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ICTRP

Business Development Specialist Report

by

Paolo Liebl von Schirach

July 2000

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Premise

I. Conditions for the Development of Demand and Supply of Information Technologies

In the developed countries, the United States being the unquestioned leader, the Information technology and communication sectors (ICT) in the last twenty years have developed into major, oftentimes leading, components of the economy. This is where a significant percentage of new investments go. This is where we find an unprecedented pace of innovation, (which has no match in the history of industrialization), spurred by massive investments in research and development. This is where we have many of the highest paying jobs. This is where major fortunes have been accumulated by entrepreneurs, as well as institutional and individual investors.

Indeed, the stock market capitalization of many American ICT companies exceeds, not only those of other established industrial conglomerates with much larger business operations, employees and sales, (the revenues of Microsoft or Intel products are significantly smaller than those of General Electric or Exxon) but also the GDP of many medium sized countries. The speed of development of these sectors, combined with their surprising endurance and strength (largely due to the ability to bring to the market products with ever increasing capabilities at lower costs, while maintaining healthy profit margins), has induced economists and analysts alike to label the growth of these technology corporations the birth of a "New Economy".

This distinction would indicate to the general public that in this new environment, there is, indeed, a future-oriented, high value, "New Economy" concentrated in the High Technology sectors, with ICT companies playing an increasingly larger role. At the other end of the spectrum there are the plodding, slow, low margin "Old Economy" sectors that will eventually be wiped out by the protagonists of this phenomenon of radical transformation which goes also under the name of "Third Industrial Revolution".

But, on closer inspection, this is not the case. In truth, we have an exploding "New Economy" only to the extent that the "Old Economy" and public institutions that manage key infrastructures and the delivery of services have developed an enormous appetite for its products and services. This appetite is generated by the awareness, turned now in most cases into absolute conviction, that ever changing and ever improved ICT and Communications products and solutions are key to any sector's ability (from banks to oil, from food products to chemicals) to maintain, regain or acquire an edge over the competition. Although it has taken a number of years for this consensus to be reached, we can safely state that, at least in the West, this is now a truism that does not require much explanation nor justification.

The consensus, born out by hard data, is that ICT systems and related applications are indeed strategic tools to have higher quality goods and services delivered at lower prices. They allow better quality control and reduced time for the completion of all cycles. All this translates in lower production costs, improved productivity and thus more competitiveness for the businesses that have embraced these changes.

It is becoming apparent now that similar applications can greatly improve the quality and delivery of public services, thus contributing to making governments, central and local, more efficient, less expensive and more responsive to the needs of taxpayers and citizens across the board.

Of even greater importance is the change in attitudes, perception and finally *behavior* on the part of all players brought about by the ICT revolution. It is now understood and accepted by most that ICT solutions are ever changing and ever improving. Thus, for any business or activity to stay competitive and up to date, it has to embrace a philosophy and consequent business practices based on the awareness that there is a need to have constant, continuous innovations and in some cases drastic modifications to its ways of operating. "Re-engineering" is often the term used to describe these processes.

This concept includes –but is not limited to-- a continuous upgrade of ICT systems and processes because of the rapid, heretofore unthinkable, rate of obsolescence of today's state of the art technologies or solutions. Thus, for any savvy business manager it is now clear that ICT solutions and applications are not "a one time investment" but part of a process of change and constant reinvention of all components of any productive activity.

To achieve this transformation in thinking that accepts and embraces change as a permanent and necessary feature of all economic activities has not been easy. The management of the old corporations that produced for mass markets based their business planning on the unchallenged notion that large fixed capital investments would guarantee success. They would allow the corporation to achieve economies of scale. I.e.: mass-produced goods at affordable prices. In turn, this would allow the company to gain the market share that would sustain it. This business model fostered a rather static corporate culture that emphasized quantity over quality and did not particularly value innovation. The strength was supposed to rest the ability to keep existing systems and types of operation running. The name of the game was "size" and not "innovation". The ability to deliver standardized products at affordable prices to what was essentially a captive market, due to the lack of significant foreign competition, seemed to be the goal. But this type of business planning has now been discarded in as much as it failed to take into account systemic transformation of the economic scenario brought about by the shaping of a global markets place in which new competitors have appeared.

The emergence of new international economic actors and the consequent need to stay competitive in an increasingly open domestic and international environment and the neckbreaking speed of ICT innovations, which reached new heights in the 1990s, turned this management and business principles and psychology upside down. It is important to stress that this radical revolution in beliefs and attitudes did not occur overnight. In fact, in many cases it was (and in some areas still is) strongly resisted. It was only after the results of ICT applications became apparent and undeniable, especially in the last decade, that many skeptics have been converted.

Again, ICT solutions were not embraced just because they appeared interesting. On the demand side, they have been adopted after it was proven that they are viable tools to enhance competitiveness. On the supply side, the winning applications are those that deliver tangible value to businesses engaged in a daily

battle with competitors that may gain an edge if they move faster down the path of innovation.

