services. That brings me to the third point. There are hard choices to be made.

The government doesn't have all the resources to do all these things. Most of it has to be mobilized from the private sector, from civil society as well as from the citizens at large. And so, the government in consultation with the rest of the stakeholders would have to make hard choices about where to put these resources. You have to prioritize what areas you should start with. These few resources focus your mind and this happens also in the private sector, you know, when you have limited resources, and so you need to make very clear sense of priorities and not to be overwhelmed by the amount of needs and the claims that many would like to have. And to be able to do that, and to stretch your resources there is a need for **partnership**, with the private sector, in partnership with NGOs there is a need of partnership with multinationals and whatever partnership you could have also with the donors and multilateral organizations like the World bank and the ADB. These partnerships together with the enabling environment that the government can provide can a long way but essentially, I don't think the private sector should expect that the government will have unlimited amount of resources for this area.

It's most important role here is that the government provide a signal that they are committed to support this industry as well as support these capabilities for transforming the government and the society. That suggests that the **role of government**, which is my number four point, is to focus mostly on the enabling environment establishing the rules of the game and less on providing fiscal or additional resources in terms of incentives to the private sector to invest in IT or whatever. I doubt if this is, there is a long way to go in this area, but there is one area where I certainly find it striking is that the government is making taxes or VAT or whatever on educational institutions. This is one area where it would be a candidate perhaps for eliminating. I know that there are many other priorities for government resources but this is one area where I would think the importance for future generations and for investment in human resources this would be one candidate for perhaps government not looking at it as a source of revenue.

So, the role of the government both as an enabler as well as a user. Many models of that, Singapore is always cited but we have here the model of Andhra Pradesh and there are many other countries and states even within India that have looked at this as a way also of stimulating the domestic market and presenting a set of standards for how to use ICT as a user and here the administration effect of some key strategic applications like Tradenet like integrated financial management systems or some even more direct applications that touch the common man like land registration or many of the other examples particularly done in India would be very useful to use to initiate the process.

The next point I would like to make is that ***you will never have a blue print or a perfect plan.*** This is an area that is moving very fast, changing very fast and the best way to do it is to go, to implement things as soon as possible, make it happen, take few initiatives that you agree on are very important and go ahead with them. I was pleased to hear that Eran's point about the fact that we are not here to stop things until we have the perfect plan that we would build on also things that are going on. I think that is the right spirit is how to establish mechanisms to empower and enable various actors to take initiative, to demonstrate ways of doing business in a new way, for NGOs to do that, for communities for universities, for various actors...(end of tape) . my point and my appeal are, that lets start in few key areas, let's get the ball rolling, let's get success stories, let's cheer success stories, let's celebrate success and use this to empower others and energize others and again success stories in other countries can also be inspiring in this context.

**Electronic government:** There was a lot of interesting discussion on that and I think one of two key lessons that we can take from this discussion as well as from other countries is that it is not about websites or Information Technology, it is about people who are going to have new roles retooled through training and through new processes to do their jobs better to be more responsive, to be themselves also more empowered, whether they are civil servants at the local level or at the national level this is about empowering them and at the same time making them more accountable by transforming processes. So the thing I would take from this is because it is about process of transformation it requires heavy investment in People, not in machines and Intranet and Extranet and so on only, it's ultimately about enabling these people with new skills and new training to do things. And I found in some countries where there are all kinds of problems with the civil service and corruption and slow moving things and so on it's interesting sometimes that working in a more comprehensive way and introducing information technology but also with a sense of investment in people at the same time can be quite energizing and liberating and I've seen cases where they became like major islands of high performance in otherwise relatively slow moving bureaucracies. And once you build, some of these examples can be encouraging to the rest. So again the e-Government is ultimately not about the e, it's still about the leadership in management, in government to use ICT more as a tool for change and I hope that is how it would be taken up this way in Sri Lanka and again I would emphasize that this is not just a role for the government to play, the private sector and the civil society also has to indicate which areas they would like to see more improvement in performance and services, areas that can make life easier for the common person and that can empower SMEs. In some countries, in developing countries, as much as 20% of the revenues of small medium enterprises goes deal with government, -----transactions, registration requirements and so on. I'm not sure how it is here, but at least that is a common problem. So, anything that can help reduce the transaction burden with government, whether it is for citizens or SMEs would be extremely important. So again, the private sector and civil society should have their voice included in the transformation that e-Government can bring about and the priority areas where it can be applied.

