Information and Communication Technologies (ICT) and Sustainable Development

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Abstract

Knowledge is a primary resource, no less important than land, labour or capital for improving the lives of our people. That it is a vital tool for empowering people to attain Sustainable Development (SD) has long been recognized in India. Since the early years of independence, we have allocated close to 1 per cent of our GNP for scientific research comparable to the percentage spent by some of the most scientifically advanced nations. The budget for scientific research is now somewhere in the region of Rs.15,000 crores—and research is only one of the aspects of knowledge management. We spend a great deal also on making various types of knowledge available, not least to those who can use it to their own advantage.

Yet, very little of this money (not even 0.1 per cent) has so far ever been put into research that was of direct relevance to the poor. The idea that knowledge is also needed at the grassroots level does not seem to have occurred to our decision-makers. It is only now, as a result of massive and sustained efforts by civil society organizations, helped by the outcome of a national election that indicated a widespread and growing dissatisfaction by those who feel marginalised by our lopsided policies, that we can hope to see the village for what it is: both a consumer and a potential repository of high quality knowledge.

In the rapidly changing scenario, the extensive use of computers, advances in Information and Communication Technology (ICT) and the widespread introduction of infrastructure in India made it possible to consider a business model for proliferating information nodes throughout the country in a manner that is financially viable and therefore sustainable. TARAhaat, an ICT enterprise focusing on the needs of village communities was set up by the Development Alternatives Group for precisely this purpose.

Today, TARAhaat has shown that there exist a variety of ICT-based products and services that can be provided at the village and peri-urban level at prices that clients can afford and businesses find profitable. Such businesses, called TARAkendras are franchises, essentially local operations owned and run by small entrepreneurs. They quickly become profitable because of the wide spectrum of products and applications, and the technical, managerial and marketing support services they receive from TARAhaat. For these services, the TARAkendra franchises pay a modest fee to TARAhaat. As they grow, they become the core of what Dr M. S. Swaminathan has called Village Knowledge Centres. TARAkendras are capable of bringing in large amounts of processed information from the world outside and also of taking value generating information out to it.

Having proved the financial viability of TARAkendras, TARAhaat has now embarked on a programme to demonstrate the ability of its corporate structure and the support services it provides to the TARAkendras to finance themselves from the revenues generated from the franchises.

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Introduction

Digital technology affects the lives of people the world over in many ways. ICT are a key factor not only at the macro level in the process of globalisation but also at the micro level where the increased use of mobile phones, for instance, has changed communication patterns all over the world. Impressed by what is called the digital revolution, a wave of enthusiastic statements on the alleged effects of ICT on development and poverty reduction emerged. At the end of the 1990s and the beginning of the 21st century many debates at international, national and regional levels concluded that access to information through ICT would aid SD in alleviating poverty and allowing low-income countries to 'leapfrog' to the level of rich industrial countries.

While participation in this debate broadened, it remains largely dominated by ICT specialists, representatives of telecom ministries, ICT companies, technology centred international organisations and a growing number of top-level politicians. As with other resources, the rich have the advantage over the poor in accessing Information Technology (IT). The rural population has once again been deprived of the facilities their urban counterparts are blessed with.

Today, there is growing consensus that the question of 'bread or computers' is based on a mistaken understanding of the role of ICT in development. Still, it provides a useful starting point for a debate on how ICT can be effective tools for development and poverty reduction. The question was provoked in the first place by two characteristics of the early digital divide debate and action:
- the exaggerated focus on technology and the supply driven approach,
- the too-narrow concentration on Internet connectivity and the number of telephone connections. Aspects like people-centred communication, relevant knowledge and the integration of 'old' and new ICT were neglected. Moreover, there was too strong an emphasis on the physical and financial output rather than on the developmental impact.

ICT are part of the day-to-day reality of a rapidly increasing number of people everywhere, independent of Information and Communication Technology for Development (ICT4D) programmes. ICT provide new opportunities for those who are literate, have a good education and adequate resources. Disadvantaged and marginalised groups have little chance to automatically benefit from tools such as the Internet. This further increases social divides, widens the gap between rich and poor countries, regions, individuals and even between men and women.

