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FINDINGS FROM THE WORLD EMPLOYMENT REPORT 2001
LIFE AT WORK IN THE INFORMATION ECONOMY

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LIFE AT WORK IN THE INFORMATION ECONOMY

by

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Abstract

This presentation addresses ICT readiness in the Middle East and its impact on development in poverty stricken countries, where it may still exert a major influence on their ability to acquire knowledge and tap into global networks. It argues that adoption of ICT can be viewed as a loss-minimizing strategy; those who fall behind are likely to be slotted into inferior positions in the evolving global hierarchies of new divisions of labour.

This presentation also speculates on whether the Arab countries can benefit from online trade, and what limitations are placed on online trading in developing countries. It addresses the global division of labor and the growing demand for ICT goods and services.

The presentation discusses the gains in economic efficiency and productivity resulting from greater use of ICT, and the potential for "leapfrogging" and female employment opportunities. It discusses policy issues for these matters with emphasis on direct ICT use by the poor.

Finally, the presentation highlights the need for institutional intermediation, networking, and empowerment, and the importance of facilitating governance and enhancing delivery service to citizens.

A New Development Paradigm

Better global communications enable new competitors to enter the market. Countries that are best able to exploit information technology will gain a competitive advantage no matter what they produce. Therefore, no country can afford to ignore modern information technology whatever its stage of development. Although this technology may not be of decisive importance to the very poorest countries, it may still exert a major influence on their ability to acquire knowledge and tap into global networks. Without minimal levels of competence in information technology, poor countries may find themselves excluded from markets, which they are otherwise competent to supply. In this context, adoption of ICT can be viewed as a *loss-minimizing strategy*. Those who fall behind are likely to be slotted into inferior positions in the evolving global hierarchies of new divisions of labour.

The global division of labour: participating in the growing world demand for ICT goods and services

The international relocation of employment has become a key issue in the emerging digital age. Tangible goods and, increasingly now, intangible services are traded internationally as a result of declining costs of communication. For developing countries, entry points into digital commerce are not uniform. They depend upon the local skill base, infrastructure, market and regulatory environment.

Can the Arab countries benefit from online trade?

A new area of special promise for developing countries is long-distance services. Data entry was one of the first service activities to be internationally outsourced. Back office service activities are also increasingly being traded internationally. So is software programming. In manufacturing, service activities such as product design, logistics management, R&D and customer service are also being outsourced internationally.

There are no precise estimates of the size of the market for long-distance services that can be captured by developing countries. However, rough estimates suggest that 1-5 percent of the employment in services in industrial countries may be internationally contestable by developing countries[i]. Potentially then, this translates into hundreds of thousands of jobs. And the potential impact in terms of higher exports and greater employment opportunities over the long term could be significant. Indeed, there are important niches in the market for long-distance services that can be successfully exploited by developing economies with a literate workforce and a modern telecommunications system[ii].

Software markets are particularly attractive from the perspective of firms in developing countries. The world market for software is large and growing. On the one hand, the economics of software production, in particular its low capital and high labour intensity, are attractive to low wage, labour surplus economies. Increasing the proportion of international low value added software development activity that is performed in developing countries offers one possible avenue for revenue and employment growth.

A division of labour based on cost

In the area of remote processing work, wage differentials are a crucial factor, more than in software. American and other high-cost economies companies will have increased incentives to be heavily involved in the relocation of remote processing work in order to reduce their corporate costs.

For developing countries, it would be relatively inexpensive and would entail less time to train people in remote processing jobs compared to the software industry. Relative to software, remote processing would

create greater employment per unit of capital and open opportunities for women and men who are not globally as mobile as software programmers.

It costs US$12,000 for a small web content development unit and US$120,000 for a modest medical transcription unit of fifty people. The need for seed capital is minimal and yet the potential for employment generation in remote processing is great. But while the cost of entry is low, there are still attendant costs related to professional training in a special field. And much remote processing is both (1) not a particularly high value-added niche and (2) vulnerable to technological change eroding the need for this human input into information processing.