Although the talk was a lot more about **ICT education**, technical education and so on and I think that's extremely important since after all this is the raw material that will allow the ICT industry to compete, particularly in the services side. We should not again see this as human resources for the IT industry alone. In fact a lot of the investment will have to happen more at the user side, educating users, civil servants, teachers, managers, leaders, in various aspects of what IT is about how to use it as an effective tool for transforming the way you do business or transforming the way the government delivers services and redesigns its processes.

So, from whatever I heard, I would like to see that in the plan we put a lot of emphasis on again investing not only in IT education but also in the user side of IT including civil service and incentives also for the private sector in this area. And that's where also it would be very useful that the regulations that may be inhibiting either the public sector universities or private institutes be examined so that educational institutions both in the public and private sector are given enough leeway and dynamism to be able to adjust to a very fast changing climate, fast changing needs.

Again, the **role of the private sector** particularly industry, in providing an input to universities about what are their, the curriculum about perhaps contributing to the teaching, perhaps encouraging students to go for some of their training while they're still studying and so on is extremely important to make education in IT most relevant to them.

Another point that we touched on, particularly in the debate on Telecom and later in issues of access under e-Government, is rural access. Sri Lanka has a lot of tradition of being, has more equitable society, a society that has invested heavily in human resources, it's one of the best in South Asia indicators in social indicators, and I'm sure that will be reflected in the issues of an Information Society. So questions related to access of information to the rural areas to empower rural communities, tele-centers, to empower NGOs, to build capacities in the rural areas, using also the traditional media also radio and TV is extremely important and perhaps we did not put as much attention to that because this is not just about, again, the IT industry, it is also about developing and creating an Information Society using whatever forms of media and it's about having relevant content that is needed for a small entrepreneurs, for farmers, for all other stakeholders. So, all means that can be thought of to achieve more universal access and so on would be extremely important.

That brings me to an earlier topic we have talked about **Telecommunication**. The only thing I could say on that is that this has to be very much on the front burner of the national strategy for ICT because from whatever we have heard today as well as our earlier discussions and interviews with various stakeholders there is a concern that telecommunication today is a barrier or a serious constraint particularly in terms of affordability both for the business community but even more importantly for schools and civil servants and that I think is quite important that we, and here I mean collectively we, because it is essentially you, to the extent that the donor community could help, obviously that is also important, but it is really ultimately that Telecom reform is due and Telecom should become an enabler rather than a barrier to your vision. Finally, the legal and regulatory reform, I think what we heard today is encouraging particularly that it is not being seen as an end in itself but is being seen as an enabler. There is no intention or tendency to over regulation and I would repeat the earlier comment I made about going ahead with implementation I would say the same thing here, don't wait for the perfect draft law these get revised over times, practice sometimes, I saw for example a lot of eProcurement introduced in developing countries before you were able to get eSignature and all the other enabling things and then through practice they were able to broaden that with a more of a formal e-Laws of some sort or another or e-Government laws or eCommerce or payment laws and so on. So again, it's a lengthy process, the sooner you start on it the better and the laws should not be seen as a panacea, you can have them all on the books but if you don't have practice they don't go very far.

It's better to start and demonstrate that it can make a difference and then look for the enabling laws that can further you along with the process. I will end by saying that this was an excellent workshop and perhaps a good demonstration of the need for bringing together government, private sector and civil society to help share a vision, to help set priorities and to help improve practice. We're delighted to be here with you today and we wish you the best of luck.

