" E-Readiness and Capacity Building for ICT Application."

INFORMATION TECHNOLOGY VISION

The continuing rapid advance of Information and Communication Technologies has, in reality, made access to knowledge easier & importantly, much more readily available to the wider population & around the world.
The truth is however, that as much as the technology can forge a path of rapid development—its establishment can, if inappropriately handled, significantly frustrate developmental efforts and waste both time and very scarce resources. The truth is that the application of the technology is confronted by a range of factors—including substantively, very human ones which must be faced & resolved, if it is to yield positive results The approach to establishing the technology in developing countries, is therefore of critical importance.

What is at stake?

In recognizing the nature & the vicissitudes of this new environment, most governments of developing countries have stated the intention to make the integration of information technology into their economies a high priority and a strategic imperative.
Developing countries, faced with mounting social & economic pressures, must begin to record consistent growth and at the same time accelerated broad based employment.
They must utilize every advantage—the physical infrastructure, language, labour costs, education & training. geographic location, to develop their own as well as to attract ICT firms & specialists..

For small states and islands, many with a tourism and agricultural base but with limited quantities in terms of volume, the technology is ideal for the required 'rifled' market approach. This ensures competitive pricing with the reduction of middle players and importantly, the opportunity to positively address a number of outstanding issues impeding development, such as the inherent [local] digital divide and the socio-economic implications of this, as well as rural/urban migration—a significant problem in developing countries.

In order to realize this vision however, Governments must be proactive. Despite limited resources, priorities can be established which can build the foundation for a rational expansion of the ICT sector into higher value-added services

The need for planning.

Proper planning and an appropriate approach can reduce the pit falls & yield positive results. In the final analysis, the drive to transform developing countries into "knowledge-based" societies will necessitate intergovernmental as well as private sector cooperation. It requires commitment and partnership in the context of

an overall framework or Plan for logical, cost effective and efficient development through the use of ICT **The fortunate situation is, that the requisite technology though still expensive, is readily available. There should therefore be no rush to apply the technology before preparing appropriate plans.**

E-Readiness

An appropriate plan however cannot be designed without an accurate knowledge of "what's on the ground" i.e. how electronically ready is the country and/or sector. As such, a properly selected and prepared E-Readiness exercise must be implemented as early as possible .In Jamaica's case, .the results of our recently completed exercise {May 2002} revealed the stark reality of just how unready the country is to fully utilize the technology. It revealed the contrast between the "cutting edge" technology currently being utilized in the island, primarily in the urban centres, in many corporate offices, supermarkets and port installations as against the rest of the country. In brief, it indicated not only a widening digital divide within the country but the stark realities, which a National ICT Plan must deal with, such as the following:

Human Capacity.

- Our basic literacy rate is 79.9%.
- The poverty level is 18.7%;
- Unemployment– those seeking work—is 15.5%;
- 66% of our schools have at least one computer
- Less than 1% of students in school have a computer;
- Use of the Computer in teacher training is in its early phases;
- There is comparatively low enrollment in secondary & tertiary institutions;
- Even lower enrollment in ICT courses.

This underscores some of the current capital deficiencies in respect of accepting the challenges to establish the very pervasive ICT in developing countries and the Everest like proportions of these challenges.

Physical Capacity.

Again in Jamaica's case, the reality of the physical capital requirements was clearly seen as well, though the challenges in this sector are not as great as the other capital requirements as: -

- The island is already ringed with fiber optics;
- Over 80% of homes have a television set;
- Of the 2.6 million people, there are just over 1million cell phones.
- On the other hand the inadequacy of bandwidth is still of serious concern, despite the recent introduction of ADSL and Cable Internet access.
- Only approximately 60,000 Jamaicans have access to the Internet.

The completion of an E-Readiness exercise therefore, lays bare the full range of realities, which must be included and prioritized in both a National and the more detailed Sector Plans

It is obvious from the above factors listed, how essential it is to have a proper and thorough E-Readiness exercise completed**. Rushing into projects without an assessment of the range of needs and the priorities is a costly experiment,**

which poor countries cannot afford and rich countries avoid consistently.
Where resources are scarce, priorities has to be the focus, as well as maximizing linkages and laying a solid basis for future development.
The technology has an addictive allure to it, which, if unrestrained, can be wasteful both in terms of funds and time. The seeking of the 'spotlight' through "show & tell" projects—the haste to make accelerated progress and all that this means for one's prestige, should be placed in a proper context, which an E-Readiness exercise provides.