If this is the "new management philosophy" underpinning and validating the New Economy, nobody should ignore that it is not at all by accident that ICT found the opportunity to be first created and then applied in economic environments developed in societies that had already put in place certain features that turned out to be quite beneficial for the ICT sector and for the demand of ICT products and services.

These environments can be described as relatively deregulated, decentralized free market economies, characterized by competition among many players in a robust private sector. These are economies in which the State plays primarily the role of referee through a number of regulatory activities whose task is to guarantee transparency and a level playing field for all.

Further to that, these societies, prior to the inception of the ICT revolution, had already reached significant growth because they had embraced the notion that efficiency is a necessary component of business and managerial practices. That having being said, *the real trigger that fostered the adoption of innovation has been the pressure brought about by increased competition from abroad, via the opening of markets and growth in trade.* Although not immediately, many western corporations became progressively convinced that the future belongs to those who are willing to openly compete in an open market environment, while working and investing to stay ahead of the competition.

Beyond that, the private sector had already created active, liquid capital markets as sources of financing for new economic enterprises. Venture capital companies run by investors willing to take risks with the hope of higher rewards if they bet on new winners had already become significant players in the financial environment. There were also credible rules and regulations for capital seekers and investors and a fairly good record of observance for the rule of law.

In this environment, characterized by an existing positive orientation towards tools that would maximize efficiency as well as effectiveness, it was possible for at least some to understand the value of the emerging new ICT applications as means to accomplish the end of improved competitiveness. This willingness to adopt ICT as a means to bring further efficiencies, while developing entirely new --and truly revolutionary-- means for delivering them (such as the Internet), got the process started. The rest is history.

All of the above should serve as a potent reminder that the ICT sector, along with other cutting edge new technologies, is a means to an end. In capitalistic, competitive societies today ICT is viewed as a tool to maintain, regain or acquire an edge over the competition. The ability to do things faster, more efficiently at reduced cost is deemed to be not just interesting or important but vital. The experience of the western world so far has been that ICT growth has been driven by demand. ICT companies try and understand new business trends so that they can bring to market products that address real needs. In turn, only the products and solutions that meet these criteria succeed in the market place.

Which is to say that the impact of particular instruments applications can vary a great deal depending on the planned use. Indeed, it is difficult to think that ICT could play a meaningful role if it is parachuted in non mature economic environments where some or most of the preconditions, material, institutional and psychological outlined above are either lacking, not sufficiently mature or altogether non existent. If ICT does not respond to specific, clearly identified needs, then it is difficult to justify its introduction. It may end up being regarded as interesting, intriguing but not altogether essential for increased competitiveness or for a modernization strategy.

Alternate Models

All this having been said, the experience of other countries, western and non western shows that there are viable alternate models that can produce significant, positive results even in societies that have evolved in ways altogether different from the western, (mostly North American) deregulated, decentralized, free market paradigm.

We know that at least in some underdeveloped economies, a concerted, sustained effort to concentrate resources in encouraging the growth of the ICT sector has produced prodigious results in a relatively short period of time. In these instances technology was identified as a significant, in some cases critical, tool to bring about national modernization, bypass certain stages of economic development and create greater prosperity in countries that lacked other resources. Let us just mention a few as illustrations of what is possible when a national strategy, usually conceived and directed from above is carried out and successfully implemented.

Europe

In Europe there is the well-known example of Ireland, sometimes referred to as "The Green Tiger". Until not too long ago an impoverished, rural backwater that had scarcely participated in any type of industrialization, Ireland today has a vibrant economy characterized by the large presence of the high technology and ICT sector. This happened because several years ago, the country's leadership launched a policy of significant incentives for foreign companies that would invest in the country. Later on, this led to the conception of a deliberate strategy aimed at luring into Ireland high technology companies where they would establish manufacturing and marketing services for exports. Overtime this led not only to significant inflows of fresh capital, but also *technology transfer* that eventually led to the creation of a world class, sophisticated pool of highly skilled people who could then get themselves involved in high value enterprises.

This has been a long process whose final outcome could not be predicted at the onset. But, in the end, it is clear that the driving force that push this strategy forward was the realization on the part of the Irish people that their only competitive advantage, in order to join the modern world, rested in their ability to attract capital via the establishment of "Export Processing Zones" (EPZs) that would be regulated in a separate way and thus enjoy a status separate from that of the rest of the national economy.

But that in itself would not have been enough. The State had to make significant, sustained investments in order to create a skilled workforce employable by the foreign investors. The fact that Ireland is an English speaking country -- English being the international language of both business and technology— represented an additional advantage. Later developments, such as Ireland's accession into the European Community (today's European Union) in 1973, created further incentives for foreign investors who could look at Ireland, itself a small, underpopulated country, as their gateway to the huge European market.