Thank you very much Mr. Nagy Hanna for that very precise summation and I should like to thank all the members of the World bank team for participating,

**Hon. Minister of Economic Reforms, Science and Technology:**

Gentlemen, I deliberately asked them to place me at the end of the discussion because I would like to start with some symbolic gesture in that regard. Very frankly, I don't think politicians can drive this process on their own. In fact, when ----- was appointed IT Minister and Communications Minister in India many wondered, -few years ago by the BJP government that was the first time an IT Ministry was set up, - many wondered whether it was a good thing or a bad thing. The Indian IT industry had done quite well without having an IT Minister. In Sri Lanka, especially in the last 6 months what I have found out is that government has been more of a barrier to moving this process forward than a facilitator and catalyst and to some extent what I see my role is one of being more a catalyst. As the champion to push the process forward is concerned, the Prime Minister himself has undertaken to do that. In fact when we construct new architecture, the structure for this sector we will ensure that the Prime Minister's Office will play a lead role in it because it is very important if you look at countries that have succeeded the Chief Executive himself or herself has taken the lead, so I see my role as being one of a catalyst with the Prime Minister pushing the process forward.

But having said that, my 6 months in government has been frustrating when it comes to getting things done, I have to admit, and therefore I am convinced that the less government has to do with this the better it is. If I were to look at priorities I think my first priority would be to find out how we get out of many areas and allow people with a passion, with a vision and a sense of direction, all of which many governments and governments by nature don't have, to go ahead. You discussed I believe, I was not here, about the telecom sector. Both the Prime Minister, the Minister for Telecommunications and myself, we have spent a lot of time on this, and I think in the coming months you will see some major deregulation efforts. In fact, I myself have had some discussions with NTT, with some of the other players here, the Prime Minister has had, and I think you will see a difference. Now whether that will translate itself into cheaper prices, costs, telecom costs, well we've got to push that because a strong regulatory network is required, equally when you look at countries like Malaysia, they did actually subsidize telecom in many ways as far as Internet access is concerned but unfortunately we may not have the resources to do it in that very form. And so there are challenges in that regard but you will probably see in the coming months a focus on some major deregulation efforts in Telecom and an effort also to bring in a strong regulator where there will be an effort to try to look after the consumer interests more and the interests of the IT sector more because in the Prime Minister's view and mine and the Telecom Minister's view this sector is the priority because as I think many of you had mentioned earlier in the morning also I'm told that Telecom is a critical bottleneck and we accept that so we hope that can be moved ahead with.

In addition, I invited actually when I met Mr. Wolfensen the World Bank President, I was very keen that we try to do something with the World Bank in this sector. Mr. Mohamed Muhsin as you know the Vice President in charge of IT at the Bank is a Sri Lankan as well, so Sri Lankans seem to do very well everywhere they go but here it seems in many ways, I think we need to get them back in some way, I know many of you here are interested in making a difference and putting your energy and passion and skills into this. I see our role as empowering you to get ahead that is what I think we need to do and I think some of your comments that were made are valid because I don't see our Ministry as trying to control things, I think that's where we make the, because many of us like control and that is not how in my understanding at least information technology should work.

We should empower and we should act as a catalyst and that's the role I see us doing and us trying to do that to the best of our ability. Within government the constraints generally tend to be the bureaucracy itself. I mean if you look at our, my secretary always comes and tells me, he will be amused, but on every issue the number of bureaucratic hurdles one has to run. The other day I went and complained to the Prime Minister that at this rate I can't do anything, then he said look at the ARs and FRs and tell me how to revise them. So that challenge I took and I actually intend to look at that because unless we really look at these bureaucratic impediments we can't get ahead. I mean you complain, now for example, if you look at in the public sector the procurement procedure, I think the World Bank gentlemen will tell you in Sri Lanka here our procurement process takes as long as the project life itself. It is actually a documented fact, it is a complaint that has been made by the donor community.

