The United Nations Development Programme (UNDP) in Egypt started their first telecentre named ‘Technology Access Community Centres’ (TACC) in 1998. Through this pilot, a strategic framework for integrating ICT in sustainable human development has been established. The integration of different segments of society within this framework has also been attained. Since then, UNDP Egypt started several initiatives within the auspices of the Ministry of Communications and Information Technology (MCIT) to strengthen community telecentres and help them achieve social and financial sustainability. These initiatives are namely: (i) The Mobile ICT Unit (ii) The Community Development Portal, (iii) ICT for Illiteracy Eradication, (iv) Telecentres for individuals with special needs and, (v) ICT for Micro, Small and Medium Enterprises.

In addition, combined with an aggressive programme from MCIT to establish IT-Clubs (e.g. community centres and access points currently with over 1400 centres established), these initiatives provide several channels by which to distribute information nationwide. They also highlight the importance of making appropriate information and content available through a web-based information portal, literacy promotion efforts, and the creation of electronic libraries. Although some components of these initiatives have been implemented in other countries as well,
this strategy is probably unique to Egypt given its forward-looking vision and its country-wide scale.

In the world of developmental projects, sustainability is a complicated mission to accomplish given the fact that there is a long lasting mistaken idea and culture of thinking that development projects should not be making money. Though this is true for not-for-profit organisations as well as for developmental projects in general, the issue is rather oversimplified because not making money does not mean that a developmental project must always be subsidised especially when it is not about basic human needs like food and water for instance.

In the Egyptian context, sustainability has many challenges, which are both general as the ones mentioned above, as well as specific to the IT Clubs/telecentres in the country. IT Clubs in Egypt are hosted mainly by entities that are affiliated with the government, either directly or indirectly, while there is a margin of totally independent entities. Highlighting some of the challenges to the sustainability of IT Clubs is rather an attempt to help the IT Clubs' leaders and practitioners to improve their knowledge on the issues that affect IT Clubs regarding its continuity of service to the community as well as its sustainability.

**Key challenges facing the IT clubs**

**The socio-economic milieu:** Being an over populated, developing and lower-middle income country, Egypt and Egyptians' socio-economic reality is quite modest. The ability of people to dedicate part of their incomes to ICT based activities is limited. Priority is given to basic issues such as securing food, health and education which are usually at the top of the list for a modest household, while access to technology lies at the bottom of the list. To counter this, IT Clubs were established with an aim to provide an affordable option for the underprivileged people to have access to information and knowledge through computers and Internet. Besides this, limited awareness regarding the role of ICT in improving the quality of life is also responsible for lack of participation. People from modest socio-economic backgrounds usually have limited access to education. To add to it, enough awareness is not generated to reflect the value technology can add to change people’s lives. Awareness comes with exposure and learning about what ICT can do for a person. Due to lack of awareness about the benefits of ICT in their livelihoods, combined with other issues; people generally do not go to IT Clubs for availing ICT services.

**Government affiliation:** Most of the IT Clubs are affiliated to the government bodies and entities. For instance, some of the NGOs hosting IT Clubs like the CDAs (Community Development Associations) are usually formed by/for employees of the provincial departments of Social Solidarity (part of MOSS). That apart, the IT Clubs network is an initiative by the Ministry of Communication and Information Technology (MCIT). Therefore, MCIT as a government institution is the foremost decision maker. The ministry is responsible for choosing the location of the IT Clubs, providing the ICT infrastructure and providing instructions for operations. Due to this affiliation, most IT Clubs work the way government institutions conduct their business. Government institutions usually work in a static, systematic and highly bureaucratic manner, whereas NGOs and IT Clubs (as development, community based organisations) are supposed to be more participatory, dynamic and flexible. As a result, less work has been done to involve the community at the grassroots level to ensure the ownership and buy-in of the community. There are many more challenges related to the affiliation with the government. These are just some of the effects of that relationship.

**Nature, capacity and involvement of the NGOs:** Many IT Clubs are hosted by the NGOs which have a limited capacity of initiating, operating and maintaining projects. Though the country has more than 20,000 NGOs, yet many of them are inactive. In many cases, IT Clubs were totally funded projects that the NGOs ran without having conducted the necessary research, making the required preparations and without having the capacity to successfully sustain an IT Club. Limited capacity not only includes lack of infrastructure, but more gravely, the lack of IT and management skills of staff. This is one more reason why the IT Clubs in Egypt have not been able to sustain themselves.