For the poor, the real issue is not whether ICT are desirable because the technology is already part of their broader context. The issue is whether we accept that the poor should, in addition to the existing deprivation of income, food and health services etc., also be further deprived of new opportunities to improve their livelihoods. The strategic choice is whether to accept the rapidly growing gap caused by a very asymmetric architecture of opportunities, or to use ICT in a creative manner to level the playing field in economic, social, cultural and political terms.

To make ICT work for poverty reduction and development, it needs both affordable, market-driven infrastructure and multi-stakeholder efforts at all levels to help poor, disadvantaged and marginalised people use the whole range of ICT according to their priorities and demands. This is where the role of organizations like TARAhaat (and many other like-minded ones) comes into play.

TARAhaat: Striving Towards Making Every Village a Knowledge Centre

TARAhaat, India's premiere social entrepreneur is committed to bridging the digital divide. It recognises that the greatest barriers to integrating rural communities with the mainstream economy are the lack of access to information and livelihood opportunities. It addresses this through a rapidly expanding network of kiosks in rural and peri-urban areas of Punjab, Haryana, MP and UP. These centres empower individuals and communities through training supplemented by access to a versatile portfolio of services including information, governance, finance and markets.

The initial focus has been on capacity building through vocational training, community development, information and e-governance. TARAhaat's high quality services are delivered using a mix of multi-media and face-to-face interaction in the local language, customised to meet diverse local needs.

Having built a powerful platform for communicating to and from the village community, TARAhaat's efforts are now focused on leading the economic transformation in rural markets through the promotion of micro and small enterprises. These enterprises not only create local employment but also ensure that the wealth generated stays within the rural economy. TARAhaat's unique enterprise development programme will support entrepreneurs through their business life cycle and includes technical training, financial and market linkages, consultancy advice and an Ask the Expert web-based support service.

The entire network is underpinned by a sustainable business model. A wide range of services ensures multiple revenue streams for the franchisee. Customers pay a fair and affordable price for services. The financial viability and growth of the business is ensured as the bulk of the profits reside with the local franchisee. TARAhaat uses its share of the franchise revenues for the continuous development of new services. A robust training and support structure helps ensure the operational success of franchisees.

TARAhaat serves as a platform for SD action. The TARAhaat network is a powerful channel to link businesses, civil society organizations and the government to rural communities in a cost effective manner not possible before. The potential created by TARAhaat for greater economic and social participation by the rural population is enormous.

TARAhaat is promoted by Development Alternatives (DA), a leading non-profit research, development and consultancy organisation. With two decades of experience and over 300 professionals, DA has had a profound impact on the creation of sustainable livelihoods, specifically in the innovation and application of appropriate technologies and their distribution through micro enterprises in rural India.

These new technologies, it is now clear, are not an end in themselves. Nor will a one-size-fits-all approach prove effective. The challenges faced by developing countries vary greatly

by geography, culture, and the level of economic achievement. Evidence is growing that ICT are powerful tools when used in the right way as part of an overall development strategy. Therefore, TARAhaat takes a holistic view of the problem and presents an integrated solution. In its pursuit to bridge the digital divide, TARAhaat tries to integrate the contribution of ICT through three different channels:

· Capacity building,
· Social empowerment, and
· Economic empowerment.

Different activities of TARAhaat that are part of the overall endeavour of DA include:

· Achievement of universal primary IT literacy,
· Connecting remote communities,
· Promotion of universal access to ICT,
· Income generation/enhancement through efficient use of resources,
· Creating employment opportunities,
· Promotion of gender equality and women empowerment,
· Facilitating faster and effective decision-making by information and knowledge
  sharing, and
· Health services.

The mode of delivery of services is of utmost importance to guarantee its effectiveness.

Prof. Bhatnagar of the Indian Institute of Management, Ahmedabad, emphasizes that bridging the divide is not merely increasing the number of telephone lines or providing improved Internet access, but is basically about impacting the lives of people and empowering them through ICT. He indicates that around 200 ICT enabled development interventions in various stages of implementation exist across the country. However, the telecenter model or community centered information kiosk, over the past few years, has been found to be one of the more effective means to deliver services using ICT. Bjorn Wellenius also supports this view. He adds that the key to the success of a telecenter is to have it run by a local entrepreneur, who has a substantial stake in that success and is capable of developing and implementing a business plan. TARAhaat accepts this ideology and bases its operations on the telecenter model.