We go abroad and ask for foreign investment, but we have billions of dollars of unutilized, foreign aid rather, billions of dollars of unutilized aid stuck owing to bureaucratic bottlenecks or procedural bottlenecks. So the issue is very much here at home, we have to change our mindset, the way we look at it. We have made matter worse by politicizing everything. Each government that comes in spends half its time trying to find fault with the previous one and so on and so on and that's how it moves forward. What does that really mean? The bureaucracy is frightened to take decisions because they know that OK a few months down the road if I'm chucked out the new man who comes in will maybe start setting up Commissions and finding out what went wrong. So therefore, the bureaucracy's main priority, understandably, is basically a sense of inaction. So again, when I complained about this matter, PM said fine, you find out what are the impediments, let us remove them. So, these are some of the things we are looking at, I mean how do we try to, it is starting from scratch to build institutions, to create a culture, to create a mindset. Now that on one side is a threat, but in my view, it is also an opportunity because in the world, in the new world, the new economy, sometimes it is easier to build with nothing there than to inherit legacies. I think those of you who know the business know that. So therefore, I would like us to see it as an opportunity, but equally realize that we as a government cannot do it alone, there is no way. It has to be a community effort, it has to be a national effort. So therefore if we can work together and we can empower as many people as possible to contribute to this process, we will make mistakes, we have to make mistakes, that is I think the way we have to move forward, and if you are wanting a vision I think that is how we should go and that's how I see our role in this context. Actually, I was in India with the PM the last week or so. I went ahead of him and when I went there, one of the places I visited on the way for another purpose was the Police Training Academy, the IPS Police Training Academy at Hyderabad. I was really impressed. This is the Indian Police Service, the National Police Service. Their classrooms are all fully IT orientated, they've got their big screen there, they've got their GIS systems

connected and each student has his little terminal there, and each police officer in India, IPS Officer, has an email account and an email address, and you go into the website you can basically get a list of who graduated when, what happened, what he's doing now, if there are problems you can come back to the Academy via email to solve them and to me I thought it was amazing and in fact something that we're trying to do, again it's part of institution building I would think, is in future ASPs who are taken into the Officer cadre in the Police we will send them for training there the same course that is done, it's an 11 month program at the Academy so that at least we will try to make use of a facility like that the Indian government has agreed to do that.

Similarly, I visited another agency which is called the Cyber Security Agency which looks at some of the issues we were talking about, hacking for example and techniques. And here we have it in our neighborhood also. And India, the other thing I find about India is the access, I mean somebody talked of Internet penetration here, in India even any little business has an email address, it is quite amazing. Cyber cafes have proliferated, I mean people are, email has become part of one's life. The new economy has really entered the bloodstream of India. Of course, there's a long way to go in a way because of the size of the country. And I was, I got there the new Nasscom McKynsey report and in that they have focused on what they would be looking to the future and this I think is one thing I find useful in the Indian context is the partnership that exists between industry and the government itself. I know here you have built, there are institutions that have been created, but I feel more needs to be done in that regard because if you look at this report I think 90% of it is what the private sector will be doing and then the back you have what the government needs to do, in Sri Lanka this would probably be in reverse. So, in a way it is quite interesting because right at the end in the government, they're still talking I mean they are quite candid they say what has been done, what needs to be done and they have, I mean I can read just for your information:

The Minister reads from the report.

What I find each time I see this report is there is a review, there is a process, there is a consultation, so I think we need to build a process like that. Not a bureaucratic process, but a dialogue and every year I mean I don't think we'll be able to get to this level in a hurry but every year if we can do that, see where we are headed, where we are going, measure the performance, be self-critical I think that we should not be worried about criticizing ourselves also, any way I won't speak longer I would yet again thank the WB Team for coming and I think next week, hopefully by the end of next week you'll have an idea as to what you would be looking at.