Asia

In an entirely different environment, the city state of Singapore, whose only significant resource for a long time had been its port, many years ago launched a modernization campaign which included substantial incentives for foreign high tech companies to establish manufacturing and marketing centers there. Today Singapore can serve as a model of technology programs skillfully planned and intelligently executed.

In a similar fashion, the country of Malaysia which historically had relied only on the export of natural resources as its main economic activity, singlehandedly long ago decided to develop a manufacturing and later a high technology sector by luring foreign investors. In the relatively short span of about thirty years, there has been an incredible explosion of the high tech and ICT sectors in Malaysia that received its initial boost from significant amount of Foreign Direct Investment (FDI). Very much like Ireland, Malaysia recognized that, in order to lure investors, it had to create, from scratch, a competent, skilled, computer literate workforce and new cadres of managers, scientists and engineers. Hence massive investments in higher education as well as vocational training. Just like Ireland, Malaysia could turn the widespread use of the English language to its advantage.

It is important to note, that, all this progress notwithstanding, and the fact the Malaysia has now developed its own foreign investment strategies, especially in Southern Africa and the Middle East, the promotion authorities continue to aggressively advertise the country as an ideal location for fresh foreign investments. *This is due to the realization that once a country enters the "race", there is no end. By selectively attracting new investors that bring to the country the latest technologies, especially in the ICT field, Malaysia has the opportunity to stay on the cutting edge of modernization.*

Analysis: ICT can be successfully introduced in different economic environments

These examples are important in as much as they prove that ICT can be introduced and can have a very significant impact in terms of domestic economic growth and the dramatic improvement of both the citizens' standards of living and the countries' competitiveness even in realities that evolved according to models that are quite different from the Western one.

The Western model can be described as private sector led. These other countries embraced modernity through deliberate "top-down" efforts where the State or state bodies have been and are at the forefront of the modernization drive. This having been said, however, all these countries, regardless of their diversity, had to follow a common road map, at least in certain areas. The "have-nots" of technology had to come to grips with a simple, yet stark, reality. They determined the need to modernize as a national priority. But they lacked the resources to achieve it. The need was within; but the know-how and the capital was outside. By the same token, they had to become aware that, as capital is mobile, it will move to those places where it feels safe and where it can generate the highest rate of return.

Thus, these countries had to put in place policies aimed at attracting significant amounts of foreign capital and investments. This assumed that they had to create and enforce, in a credible manner, measures -- in terms of laws and regulations -- that would constitute sufficient guarantees for foreign investors. These countries had also to show the ability to provide investors with trained, capable manpower capable of mastering complex productive processes, especially in the field of High Technology, including ICT. Geography, such as proximity to large markets or free access to larger markets as in the case of Ireland and the EU, also played a role.

Last but by no means least, they had to engage in a relentless *marketing effort*: aimed first at placing their countries on the world's investors community map and then keeping them there, with keen awareness that, in the global economy, new eager entrants eager to appeal to capital, appear on a daily basis. Hence the critical relevance of effective, non-bureaucratic, flexible and imaginative investment promotion bodies that would run a vast array of promotion activities, something that included the creation of a number of branches in foreign countries, aimed at securing the above goals.

II. Analytical Discussion and Findings: The Environment in Egypt

The development of an Information Technology and Communication sector in Egypt both in terms of favoring the creation of new supply and generating new demand, while attempting to create or expand export oriented activities, represents a formidable challenge. *This is precisely because many of the preconditions outlined in the premise above, at present at least, are either non-existent or exist in embryonic immature form. Although new institutions have been created, while new laws and regulations have been enacted or are under review, the conclusion of this research is that Egypt's relatively closed economy does not generate the necessary widespread awareness that sooner or later the Country will have to face real international competition and that ICT is a critical tool in this new game. Thus the pressure to innovate, has yet to reach critical mass.*

There are indications that the country's leadership, starting with the Government itself, have recognized the need to embrace and join the ICT revolution, as a means to bring about further development. We know that certain significant steps have already been taken in order to carry out modernization policies aimed at increasing both supply and demand of ICT products and services.

A new Ministry for Information Technology and Communications has been created. Some measure of deregulation and privatization has been enacted in the telecommunication arena, while more actions are planned. The need to adjust the education system in order to produce technologically literate workers and professionals has also been recognized. Some cooperative ventures, especially with foreign concerns, are in the making, with the specific goal of addressing these manpower shortcomings. Other activities directed to the same general goals of fostering the growth of the ICT sector are in the planning stages.

However, what is not clear is the extent of this commitment and how pervasive the awareness of a real need to change is in the broader Egyptian society: the Government, the private sector and public opinion in general. Another component of this Project specifically addresses the paramount issue of creating "awareness" as to the relevance, impact, potential and real benefits of ICT solutions whether in the private or public sector as tools to improve the competitiveness of the Egyptian economy and perhaps of ICT as a new sectors where Egyptians can become first end users and later on real protagonists).