Telecenters are "shared premises where the public can access information and communication technologies" (Colle and Roman, 1999:1). TARAhaat maintains a portal (www.TARAhaat.com) with information carefully tailored to meet local needs and manages a network of franchised telecenters (TARAkendras) to enable users to access this information. At the same time, TARAhaat also provides services that enable customers to participate fully in the economy and in the institutions of education, governance, finance and the marketplace.

TARAkendras are positioned as a business and community center.Richard Heeks, based on his research work claims that local entrepreneurs mainly lack information in three key areas:

· Demand: Information on new and existing customers,
· Finance: Information on how to get more finance for the business, and
· Skills: Information on how to get more/better skills for the business.

It has been universally accepted that telecenters benefit from being part of a larger organization that contributes scale and network economies. TARAhaat's network of telecenters, under a single management, shares experiences and best practices and provides quality standards, start-up support, an operating manual, recruitment and training guidelines, brand value, etc.

According to Kennedy, besides creation and delivery of services, the key to success is acceptance by the end user. This is encouraged by awareness, affordability, ease of use, and recognized benefit. Information Age Literacy (IAL) is a key element of acceptance, both in developed and developing countries. IAL refers to the combined ability and willingness to understand and use ICT for productive purposes. IAL is both educational and social in nature and captures the elements of education, society and personal preference. Global information begins and ends at a local level and its packaging, transmission and presentation must be sensitive to the cultural and linguistic needs of the end user. End user acceptance also requires that access be affordable. If the end user cannot afford to pay for the access, or the use of data the access provides, the system will fail. Access must be provided economically, both in terms of infrastructure devices and applications. The achievement of this goal requires a great deal of cooperation between all involved parties to ensure the end user affordability, without compromising investors' returns, a balance TARAhaat has achieved.

The lack of access to knowledge reinforces the vulnerability of the poor to constraints and challenges, which forces them into exclusion, powerlessness, and other poverty traps. Poor people and communities are often isolated and do not know their rights and options, lacking basic knowledge about the political and development processes that shape their lives.

In this scenario, ICT become an integral part of the social, economic, and political interaction. TARAhaat employs ICT and the best accompanying practices to avoid this vulnerability. The effort is sincere and the impact is visible. Commendable success has been achieved in changing the lives of many. But, the transformation from underprivileged and uninformed to equally privileged and informed remains confined to the areas where such initiatives have been taken. Bringing about this transformation in the whole country remains an enormous task that is yet to be realized, one that will entail a Herculean effort.

Punavali Kalan, located deep in the impoverished region of Bundelkhand is just one of the countless villages across India, where cyber kiosks are sparking tiny revolutions. This small community of 3,800 inhabitants is an oasis where local information is exchanged, discussed, analysed and applied to community life. The technology bringing this information to Punavali Kalan is innovative. Though dial-up or subscriber lines do not yet reach the majority of users, access to the Web is available through a VSAT at the local TARAkendra. These hybrid centers work to enhance social and economic development in rural communities while recovering costs as enterprises. It is a difficult balance to maintain, though the pursuit of it has generated several lessons in sustainability.

The buzzing TARAkendra at Punavali Kalan is run byRajmani and Priti Parmar, who have become intrinsically involved in the daily life of every local villager. The Parmar sisters are concentrating on their business at an age when other girls are thinking about prospective grooms. One of TARAhaat's early franchisees, they opened the Kendra adjacent to their

home. Rajmani was familiar with computers and managed the center from the start, at the same time encouraging Priti to enroll for TARAhaat's computer courses.

TARAhaat provides courses on life and vocational skills and strengthens the community through outreach activities. Users of the TARAkendra have found numerous ways to improve their lives. Stories abound about how the local community has found new ways to use computers and the Internet to learn, grow and solve their day-to-day problems.

The community outreach programme for young women, Meljol, is another intervention that has met with huge success.