The last point I would like to make is that the most important feature ultimately is we have to ensure that the average Sri Lankan can feel and touch ICT. I have visited Andhra Pradesh many times and I've been extremely impressed with how that has happened, where even the farmer in the paddy field gets a sense that IT can benefit him. Similarly, in a different way with far more resources at his control, Mahathir Mohamed has achieved a similar dream, but of course those kinds of resources we will not have, he has the resources to do it. But I think in Andhra Pradesh which I have seen with less resources that happen. Now we need to do that very quickly because there is an additional social responsibility we have and that is the fact that unless our population, our young population, see hope somewhere we are going to be on the verge of another revolution in this country. And taking IT to the village is not a political matter, I don't want to start using it as a political tool it has to be the way, it is the only way, it is the only choice and I think all of you

should think about that, I noticed that some of you made comments about this could be done but let us try practically to move forward, so let us also try to get down to doing something practical. Well, I have attended seminar after seminar in the past 6 months and again action is in short supply. I think many of you must have done the same. So I've been reluctant to come to too many workshops because I would like to see something happening And I would like to end on that note, let us think that there is a larger mission which is that we have to offer some hope for our youth in this country and along with it let us get into action. Anyway I'm available for any questions. Thank you.

Q: Yasa Karunaratne: Hon Minister Moragoda, in the morning there was a presentation made on the policy issues and that was mainly a result of the work done by the National Chamber of Commerce with the relevant parties for the last one year or so, Mr. Chandra Embuldeniya, and finally compiled by Manju Haththotuwa. Anyway, with that document we have given some action plans that could be achieved within the next few months or year or so which government can play a role.

I think it's good if we can look at some of those and whatever can be done where the government has a role to play can be implemented because we have been having meetings on policies for maybe the last 10 to 15 years but there has been less action on those recommendations after those policies have been prepared.

Now you mentioned that in the bureaucracy it is inactive and it is distressing and disappointing but I want to quote some situations where we have on one side we have failed on one side we have achieved, for example to get a driving license in Sri Lanka when you go for a test, it takes about 6 months for you to get the driving license actual license whereas in the United States, after the driving test you get the license on the same day. So that way we are very slow, they are very efficient. There's another department we are the fastest in the world, even in America they cannot achieve this. This shows that if there's a will it can be achieved, that is in America if you want to get a passport it will take 2 weeks, but in Sri Lanka it takes only a few hours. You apply for a passport at ten o'clock in the morning and you can get it at 5 o'clock in the evening and nowhere in the world can you get a passport in such a fast fashion Why did that happen, there was a need, there was authority and it was done. Therefore, if you want to implement some of these things, I think you are very close to the PM and you have all the authority. The Prime Minister is interested he worked with us in the early 90s he was very keen on IT and new technologies. He worked with Mr. Charitha Ratwatte with us on those committees and if we can just take few points out of the report where we may have recommended 10 or 15 items but at least 3 or 4 items to start with, see what role you can play and if we can implement and see one by one we are achieving and you can easily identify one or two very important things and in the morning I mentioned that the telecommunication problem, as you know you have been in the States many times in the last 6 months. In a city, all local calls are not billed, so if you use Internet 24 hours a day it is free, for a whole month it will cost only about USD10 and I mentioned this in the morning I want to just repeat it.

In Sri Lanka at home if you use Internet 24 hours a day for 30 days your bill will be about 70,000 or 80,000 rupees at the end of the month. So, I have proposed that within the exchange area, this was there in Sri Lanka long ago, within your own town telephone calls are not billed, it's free, I think some of you who have lived at that time of my age would know that because in 50s, 60s all local calls were free. If you can allow that and have a system where local calls are free Internet can be used by students, children, house, everybody for a very nominal rate. I hope I will receive some good response from you Sir.