An additional challenge rests in the fact that, as of today, Egypt does not clearly fit in either model described above that would seem likely to lead to the successful adoption and implementation of ICT technologies and solutions: *either private sector or State led. It is important to stress that many of the preconditions that have to exist in either model are not present:*

Whether the State or the private sector take the lead, it is clear that in order to establish the foundations for a society in which ICT will play a more significant role, massive investments to upgrade existing infrastructures are needed. Further to that, both the State and the private sector must invest heavily in ICT modernization of their systems in order to close the gap with other countries that have already made progress in this arena.

Likewise, the acknowledgement to be "on the wrong side" of the technological divide should lead to the rapid enactment of measures aimed at making Egypt *today* a desirable location for foreign investors whose capital and expertise is essential in order to create a base on which to build an otherwise non-existent ICT base. (More on this later).

This does not by any means imply that Egypt cannot and will not join the ICTC revolution. It means however that, for the purposes of this Project, extra careful attention should be devoted in selecting both the areas of activity, and the types of intervention that would appear most likely to positively influence, not just discreet sectors of the economy and/or public institutions, but the overall environment. We need a new attitude to be firmly rooted and sustained. This is an indispensable prerequisite for the encouragement of the growth of this sector.

Constraints

As indicated above, Egypt does not clearly fit into either category of economic models: either State led or private sector led. Until the 1970s, Egypt used to be a centrally controlled economy with strong socialist undertones and a weak private sector. Central planning and a large, albeit inefficient, public sector dominated all aspects of economic activities.

As of the beginning of the last decade, there has been a clear change of direction. But this has not led to a total and irreversible turnaround. In the early 1990s, the Egyptian leadership, after having suffered a severe economic crisis, accepted the western medicine administered by the IMF with its canonic components of privatizations, reining in public spending, lower deficits and measures aimed at reducing inflation and stabilizing the currency. On the whole, the consensus is that the Government has been successful in improving the macroeconomic environment.

Yet, as of today, Egypt, has not gone the full distance. Despite an active privatization program, the State still controls too many assets that are usually run in a non-efficient way. Thus, while ostensibly a convert to a private sector led economy, Egypt remains essentially a country with a Statist "top-down" approach to the management of the economy and, so far, it seems reluctant to relinquish this role.

However, unlike the examples of the Asian economies outlined above, the State has yet to decide to use its significant power to chart a clear course for Egypt that would include the massive use of ICT as a tool to modernize. Aside from the uneasiness that complex technologies may create for ruling elites that have difficulties in familiarizing themselves with them, it is to be stressed that Egypt as a whole does not seem to feel the pressure to take swift action.

Based on the research conducted, not much can be expected from a rather risk averse private sector that is unwilling to make significant investments in Egypt, whether in ICT or in other areas. By the same token, the creation of new capital markets has not substantially modified the picture. The record, so far, is not very encouraging. While stock markets do exist and while the State is putting in place regulatory authorities to oversee financial transactions, trading in securities is insignificant and the Egyptian stock market, as yet, cannot perform its role of capitalization of promising enterprises.

Likewise, venture capital while theoretically in existence, plays little or no role in investing in new concerns, in the ICT field or in any other. Given the high cost of commercial loans, the incentives to invest and innovate are comparatively small in Egypt. The fact that at the time in which this research has been conducted, Egypt is experiencing a recession created by domestic, rather than international, factors does not help. A country that is facing a real estate overhang and the squeeze of a liquidity crisis does not seem to have the extra energies to devise and implement imaginative new policies aimed at increasing (some might say "create") real international competitiveness.

All told, the preliminary conclusion is that Egypt is somewhere in between an old statist and a new market economy. It would seem that the political leadership has it in its powers to chart and quickly implement a dramatically new course. But this decision, notwithstanding some high profile policy pronouncements, has yet to be made. What is happening instead is that there are unclear and oftentimes conflicting signals as to the direction that the leadership wishes the country to follow. As a minimum, these are indications as to the fact that a real consensus to chart a new course has yet to take place.

Further to that, notwithstanding changes and reforms enacted and promised, the overall legal and regulatory environment continues to be an obstacle for existing businesses and a disincentive for would be investors and entrepreneurs. Despite its

rhetoric and perhaps genuine desire to attract investments. Egypt has yet to put in place clear, transparent rules that would be deemed convincing by investors.

The following are just a few problem areas deemed to be major obstacles by business people, Egyptians and foreigners alike.

--The tax burden is too high.

--Labor laws are a disincentive to hiring.

--The legal system is not capable to handle and resolve disputes in an expeditious and transparent manner.

--Laws and regulations are complex and sometimes contradictory. At times they are modified in an unpredictable way, thus creating confusion and a climate of uncertainty.

--While professing its intentions to open its markets to free trade, Egypt continues to have relatively high tariffs, while a plethora of non tariff barriers, sometimes arbitrarily applied, continues to penalize trade.