An example of a community programme is TARAgroups. This programme was initiated in 2004 with the objective of promoting TARAkendra as a safe and trustworthy environment where the community can be introduced to technology and its benefits in a relaxed atmosphere so as to gain acceptability and credibility quickly.

TARAgroups are essentially common-interest groups from within the community who meet once a week at the center to interact and exchange ideas, learn new information and engage in activities of their interest. This year, Meljol, a forum for young women, and Chetna, a student empowerment platform were especially noteworthy for their promotion of creativity and women's participation and for creating awareness.

 Chetna, which began as a small programme today has more than 30 young girls actively involved in it. Under this programme, the girls get together once a week to learn from a variety of activities such as learning English speaking skills, improving basic literacy skills, cutting and stitching, embroidery and painting, and henna designs. One of the biggest successes in this group is 17-year old Kaushalya Kevat, who was illiterate when she came to the TARAkendra. Within a brief two-month period Kaushalya has attained basic numeracy and literacy skills in Hindi. Today a confident Kaushalya looks forward to attaining literacy in English. And then, there is the case of Shobha Rajput who earns Rs.100 a day as a result of TARAhaat's stitching classes. The enterprising Shobha sources her designs off the Internet making her a much sought after tailor in her village.

Promoting Entrepreneurship

In August 2003, Samsung DigitAll Hope, the global technology leader's single-largest regional social programme, awarded $600,000 to fifteen organisations in eight Asian countries. The youth-related projects selected for support by Samsung were evaluated and chosen by an independent judging committee based on their relevance to current social and technological issues prevalent in each country. DA and TARAhaat's Hope Incubator Fund was the highest rated project amongst the fifteen.

The Hope Incubator Fund (HIF) is designed to help young first time entrepreneurs successfully run their own businesses—TARAkendras. It has initially been used to promote eight entrepreneurs across the TARAhaat network. These centers are operational in the towns of Dhuri, Jaito, Khanna, Raikot and Rampura Phul in Punjab, Jamalpur in Haryana, Babina in UP and Tikamgarh in MP.

The HIF has been created as an independent division of the TARA Revolving Fund that manages funding for rural entrepreneurs on behalf of the DA. The revolving fund is an

innovative approach for meeting the acute need for non-traditional channels of finance in rural India. It provides opportunities for individuals or groups who have the entrepreneurial spirit but lack the ability to raise capital.

The TARAhaat HIF centres operate under a unique BOOT (build, own, operate, transfer) model, where aspiring young entrepreneurs run the centers and buy them when they reach profitability. The cumulative cash flows from the business are used to pay off the initial capital expenditure thereby reducing the repayment burden on the entrepreneur and ensuring a win-win position for both the revolving fund and the individual. The money received by TARAhaat from the sale of the TARAkendra is paid back into the fund and subsequently redeployed to further expand the network. This multiplier effect has the ability to transform an investment in only eight TARAkendras into hundreds, all owned and run by self-employed young entrepreneurs, who in turn become role models in their communities.

Conclusion

Information is not a magic cure for hunger or poverty. However, the right information at the right time can help in finding a solution. ICT have proven that they can help to aid SD when used appropriately, with the full participation of all stakeholders, especially the poor. The intrinsic value of ICT lie not in easing communications and information but rather in enabling growth and development. In a country like India, where a vast section of the population is below the poverty line, ICT offer a chance to empower these people and transform them into productive human capital.

Well-endowed human capital goes beyond having hard working, dedicated and diligent manpower. In the information era, these qualities though necessary, are not sufficient to ensure SD. With the emergence of highly competitive production economies, the key for rapid development lies in building a knowledge-based society. The challenge is to be able to use ICT for the creation of new knowledge for all human endeavours. Traditionally, a nation moves through three stages of economic development, from agriculture to manufacturing and then to services.

However, in the current information era, it is possible to move in a parallel direction and not necessarily follow sequential development. But this would require national efforts in human capacity building. Fortunately, with ICT the task of human capital development can be less onerous. TARAhaat has taken up the cause of human capital development through ICT, though it has to tread through uncharted territories, TARAhaat is committed to inventing new ways, developing new solutions, building on new ideas, while maintaining the highest quality standards in all that it does to bring sustainable livelihoods to the rural market.

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