**Market value of the IT Clubs’ services:** The IT Clubs’ services are usually focused on access to computers and the Internet (if available). Training courses are also provided as part of the IT Club’s mission to prepare people to use the newly introduced technologies and to help them use computers and the Internet. Some customised training courses are planned for the members of the community. The trainers usually come from the NGO itself or are sometimes recruited for doing the training, but only with limited capacity and knowledge, because the ability to pay is limited. On the other hand, both training and access to computers along with Internet services of better quality are provided elsewhere by other communities at private training centres and cyber cafés, that too for competitive prices. This reflect the potential market value of the IT Clubs and their services. IT Clubs are neither specialised training centres nor cyber cafés, which is detrimental to their own sustainability. These challenges have all played a major role in the lack of popularity of IT Clubs as a sustainable
initiative. These challenges have been highlighted following experience and consequently must be addressed for offering pragmatic solutions. In the rest of the article, we will highlight how these challenges can be overcome, through offering diverse services that achieve socio-economic goals and multidimensional sustainability; and how management at the central and local level plays a pivotal role in eliminating challenges.

The main aim of the IT Clubs is to bridge the digital divide and engage people in socio-economic development through efficiency of cost, access and time. For this, IT Clubs provide training courses for the community members in Office Applications, Operating Systems, Internet, Web Designing, Graphic Designing and more. But to cover costs, they have to charge more from the students. They do not aim to be exclusive, but by charging high rates (which they have to do to cover costs), they might end up targeting only a small percentage of people. IT Club managers realise that the high operating cost would leave a large part of the target population marginalised unable to afford the courses. Consequently, IT Clubs must charge low prices for training and access, but at the same time, have to be able to sustain the IT Clubs. Therefore, the IT Clubs should offer a diversified range of services such as ICT Functional services and Non-ICT Services that would help in raising income and help to subsidise courses which in turn, would be helpful in maintaining the IT Club.

**ICT based services of IT Clubs**

The ICT based functions or services offered by the IT Clubs can be categorised into services for generating revenue as well as for furthering the socio-economic development of the community and the country.

**Revenue generation approaches:** The IT Clubs can use their resources, premises and know-how to offer diversified services to different sections of the population. The aim should be to put a system in place whereby a number of services generate a flow of income into the IT Club, which can be used to cover costs of the IT Club and also to subsidise courses. This will allow the IT Club to charge reasonable rates with all the members of the population being able to afford it and at the same time being no longer exclusive. The IT Clubs can increase its revenue by getting outsourcing contracts like engaging trainers or staff employees to use their know-how in IT to create websites, engage in professional writing, create databases, create electronic content, printing, faxing, emailing facilities and more. They can do it for small business or government offices or other organisations within the area. More often than not, these organisations must travel to cities to get this type of works done, which is more costly and more time consuming. Moreover, there is an increasingly strong demand for these types of services, and the IT Clubs have the manpower, resources and know-how to channel this demand to generate extra income. By introducing communication technology, the IT Clubs can both generate revenue and also contribute to the socio-economic development of the community.

For socio-economic growth, Voice-over-Internet-Protocol (VoIP) and video conferencing facilities can be used to connect with doctors in cities to diagnose and treat patients in the village. Most of the times, when these people physically go to see the doctor, they do not get the chance to see him. However, if the IT Clubs arrange for professionals to conference with patients in the area using ICT, with an allocated spot for patients to seek medical advice, the patients do not have to undertake long travel and incur expenses. To generate revenue, the IT Clubs can sell mobile pre-paid cards, mobile phone services, fax communications, etc. IT Clubs can also offer training to small businesses and their employees, charging higher rates for training than offered to the general population. The IT Clubs can also use its resources to sell local products online by creating and managing a website. This website needs to be maintained by an employee of the IT Club (maybe a trainee with good IT skills). The IT Clubs can also undertake outsourcing operations to create websites for businesses, government offices, etc.

Here, it would be pertinent to discuss a little bit about social outsourcing. Richard Heeks of the University of Manchester coined the term social outsourcing to define the ability of an IT Club to offer IT services to governments and corporations, therefore not being only consumers of IT services, but also becoming producers of IT services. By providing these services, the IT Club is not only gaining a capital reward, but also a social development reward through the creation of jobs and community empowerment. Applying this concept of social outsourcing, IT Clubs can have a competitive advantage over other companies providing similar services, and be a part of the ethical supply chain of a company/ government’s end products at the same time offering cheaper services. IT Clubs should aim to offer social outsourcing services as a future goal.