If we look at the economy as a whole, we see that, beyond the large State run sector and a few large private groups, over 90 per cent of private sector economic activities are in the hands of medium, small or micro enterprises. While forming the backbone of the Egyptian economy and providing a significant source for employment, these small enterprises lack the strength and the staying power to engage in innovative activities. They have antiquated capital equipment. They are poorly managed and undercapitalized. Further to that, many operate in the gray area of the "informal sector" a status that allows at least some of them to escape the burdens of taxation but which creates no incentives nor opportunities to modernize, increase capacity and create new efficiencies. To the extent that these small enterprise can survive catering to the domestic market, they can consider themselves successful.

The emerging picture leads us to a sobering realization. In Egypt we have a rather weak manufacturing and services economy, producing, on average, mediocre goods for the domestic market, in large part because protections shelters it from the dangers of international competition.

Because of the lack of real exposure to competition, the public at large and even the business community are not really aware of the need to modernize using among other things, ICT systems and solutions as tools aimed at improving the quality of goods and services produced. They do not see ICT as a means to achieve greater efficiency and enhanced productivity of businesses across the board. The net result is that the whole ICT sector, while growing, to date represents a negligible component of the economy.

The Government, as indicated above, has recently affirmed the need to proceed along the road of modernization. Yet, not all components of this vast public machinery seem to be on board. While a new Ministry with a broad agenda has been recently created, as of today it lacks the manpower, the budget and the authority to

carry out singlehandedly its far-reaching plans. Cooperation from other sectors of the Government to carry out this ambitious agenda would seem logical. But there is no indication that, given the antiquated structures of the public sectors' bureaucracies, adequate systems for overall coordination via effective "interagency" processes have been put in place. It is not even clear that they can be put in place under present conditions. Thus certain expectations have been created without the material means to fulfil them, at least not in the medium term.

Meaningful "Business Development", the subject of this Report, especially when new, complex technologies such as ICT are involved, cannot be "willed into place". External aid is more likely to help produce results when reasonably good preconditions, both material and psychological, are in place. (See the arguments laid out in the Premise above). Right now it would appear that a number of changes need to happen for ICT to have a chance to become an integral part of the Egyptian economic environment.

It has been stated time and again in the course of scores of meetings and interviews that "lack of awareness" as to the benefits of adopting ICT solutions seems to be a significant impediment—in fact the most significant impediment—for a demand-led growth of this sector. It is assumed that awareness, especially if blessed from the highest levels of Government, could have a positive impact to bridge this basic knowledge gap.

It is also hoped that, if and when greater awareness will be created, lobbying efforts will materialize to improve the basic conditions of an overall economic environment that right now is not business friendly. In other words, an aware business community will initiate a dialogue with the Public Authorities that will lead to the creation of better rules. These assumptions, while probably not entirely wrong, are questionable.

Awareness alone, without the pressure of competition to Egyptian businesses brought about but the real opening of markets will not be enough. *As stated above, both in the Western as well as in the non western experiences the fear of falling behind and/or the real willingness to improve national competitiveness and reach higher standards of living have been the true drivers behind the adoption of ICT.*

Societies that adopted ICT, overtime, later on realized that this sector, ICT, is a very high value economic activity that requires comparatively small initial capital outlays as its strength is based on the capabilities of human capital. Thus the sector becomes especially interesting as significant investments in ICT could bring about positive effects for any society that would heavily invest in it. If this process is carried out successfully, overtime, those who started by being just users become producers of value goods and services.

But such pressure to modernize and enter convincingly into the new ICT sector does not exist in Egypt. Egypt, for the time being, can get by relying on its natural assets (nature and monuments) that bring large numbers of tourists into the country, the oil sector, the revenue from the Suez Canal and the remittances of Egyptians working abroad. Thus, there is insufficient pressure to make the rest of the economic players more "aware" as to the need to modernize, resorting, among other things, on a more widespread use of ICT. Be that as it may, the following are just some of the

main issues that need to be addressed in order to create or improve the enabling environment for the successful introduction of ICT in Egypt.

--The Government needs to create a climate that is truly and unmistakably favorable to large infusions of Foreign Direct Investment. The facts gathered in the preparation of this report would indicate that, even in the most favorable circumstances, Egypt will not be able to create a viable, internationally competitive ICT sector, within a meaningful span of time, relying on indigenous resources alone. Foreign investments are a key component of this equation and, as of now, they are not coming.

--General business and commercial laws and related regulations need to become more business friendly. There has to be a significant overhaul in the critical sectors of business registration procedures, the ability to hire expatriates, labor laws, and banking procedures and all financial transactions.

--The education system needs to be improved so that it will provide new graduates with both a higher level of technical skills and real management and marketing know how.

--A real campaign to educate both the Government and the private sector as to the opportunities offered by foreign markets needs to be orchestrated and implemented.