On the whole, establishing a niche in remote processing would be congruent with the need to create employment as a developmental priority rather than to build capacity in software. But developing a healthy software sector would ensure that specific, important, generic skills are created. Remote processing work would be unlikely to create the type of expertise or skills base that the software sector generates.

Limits to on-line trade for developing countries

Future relocation of remote processing work may accelerate with the falling costs of infrastructure, or it may come to a halt when image processing or voice recognition technologies make it possible for companies to obtain services such as data entry in-house. There is, thus, the possibility of expansion or contraction of employment opportunities for teleworkers in offshore countries.

Another area of concern is the availability of a sufficiently large skilled workforce. Further concerns include the potentially narrow distribution of benefits from ICT sector participation, where the focus on ICT exports can distort public expenditure, for instance in education.

Regulatory environments also play a role. Measures such as encryption will make it easier to engage in e-commerce; even so, considerations of confidentiality may limit the spread of international telework in areas such as banking and finance. The extent and pace of change in ICT technologies make it difficult to predict future patterns of work relocation with confidence.

Female employment

In terms of numbers employed, women find new work opportunities in on-line export-oriented information-processing work The work is repetitive but clean and gives fresh opportunities and freedom to a new generation of urban women. Internationally outsourced jobs, such as medical transcription work or software services, do make a considerable difference to the lives and career paths of women. In software, women enjoy preferences on a scale that they never experienced in any other field of engineering and science.

A number of factors have contributed to the position of women in the ICT-enabled services and information-processing sector. A worldwide shortage of requisite cognitive skills is one of them. The skills shortage forces companies to recruit non-engineering graduates who have qualifications in science subjects where more women are found.

However positive this development is for educated urban women, it is important to note that a divide has emerged between them and the less or non-educated women, especially in rural areas. Moreover, as the traditional manufacturing industries that previously employed women gradually disappear, women receive a good proportion of jobs in the new, often ICT-related industries. Yet, the women who get jobs in these new industries are not the same ones as those who lose the jobs in the traditional sectors[iii]. In addition to these new inequalities between women, patterns of gender segregation are being reproduced in the digital economy where men hold in majority the high skilled, high value-added jobs, whereas women are concentrated in the low-skilled, low-paid, lower value-added jobs.

Gains in economic efficiency and productivity from greater use of ICT: potential for leapfrogging

Strong empirical evidence on how ICTs are affecting economic performance in developing countries is still lacking. But there are a number of specific benefits that the greater use of ICT can have on overall economic efficiency and productivity. For example, markets can function better through lower transaction costs, facilitating easier and cheaper access to information on goods and services and resulting in greater efficiency in the allocation of resources. Another, concrete, example is the Dubai Ports and Customs Authority that saves time and money for thousands of companies by offering online customs clearance services.

The opportunity to reap these potential benefits in efficiency and productivity is increased by ICTs because they have the potential to support the bypassing of some of the processes of accumulation of human capabilities and fixed investment. ICTs can offer the potential to leapfrog the customary stages of development into a higher value-added knowledge-intensive growth path. Malaysia and Costa Rica are two countries attempting to take this new route for economic development and break away from the traditional path-dependent strategies. The Arab countries could explore these possibilities too.

Policy issues for a) developing capacity in the production and export of ICT goods and services and b) leapfrogging

Whether the dynamics of international price-based competition for labour and technical change will benefit the Arab countries will depend on national policies for employment, skills and technology. Since the corporate sector has to respond to organizational priorities for efficiency and competitive advantage, public policies should take up the considerations of equity and social cohesion explicitly. The policies should, likewise, be geared towards creating an enabling environment where firms can engage in international and national teleworking.

Arab countries have been unable to exercise control over the main conceptual aspects of ICT-related work because the ***research, design and development of ICT*** take place mainly in the industrialised world. Technological design that both embody and drive technology forward is seldom developed with users in the Arab world in mind.