A: I think your comments your proposal, your presentation you made it to me also and what I have asked Eran Wickramaratne to do is, there were various proposals put to us now I have to collect those and discuss it with the World Bank team also because I hope the WB will put some money somewhere into the process for we have no money to put, so that's one of our expectations. Equally, I think they rightly said government can't solve all the problems. If the government can be the catalyst and facilitate, but what I've said is prioritize, come to some clear road map and that is what I hope to get off the ground in the coming weeks. Your ideas will obviously be incorporated into it. Let's make it a practical journey, let us begin implementation let us monitor it so that we know where we are headed because I didn't want to just have a series of talk shops and not get anywhere. So I hope by the time you gentlemen and ladies all leave, hopefully we will have an idea of where (end of Tape 6)

..... there they have deliberately subsidized the process so that was a decision taken by Mahathir that you have to make Internet access cheap in order to increase Internet penetration. On the other hand, countries like Korea, what they have achieved. As you know Korea has come out of recession using IT as really the driver and there again your point, when there is a need when there is leadership, when there is a crisis people find a way out. I think Korea is a classic case of that where IT has really proliferated because of a crisis. So maybe we have many lessons to learn from but now let's do it ourselves and that's where we are failing.

..... arising from the report that will be presented to you plus listening to what we discussed here today generating business in IT in Sri Lanka is one of the important areas so in that issue we have the IT Parks before us, I think to get the proper connections to the IT Parks and then to facilitate the implementation faster would generate a lot of business in Sri Lanka, I think that's one area where you can move fast, Malabe is just waiting and we have been waiting for the last 4 years and there at Malabe we want to set up a campus and also the IT Park to house about 50 companies so why not facilitate that faster?

The second thing is about e-Governance, the point was made, let's educate our government officials from top to bottom, let's give them a little awareness and training. I think you can outsource that to the private sector and let them handle it, you will get very good results in a short time and that wouldn't cost very much. The third point I want to make is about taking education, IT to the rural areas. I think private sector can play a role in that as well. I think lot of the companies are doing voluntary little things in the schools in the rural areas, so I propose to you, consider that also quickly.

On the Malabe Park I have asked Mr. Paskaralingam actually to look into it and he gave me an interim report on it what needs to be done to get it going because I think there are some infrastructural issues there which need to be overcome, but I think we can move on that and the BOI is also taking some interest. The matter of IT, the public service education of public servants, the PM himself considers that a priority in the context of education in e-Governance. In fact, the WB has helped us to set up a multimedia facility in the Public Service at SLIDA which I think we need as a distance learning facility we need to make good use of that. That process, I mean there are a lot of plans in this country, the implementation is what we need to do. That's where we need to keep pushing. I think the PM himself has sat through a lot of the plans trying to put it together now and to begin implementation. Also monitoring is required otherwise

As far as the school system is concerned in fact something that I am trying to do as an experiment I hope I am successful in getting the resources for it I'm working on it at the moment, is to take a 100 schools in the urban area first because it's easier to manage, some less privileged schools and see if one can introduce some kind of IT training to these.

I've been working on it during the previous two months and I hope I can see some, - now if you look at Andhra Pradesh and Tamil Nadu I think you have given out to the private sector thousand schools in each or Tamil Nadu has thousand you have contracted to the private sector to provide 2 IT periods a week or whatever it is and the infrastructure is also brought in by the private sector but the government has to find the money for it. So that kind of model should be usable in our context also because India is going ahead with that

Any other questions?

E-Governance, I think you had a whole period on it and definitely it has to be the key and that the PM will push himself. Otherwise if I go to do e-Governance my colleagues will be on my head so I discussed it with him and I suggested that the IT drive one of the contributions I hope to make is to try to bring that focal point to the Chief Executive's Office. I will help him to do because under the Policy Development Ministry he's the Minister, I'm the deputy minister so I can help him to do it. In fact when I was in Malaysia we looked at the whole system, the people who worked out some of those models will be helping us in fact the very project management system that has been set up by PM Mahathir we are trying and Hans Wijesuriya we are trying to see if we can implement it here so I think we will be moving I mean procurement for example you mentioned that one might be able to go ahead on the procurement side that's something we were also thinking so that there's more transparency in this country all these arguments on tenders maybe one could try to reduce that if a lot of the procurement is done on some kind of transparent basis. So that is something we will be working on

..... why not retrain about 5000 of these graduates to become IT competent and also you can outsource that because apparently from the comments we had in the morning the government spends in excess of a hundred thousand rupees on each undergraduate so I think you can very well do the outsourcing with the private sector.