Opportunities and Possible Interventions

From all of the above it should be clear that business development activities for the promotion of the business component of the ICT sector in Egypt are not based on the need to satisfy pent up demand. If this were the case, then it would be advisable to act energetically and promptly, via significant infusion of capital and know how. Rather, in the Egyptian case, the success of business development initiatives appears to be in larger measure dependant upon changes in the overall environment. *Indeed, business development in this particular area will be the byproduct of the successful implementation of both other project components included in this Result Package as well as other critical factors quite beyond the scope of this project.* Because of this state of affairs, at this time it is not advisable to begin with large-scale projects --as it is impossible to gauge their chances of success. It is instead preferable to have a step by step approach via selected interventions and to see to what extent the hoped for success of limited activities can generate results and thus interest and emulation.

Recommendations: Activities/Outcomes

1--The GENERAL AUTHORITY FOR FREE ZONES AND INVESTMENTS (GAFI)

During the course of the current research it has become apparent that Free Zones or Free Zone status for enterprises that meet certain criteria do exist in Egypt. However, the impression gathered in a number of interviews, plus the hard data on net investment flows would indicate that the Free Zones do not seem to play any significant role as magnets for either domestic or foreign investments. This situation is very different from the experience of other countries, whether in Europe, Latin America, Africa or in Asia. It would be advisable to have an in depth study and survey of Free Zones, as well as companies that have or have received special treatment comparable to a free zone status in Egypt. Such a study should include investors perceptions (foreign and domestic) in order to assess the obstacles to their growth as an instrument to attract investments and their real potential to be effective catalysts for an export oriented ICT industry.

Inputs

One technical advisor with strong prior experience on Free Zones (Export Processing Zones), with special reference to the successful establishment of ICT industries in other developing countries. This expert would produce a report with recommendations as to whether it would be advisable to provide, under the ICT project, significant technical assistance including strategic planning, management advice and marketing for both the GAFI as well as selected Egyptian and/or foreign companies interested in availing themselves of this or similar instruments that have the objective of attracting new investments through the granting of special conditions

Duration: 4 months

Assuming that the study identifies areas of possible action, the following technical assistance activities may be included:

1 US Resident Advisor, with a specialized background on the development of ICT industries in Export Processing Zones (EPZs) attached to the Management of GAFI. This individual will provide training on Free Zones management, administration, marketing and the establishment of advisory services to potential investors, with specific focus on the ICT sectors. This individual will train a local counterpart who will assume their duties upon activity completion.

Duration: 3 Years followed by a return evaluation & planning visit lasting two months one year later.

Additional inputs: 2 one month visits per year to selected (EPZs) overseas. Number of participants per trip: 5 GAFI staff, plus 3 selected officials from each of the following Institutions: The Office of the Prime Minister, the Ministries of the Economy, Finance, and ICT.

Critical assumptions

It is stipulated here that any future strengthening of EPZs or Free Zones for the purpose of attracting investments in the ICT sector will not result in the net loss of US jobs. Unlike other sectors, where there is real and genuine concerns that Free Zones may cause disinvestments by US firms and thus the net loss of US jobs, the ICT sector, especially software, suffers from acute shortages of qualified personnel in the US that has to be met by increasing the quota of foreign professional allowed to work in the USA.

2--The Credit Guarantee Corporation

The Credit Guarantee Corporation is a well established instrument created via USAID funding that has allowed over almost a decade about 16,000 businesses to receive loans from commercial banks. Upon consultations with USAID Cairo program managers and the CGC itself, it is recommended here that a discreet additional unit in charge of ICT related projects (for both businesses that wish to establish ICT activities and those willing to use ICT to improve their businesses performance) be established within the CGC.

The obvious advantage of such an activity is that it will be attached to an existing entity that has a long and proven track record and credibility with the lending institutions. Furthermore, the CGC is used to direct its limited resources according to predetermined criteria. They would be able to direct their efforts to favor undedeveloped areas and/or gender preferences that may be stipulated. (eg. CGC has created a dedicated program to help medical practices, especially in disadvantages areas). This ICT project will include additional capital, technical assistance and awareness programs.

Inputs

The CGC is organized in regional offices: Greater Cairo, the Delta, Alexandria, Upper Egypt, and Canal Cities. The successful creation of additional ICT units would require one Unit Director (Egyptian) with two technical advisors (US) and three support people for the Greater Cairo office that would also cover Alexandria and the Delta, 1 additional staff person (Egyptian) for the Canal and 2 for Upper Egypt (Egyptians).

Given the compartmentalization of the CGC, it is advisable to begin with establishing the unit in the Cairo office first and then determine future needs, based on the first year of operations.

Technical Assistance staffing needs:

- 1 Unit Director (Egyptian) for 5 years, based in the Cairo Office
- 2 US full time technical advisors 1 for 2 years 1 and for 3 years, based in the Cairo Office with extensive travel to other offices
- 2 Unit Directors (Egyptians) for Upper Egypt

1 Unite Director (Egyptian) for the Canal Zone

3 Support Staff (Egyptians) for the Cairo Office

It is assumed that, at the end of this project, the CGC will be able to cover staffing and other costs with its own resources.