Capacity Building.

Capacity building can only be done logically and systematically in the context of a National Plan, which will serve as a blueprint for the future. Included in or as an addendum to the plan should be more detailed plans for each of the identified sectors such as agriculture, education, health, justice, security, tourism etc. I would suggest the inclusion of community development as a sector in itself, given its importance in directly addressing the internal digital divide and delivering the technology to citizens

The success of such a blueprint will depend on the involvement of all segments of the country - the public and private sectors, academic institutions, trade associations, NGOS, the public, as well as the diaspora overseas. It is important that the National Plan be a shared over arching vision supported by all.
It is also of importance that an E-Commerce Policy document be a companion to the National Plan. This document, which sets out the policy, rules & regulations within which E-Commerce will be conducted, must facilitate the successful conduct of business electronically both internally & externally. As such, it must dovetail with that of the country's major trading partners.
One note of caution to be expressed, based on our experience and those of a number of developing countries is the need to utilize experienced planners in drafting these ICT plans. The Planner is the architect who designs the building and draft the blueprint. The technician is the engineer who in following the plan determines the best use of the technology in accomplishing the decided goals being sought. Much more is gained in using the technologist to select the technology to be used, once a proper plan is available
In many instances, technologists have been mistakenly used as planners, based on their expertise with the technology. **Engineers are not Architects.**
All this is of course on the assumption that the state is serious about development and laying a proper foundation that will facilitate on going development. There are perhaps more plans and studies on shelves in developing countries than is imagined. Granted some of this is based on lack of funding and expediency.

Sector Plans

It is especially in the Sector Plans that detailed planning can address the realities identified in the E-Readiness exercise.
The successful establishment of ICT requires a developing country, to be more than just the consumers of the technology—it must also where possible, ensure the

introduction of an industry in the sense of appropriating the locally available innovative skills to adequately fashion the technology to meet the specific needs
The Sector Plan indicates each sectors response to the identified needs & priorities identified in the E-Readiness exercise. It utilizes the expertise & experience of the sector, ensures a common purpose & the sectors accountability for the plan It ensures appropriate policy directives and provides potential investors with an overview of the sector & its direction .It facilitates decisions from grant & loan funding agencies and provides an over arching view from which the "multiplying effect" of possible assistance can be seen. It is also an excellent framework to extend into a regional programme.
The prioritizing of the sectors to be funded is largely resolved from the findings of the E-Readiness exercise.
We could, for example, briefly look at how three prioritized sectors can respond to the identified needs.

Some Sectors

1. *Education.*

It is obvious for example, that because of the nature of the technology & the fact that it is so pervasive, Education/Training has to be a top priority as it is the hinge on which development is based. Associated with that, as indicated earlier in Jamaica's case, must be the training of trainers to maximize the 'multiplying effect' and the provision of computers to facilitate & accelerate the process. Also important, based on the findings of the E-Readiness exercise, must be an increase in the number of institutions offering computer literacy & other courses, including public libraries, as well as afternoon/evening programmes in existing institutions. ICT must be made to accommodate the widest range of the needs of the citizens—if it is to serve the interest, intent and investment of the state.
The question of ICT competence applied to the respective social & economic sectors has to be a critical concern. The national, sector and individual institutional plans must integrally inter-weave within them; the applicable training required to successfully implement the plans. Such training must allow for the reality of continuing learning as in truth, knowledge is the coin of today's economy.
The utilization/retention of trained personnel—human capital is also of critical concern. Failure to satisfy this will result in a reluctance to invest in the expense of training, the migration of trained persons etc—major negatives in the developmental effort.

2. *Agriculture.*

In Jamaica, agriculture is seen as another priority based on the need to really modernize/democratize its marketing mechanism, to make it financially attractive to young people and to stop and perhaps reverse the significant problem of 'rural/urban' migration. It is important that planners take advantage of possible cross sector linkages. The schools & libraries etc can offer a range of interim programmes, such as being a link for the community with agricultural extension services for diagnostic & other assistance to local farmers. They can also offer a

link between such communities through marketing oriented networks to the national & international markets.