One of the Prime Minister's main programs is what is called the Youth Service Corps which was part of our campaign platform where what we are working on are young people between 18 and 25. They could be university graduates, may not be (we have graduates who have never worked who are 30 now! That is the nature of our problem in this country)

They will be entitled to join this for let's say 12 to 14 months and they will be and part of the training there will include IT and English. Now the IT component of that we would like to see how we can get the private sector involved in that. Again it's resources, our budget this year we only budgeted one million for Yovun,,, whereas we need maybe 5, 6 million which we don't have so we are trying to go for various types of resources to do it but on the million we have we are going to start this program towards the end of this year. It includes a residential component building some kind of social discipline and so on and so forth and more than social discipline some kind of social responsibilities.

But IT and English will be the backbone of this program and I think in that context what you are saying would be included we have looked at the previous experiences of ... Aruna ... and other placement programs that have been there and we are trying to see how we can design something

I'd like to make really a request, I hope I'm not out of order in this respect. I'm sure there has been a confluence of many factors that have brought us together like this with such diverse skills and people from different environments and so on, but one of the factors I would venture to say is the climate of peace that has been brought back to this country after so many long years of war and the chasms that have existed between the communities. I would like to see in the policy type of initiative, statements that are explicitly made where ICT can be used as a means, an enabler to bring our communities together just as much as the Internet has totally revolutionized the way in which our business is done throughout the world. I think ICT, just the exchange of electronic messaging, access to the Internet, exchange of ideas and so on between the communities in this country can create a totally different type of environment for not only commercial activity but also personal interactivity and can create a totally different environment altogether for our future. So, I would request that something be explicitly mentioned regarding that as an objective that the ICT initiative can achieve. thank you

A: Definitely. As you probably know I spend a better part of my time on the peace process so I feel for what you are saying and I think a lot of misunderstandings in our society. I have traveled most of the North and the East and what I say is the aspirations and expectations people have in those areas are no different to the people in the rest of the country but there is a huge divide and I think technology can help to bridge that divide there's no doubt about it. In fact I'm amazed at the number of emails I get from the East and the North and sometimes you could never imagine that there are so many people on the Internet in those areas because I get a large number, some encouraging, some critical, yes and so, one needs and in fact I just got a report from the Director of the Competitiveness Initiative of USAID sponsored project who had been to Jaffna and one of the comments he has made is the need to look at the ICT sector and see how investments can be made there. So, I think even in the context of your project it would be something worthwhile looking at.

Q: Hon Minister, please excuse me for explaining myself. My name is Abdul Careem Nandasena my parents are from the South I embraced the faith of Islam about 16 years ago, family in Singapore Malaysia and India I like to join with this gentleman's idea. If you can give some idea of a communal harmony, I'm talking about culture and religion both, sometime back I was with our Hon Secretary Kumar Abeysinghe when we were doing a ----- for Maestro Amaradeva. Through Internet we have no barriers Ramachandran, Ramaswamy, Sellamuttu, Jothipala, Milton, everybody; I think that the Net, if you can create it, it will take some time, say 10 to 15 years, but if you can create that ICT, or IT community, I think you can get more power to the country and you can make it a paradise. Because when you think about Malaysia, Singapore and compare Sri Lanka it's a beautiful country, the resources the only thing moving with people. When I opened by first account at MERC Bank, I had a problem with giving my name. The late Deshamanaya, N U Jayawardena came to rescue me because he was from the South and I am also from the South we have some sort of connection there. But I'm asking what do you want to do look at the world, look at the scene. For the last 20 years we're having terrorism, but still there is Indo-Ceylon cafe surviving, the Lodge ----- Who's participating? So that's the thing I'm asking people. I'm trying to bring an Andhra Pradesh gentleman here, to do something here,

start a cable TV, to have triple ----- TRC, Post and Telecommunication Ministry and then our gentleman who was here in the morning, Santusht, we were having a lot of trouble.