**Furthering socio-economic development:** ICT functional services are used not only to generate ways of income, but also to provide the community with IT related services. With the growth of e-Government, there are now a number of government services which can be accessed online, which would have taken several trips into the capital previously. These services include issuing identity cards, birth certificates, publishing exam results, etc, which members of the community can receive using the facilities and guidance provided by the IT Clubs. In Egypt, exam results are commonly received through logging online, with the IT Clubs charging approximately 1LE (1LE = 0.18152 USD) for the usage of the facilities.
The IT Clubs must generate practical ways of using technology that will benefit the local population visibly, as this will result in appreciation and understanding of what technology can do to save time and money, open gateways, and bridge the socio-economic divide. This will encourage further adoption of IT and further the demand in the community for the services provided with increased support from the community to sustain the IT Club.

Non-ICT services of IT clubs
The IT Clubs can also offer non ICT related services, some of which can be intended to generate revenue while others can be intended to generate awareness about the use of the IT Club, and some can be used to complement IT services in furthering socio-economic development.

Revenue generation approaches: IT Clubs can establish a café on their premises for extra income. The management staff of the IT Club can create a website selling products that the host NGO has endorsed, if the host NGO is engaged in such activities. For example, if the host NGO has a women empowerment programme and has taught local women how to make handicrafts, the IT Club staff can create a website and sell these handicrafts online for a small commission. Besides, IT Clubs can tie up with local and international companies to advertise in their premises. IT Clubs can retain the right to choose their advertisers, and can reject those advertisers whose products they deem harmful to the community. IT Clubs could also sell computer related equipment such as mouse, mouse pads, internet cables, etc for a small profit margin. In addition, IT Clubs can rent out their premises to small business houses to use their facilities at a time when the computer labs are not being used. The boom in the call centre industry in India was largely due to the same space and same infrastructure being used 23 hours a day, maximising the output of the space and infrastructure (employees work in shifts from 8am – 4pm, 4pm – 11pm, and 12am to 8am, making use of the same computers, same space, but tripling the output). This suggestion is strongly reliant on robust technical sustainability with a good maintenance system in place to ensure that the electronic equipment is carefully managed.

Awareness generation: IT Clubs could also serve the community by generating dialogue among users and foster a sense of a community feeling among people having IT knowledge within the area. Creating a website selling products could generate awareness about the IT Club which can be useful if it is applying for donor funding. If successful, the website can sell advertisements online. Advertising local jobs on the bulletin, though not revenue generating, would establish the club as a central point for finding jobs, and help it become an agent of furthering skills and career development of the youths of the community.

Socio-economic services: The host NGO and the management team of the IT Club can work together to complement each other’s services for the people of the community. This cooperation can be successful with organised management and strong collaboration. For example, micro finance opportunities may be offered by the host NGO with the trainees who have undertaken computer courses at the IT Club standing a higher chance of receiving a loan. Likewise, if the host NGO has a nursery, women trainees may leave their children at the nursery while they undergo training courses. The IT Club may expand to offer business or English courses in conjunction with the host NGO, or on the IT Club’s own initiative. These courses are complementary to IT training and should help generate further demand for the IT services or vice versa. This can be a future planned activity for the IT Club once it has reached a point of multidimensional sustainability whereby it is able to afford and offer these services.

Conclusion
Thus it is quite clear that in Egypt the infrastructure is in place for ICT based socio-economic development in the form of IT Clubs. However, there have not been enough achievements to complement the infrastructure in place. The need of the hour to turn these IT Clubs into sustainable agents of socio-economic development is to combine the ICT and non ICT based services and diversify their services so that they start earning enough for their own sustainability. Intensive as well as extensive use of infrastructures along with venturing into new domains would definitely add to its productivity and sustainability.

Quick Scan
- IT Clubs were established with an aim to provide an affordable option for underprivileged people to have access to information and knowledge through computers and Internet
- Many IT Clubs are hosted by the NGOs which have a limited capacity of initiating, operating and maintaining projects
- The IT Clubs should offer a diversified range of services such as ICT Functional services and Non-ICT Services that would help in generating the income and help which in turn, would be helpful in sustaining the IT Club

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