3. *Community Development*

We have found that a very satisfying and beneficial approach is a focus on Community Development. It is in the community that all the sectors weld together—it is in the community that the technology is introduced to the citizen, as he/she is, where he/she is and made applicable to what he/she is doing. It is where public support is to be won. It is in the community that the average citizen must be recruited in maximizing the network of e-commerce participants and furthering the whole purpose of E-Governance—enhancing the lives of the citizens. It is where training can reach the average citizen as well those in the inner cities. It is where he/she can be networked, where young farmers can maximize their opportunity and potential, where access to all services, such as health, can be enabled

The concept is also quite applicable to the region. The utilization of adequate and suitably prepared sector plans can therefore be an effective means of responding to the E-Readiness identified needs.

Management of Change

We have seen, both in developed as well as developing countries, that the management of change is a very human necessity and is crucial to cost effectiveness, efficiency and success.
Our experience indicates three basic negative reactions to the introduction of the technology

- An ignorance of and reluctance to learn to manage it;
- An addiction to the technology, resulting in unwise expenditures, unnecessary haste as well as substantial wastage; and
- A protection of "turf:" where one, irrespective of the circumstance, defends their personal position & authority

We have seen, in both developed and developing countries, examples of both public & private sector institutions having ministries and/or departments, operating unilaterally and realizing accelerated progress in completely different directions utilizing different software, equipment etc. All this resulting in significant wastage of funds & time
Inherent to change are psychological factors, which inhibits persons in readily accepting change and becoming a part of it. As Kurt Lewin suggests, in any organization, balance is maintained by driving forces and restraining forces operating in opposition to each other. Driving forces are those who work in favour of the suggested change. On the other hand, fear of something new, apathy, protection of personal status and authority as well as disagreements with changed objectives, are examples of restraining forces.
Barbara Walton Spradley attests to the fact that "Any change, whether planned or unplanned, produces resistance"

It should be also noted that sometimes resistance occurs simply because people do not know what the change means. And this is why an aggressive public relations programme is so important.

And this is why it is so important that all our Parliamentarians should become fully aware of the benefits of the technology, as the full support of government is critical to the required success.

Many organizations become victims to the change process—moving from crisis to crisis—because change is not managed. Unmanaged change results in chaos.

I have included the management of change in this presentation because of its significant importance in the development process and because it is so often overlooked, not recognized or under rated in its importance.

It is obvious from the above, that there is the real necessity of having not only central planning to guide the development process but also a central planning and coordinating authority, which is fully supported by the government & especially the Head of State.

Leadership and the role of Government.

As indicated earlier, the approach in establishing the technology and addressing the E-Readiness identified needs is a key factor. As I have endeavoured so far to show, a core consideration for capacity building for ICT application must be that of a structured approach and central leadership.

It is generally agreed that in the case of most developing countries, which have made significant progress in the use of ICT, for example, Malaysia, Malta or Mauritius, the head of government is closely identified with the national programme. In fact, it would seem that even in less advanced states & provinces in North America, a similar correlation is evident.

It seems very evident therefore that in developing countries, the advantages of the leader's identification with the establishment of and development of a national programme and its derivatives, are more than superficial—the need is significant and very deep.

The establishment of the technology is crucial to both social and economic development as well as the countries' political processes. As the technology is so pervasive, the cost benefit, together with the national urgency for its introduction, suggests the widest possible application.

Therefore to maximize the benefits of the technology requires the <u>total support of the totality of government,</u> and this is best obtained, by the identified leadership of the head of government.

Further, as I have already mentioned—the human aspects of the management of change, whether this be in respect of the interactions of ministries or departments, requires the inherent authority of the centre—the head of state. The process cannot economically or realistically be confined by myopia to one sector, department or even ministry by itself.

The obvious leadership of the head of government in what must be a national coordinated drive is therefore a decided advantage in properly dealing with the challenges exposed by the E-Readiness exercise.

In most developed countries, the necessity of a central planning & coordinating body has been realised as being the most effect way to construct and guide the

achieving of the recommendations of the National Plan. It is also from such a central coordinating body that the effort to establish proper standards and securities relevant to the nationwide application of ICT can best be directed.

Conclusion.

As I stated in the beginning of this presentation, the truth is that as much as Information and Communication Technology can forge a path of rapid development—its establishment can, if inappropriately handled, significantly frustrate developmental efforts and waste both time and very scarce resources. The truth is that the application of the technology is confronted by a range of factors which must be objectively faced & resolved, if it is to yield positive results The approach to establishing the technology is therefore of critical importance.
A structured approach of assessing just how electronically ready [or unready] is the country, lays a proper foundation from which through proper planning & organization the identified needs can be prioritized and addressed.

I thank you for your attention and patience.