A: What you're saying I think, is correct I think more or less amplification of an earlier point also, as far as technology probably can help in breaking cultural and other barriers and we need to do that but I think we need to improve the penetration, that's a key issue we have to work on, not necessarily that everybody has to have a computer at home but other methods we have to find. On your regulatory issues I think the Chairman of the TRC is here so afterwards you can. But what I want to request from our Communication Minister if you can do something till the ICT comes to the scene through media as the lady this morning explained. Radio can be used.

We are looking at that actually, on the radio we will be trying to do something. thank you. Any other points? I will take 2 more if you don't mind let me start there and then you can come

Actually, I want to comment on what Ponnambalam was talking about. I represent the Ministry of Education as a consultant. At the same time there's a World Bank project called World Link. So this World Link program and the USAID with the WORLDVIEW we have proposed a program called ePeacebridge where school labs because according to the statistics we are getting from ADB, hundred schools computers that means 10 to 20 computers per school and from WB GP2 project we will receive 400 schools 10 computers each so what we propose is to set up community resource centers and have the Internet connections so that we can link people from Jaffna and other areas with the South. So, I think Jamal also can comment on that, it's been basically accepted, right?

Q: I'm Jamal. Apart from my role as the coordinator for the ICT cluster I also worked closely with USAID Washington in putting in a proposal where a concept called ePeacebridge using ICT to connect youth from the North and North East with the South. Yesterday I was told that the proposal has been accepted. It has now been put to the World Bank through USAID for assistance. It's about 1.5 to 2 million dollars, so just to answer that gentleman we are on the road for that one. Thank you

A: Whatever we can do to help facilitate, that was one reason why I appointed Eran, we will do that because there's a word I learnt in the context of the new economy, this word passion is what drives a lot of things and individually people being passionate about things pushing things forward, that's what we must create.

In a way all of us here are privileged compared to the people in the rest of this country, and I think with the privilege we have to move there's a sense of responsibility that comes, I think and that has to be part of our passion besides doing well in whatever we do in our careers in our other objectives material or otherwise I think that is there and whatever I can do to help drive that process, my time is limited, but I will always have time to push, to remove bureaucratic impediments ----- whatever you need done and Eran is available and there will be others also who will be involved in this process because the more people who are involved the better it is.

So, if any of you are interested in getting involved in pushing things forward please let him know, because this is not anybody's private property this is a national resource, so if any of you want to get involved, you're free to do so. Basically on similar lines I think we have to accept the fact that we have some serious obstacles .....which is the reason we have stagnated so far and obviously the existing institutions have not done justice to it, and what I'm recommending rather than trying to reform them, we need to look at, at least a new Development Authority for ICT just like what Singapore is doing.

Private sector persons, government sector persons are also involved rather than looking at, I'll just use a generic word here, existing authorities or even the Ministries. But a fully powered Development Authority with certain objectives and milestones given to deliver and even when the funding comes the funding will be there to fill these gaps because there are some simple initiatives we could make immediately that can make a big difference there are some short term things that we can do and there are some long term things especially the marketing aspect and the infrastructure so I would like you to pay attention to that.

The Minister: If you asked me to do one thing what would it be?

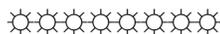
Telecom. Telecom is the No 1 issue!

Telecom how many of you think that's the case? That's about 12. Those who don't think so? Any reason? You think there are other priorities? What would you do Telecom or something else?

Telecom.

Telecom is a very broad area ..... improvement, at the same time I think there are various other infrastructure issues which we talked about at various times during the day so I think just trying to focus on telecom itself may not be the correct thing to do. The issue is telecom infrastructure.

Right I need to leave and I like to thank you for the time and I hope we will have some follow up Eran and see what we can get done in concrete terms. Thank you for the time. Thank you very much



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