Office Equipment:

8 Computers with printers and software and networking hardware and Internet connections @ US \$ 5,000 each

Office Supplies and equipment for each technical advisor

Estimated additional capital needs for CGC to perform these additional activities under the ICT Program:

Year 1: 30 Projects at US \$ 40,000 each

Year 2: 50 Project at US \$ 40,000 each

Year 3: 80 Projects at US \$ 40,000 each

Year 4 100 Projects at US \$ 40,000 each

Year 5 200 Projects at US \$ 40,000 each

Assuming the total amount of approved loans of US \$ 18.4 million, the additional capitalization for the CGC at 25% of this value, would be US \$ 4.6 million.

Additional assistance would be required for a dedicated awareness campaign that would publicize the creation of this new unit, while providing guidance on how to handle ICT projects to the large network of loan officers that usually deal with CGC covered loans.

This would require:

2 workshops a month, including dedicated ones for bank officers for 25 participants for a total duration of three days each.

2 large events a year for 600 people

Costs for promotional collateral and activities

Critical Assumptions

It is assumed here that such loan guarantees will meet a real demand on the part of ICT companies as well as small or medium enterprises that want to adopt ICT systems to improve their products or services, cut costs and enhance productivity. Usually these companies do not have capital assets or collateral and thus cannot obtain commercial loans that will instead become available via this program.

In order to assess the success of this program, a monitoring system will have to be implemented that will keep track of the number of ICT related applications, approvals and successfully completed projects.

3--The Alexandria Businessmen Association (and other similar associations) SME Program

Upon visiting with the Alexandria Businessmen Association (ABA), we ascertained that this institution has a vibrant lending program to help the growth of Small and Medium Enterprises. At this time the SME Program is not involved in ICT lending. Still, after exchanges with the ABA management, it became clear that the need exists and that providing funding to qualified applicants would foster the growth of both an emerging ICT sector in the Alexandria area as well as new demand, financed by the SME program, generated by companies that would become customers for ICT products and services. Although we could not get sufficient details as to the actual structure of the SME program, it is likely that a scheme similar to the one to be created with the CGC can be established with the ABA SME Program.

Inputs

Technical Assistance staffing needs:

1 US full time technical advisors for 2 years based in the Alexandria Office

2 Project Supervisors (Egyptians)

Office Equipment:

3 Computers with printers and software and networking hardware and Internet connections @ US \$ 5,000 each

Office Supplies and equipment for each technical advisor

Estimated additional capital needs for the SME Program to perform these additional activities under the ICT Program:

Year 1: 10 Projects at US \$ 40,000 each

Year 2: 20 Project at US \$ 40,000 each

Year 3: 40 Projects at US \$ 40,000 each

Year 4 50 Projects at US \$ 40,000 each

Year 5 80 Projects at US \$ 40,000 each

Assuming the total amount of approved loans of US \$ 8.2 million, the additional capitalization for the ABA SME Program would be US \$ 4 million.

Additional assistance would be required for a dedicated awareness campaign that would publicize the creation of this new program.

This would require:

1 workshop a month for 25 participants for a total duration of three days each.

2 large events a year for 300 people

Costs for promotional collateral and activities

Critical Assumptions

Similar to the CGC scheme. This program would open new avenues for the growth of the ICT sector in the region as well as for financing ICT solution for diverse enterprises. Based on the good track record, high visibility and profile of the Alexandria Business Association seems to have the resources and the credibility to host this program.

It is recommended to begin with one Association. If the response is positive, it could be expanded to one or more of the other Business Associations. These will be selected based on a study conducted by the ABA SME Technical Advisors that would determine the most suitable candidates.

Assuming that other Associations are selected, the ICT Project will budget for an equal amount of expenditures for each.

4--Pilot Projects in conjunction with other NGOs involved in business development

It is recommended here that pilot projects (in sector(s) to be determined) should be launched with the objective of providing companies willing to avail themselves of ICT the necessary technical assistance. This will consist in advisory services that will help management to reformulate their plans, staffing needs, marketing and so on, while helping them determine the ICT programs and solutions that will be most suitable to accomplish these goals.

This project component could be implemented via direct grants to NGOs already operating in the area of firm level assistance (such as the International Executive

Services Corp. IESC) or other similar bodies that have a proven track record in providing firm level technical assistance in the area of ICT.

If successfully carried out this Pilot Project(s) could become an example to be presented to the Egyptian business community as to the actual benefits of properly and professionally designed and executed ICT plans. Furthermore, this type of technical assistance would achieve other results. If tied with the CGC or the ABA SME Programs, it would provide these lending and credit guarantee schemes with qualified applicants, as their business plans will have been developed according to high standards. Finally, new ICT projects coming into the market would fuel fresh demand and thus new business opportunities for Egyptian ICT companies.

Inputs

Assuming technical assistance at US \$ 25,000 per firm level assistance for a total of 10 per year for 5 years the total budget for these grants will be US \$ 1.25 million.

Critical Assumptions

The identification of NGOs with the know how and experience to carry out ICT related firm level assistance that will bring about real benefits to small and medium sized businesses.

5--The "Federation"

The Egyptian Government and the private sector alike seem to have decided that an ICT Federation that would be private sector led but with some GOE participation will be created in the near future. According to sketchy accounts as to the proposed legislation that would create this Federation, a number of activities will be carried out via this instrument. While misgivings have been expressed both by representatives of existing ICT Trade Associations as well as others, it seems that this project will go ahead. It is thus advisable to be on the ground floor as this new entity will come to life.

The Project's goal should be to see to it that, while this Federation will perform certain function of industry standards guarantor, via its supposed mandate to "certify" industries, such body will indeed become a real ICT Industry Association representing and addressing the views and needs of the private sector. According to the draft law, the Federation should also have significant inputs in the establishment of ICT business incubators and in export promotion activities.

Inputs

Provide technical assistance to the Federation as such so that it can be organized and structured in an efficient manner. This will include providing ICT support for the Federation's staff, including hardware, software support and related training.

Among many possible areas of intervention we should focus on:

--incubators

--management training courses and seminars for existing and would be members

--the establishment of ongoing relationships with similar organizations in foreign countries with the purpose of keeping Egyptians up to date on new technologies, rules and business practices affecting their activities.

--the establishment of an Export Promotion unit that would, along other things, develop, through the implementation of ICT systems, a state of the art market research unit that would provide data and analyses on foreign markets opportunities, including joint venture partners and/or would be foreign investors available to members.

-- the creation of a unit charged with the planning of Trade Shows in Egypt and support (intelligence, creation of appropriate materials and literature, coaching, financial aid) to Egyptian companies willing to participate in international shows. The same unit will also act as liaison with the Government in order to assure adequate private sector participation to trade missions led by Government officials. They will also execute activities in business awareness and outreach related to ICT.

--the creation of representative offices in selected foreign locations. Clearly, in order to raise its profile, an emerging Egyptian ICT sector needs more than just episodic contacts with industry counterparts around the world. Representative offices with adequate promotion budgets are an essential tool for the implementation of any such strategy.

Technical Staffing requirements:

1 US Technical Advisor for each of the above mentioned areas (6 Total) for a period of 5 years.

Critical Assumptions

Support to this "Federation" should be tied to its status as an effective, independent trade association. If, in the end this is going to be in substance closer to an another Government agency, then any support scheme should be revised accordingly. If the Federation will not be the target, then we could consider other existing bodies, such as the Egyptian High Tech Association (EHITA). However, it is unlikely that, with this new, Government sponsored new Federation taking center stage, the other organizations will retain much clout.

6--The Status of Venture Capital Initiatives

Venture capital has become a preferred tool for the financing of new or emerging ICT companies in the West. The potential for very high returns on relatively modest (as compared to other industrial sectors) capital outlays, has made venture capitalist the

"natural" interlocutors of the ICT sector. In the US, for instance, venture capital firms have representative offices in all the regions where ICT companies are established. They go up to the point of accepting submissions of young graduates with little or no experience, with the hope that some of them may have the next new big idea that could generate gigantic returns. Our research indicates that Venture Capital firms do exist in Egypt, although only in embryonic form. There are some Venture Capital firms created with the expressed goal of identifying and financing ICT enterprises. But the record, so far, is not encouraging. This may be due to the fact that these initiatives are new and need more time to get into business. It could also be that there are other inhibiting factors and/or that Egyptian entrepreneurs are not used to the notion of equity investors as opposed to loans. Taking all this into consideration, it is important to ascertain as to whether and how venture capital could perform the same or a similar role of booster for ICT firms that it has acquired in the West. Thus, it would be advisable to research this issue in order to determine the obstacles to the flourishing of Venture Capital as the primary instrument to finance higher risk new ventures in the ICT sector.

Inputs

One venture capital specialist with specific competence in ICT will conduct a study of Egyptian financial markets, with special focus on venture capital. Its conclusions should be used by the implementing contractor in order to determine whether or not any new activity focused on the development of ICT related venture capital in Egypt is warranted.

Staffing requirements:

1 Specialist in venture capital with specific background in ICT and broad international experience. This individual will conduct a four month study that will include an analysis of the Egyptian financial markets environment, existing venture and equity capital entities, regulatory authorities and the business community. The study will also include benchmarking with specific reference to developed as well as other developing countries. This will require 4 months.

At the conclusion of this assessment, the specialist will present his findings and recommendations via a workshop for all relevant stakeholders (40 participants).

Critical Assumptions

None