The creation of a secure, efficient, reliable and affordable ***information infrastructure*** at a national and global level is vital for the wider geographical distribution of work.

Policy making on an international scale would be needed to ensure that generally accepted ***rules for global competition*** are met in both the developing and developed countries. It is only a consensus in this area that will foster the establishment of a sound basis for international business and the creation of personal networks that are conducive to attracting more extensive investment in on-line trade and wider opportunities for employment.

For widening inclusion in the information economy as recipients of spatially distributed work, it will be important to develop policy instruments that will contribute towards building a user base for ICT in the domestic and local regional economy. Furthermore, increasing the take up and use of software in non-ICT sector firms in the local regional economy can assist with the creation of advanced domestic users who can then drive innovation in ICT and the potential for telework along more appropriate and locally defined trajectories. With this in view, policies should be geared towards the development and availability of financial instruments, such as venture capital, micro-credit and loan systems, to support the take up and use of ICT for opportunities that will reduce the growing disparity between employees in the formal and informal sectors, and divides between rich and poor communities.

Besides the real potential economic gains I have just presented, many believe that the major development gain of ICTs are the possibilities that networking opens up for poverty alleviation through improving incomes and marketable capacities of the poor, as well as quality of life in its own right. I turn to these issues now.

ICT and the poor

ICT, unlike micro-credit, is not a poverty-alleviation instrument in itself, whether in its motivation, or in its current usage. Thus, micro-finance made its entry into the development economy at the base of the pyramid, whereas ICT's injection is via the apex. This raises the issue of the channels and mechanisms through which the impact of ICT filters down to the lowest levels of the social pyramid of wealth and capabilities.

The interface between ICT and poverty alleviation embraces several mechanisms and forms of transmission. It can operate through the general impact of ICTs on aggregate economic performance and growth that would generate large linkages for the promotion of activities that provide livelihood to the poor. The impact of ICT on poverty will be fundamentally determined by its impact on employment and how economic growth as a result of ICT transforms itself into the creation of productive and remunerative employment. To the extent that the adoption of ICT in different sectors of the economy enhances overall growth and productivity and generates linkages with activities that provide livelihood to the poor it should have a positive impact on poverty alleviation.

The other covers the more general improvements induced by ICT, which could result in more transparent and responsive governance, delivery of public services more efficiently and at lower costs and improving the quality and reach of health, education and social services. This would include the important benefit that ICT can bring to women by facilitating learning and creating new opportunities for female autonomy as well as increased improvement in the spheres of community and public life.

The final pertains to the benefits for the poor through direct ICT usage. I will concentrate on this here.

Direct ICT use by the poor

Could the use of ICT by the poor be a route to poverty alleviation? There are three separate questions that have to be addressed here: these concern issues relating to **access**, to **content**, and to **utilization**.

With regard to **access**, the poor might occupy a location too distant in terms of the digital divide in order to exploit the possibilities offered by ICTs. Thus, strategies of widening effective access are critical.

Examples of how this can be done are the IT Community Centres in Jordan. They are used to empower disadvantaged women in remote communities with practical education in livestock breeding, health, geography and law.

This leads me to the second point: post access, what are the substantive **content**-based informational benefits that the poor can derive from using this access? This raises issues of relevance with respect to internet content and usage -- whose interests and demands shape internet content?

Third: having accessed the net and located useful information in the form of de-materialized weightless bits, how can this information be **utilized** to transform the real material conditions of existence of the poor? At some point the weightless intangible idea has to transform itself into a material object or tangible effect in order to impact upon poverty. What is the power of information as information?

The important point is that *such information provision can act as a stimulus only within the framework of social mobilization of the poor, and then alongside a process of overcoming the structural constraints, which impede their life chances.* In this context, the optimism over distance learning, and telemedicine need to be moderated. ICT devices such as distance learning and telemedicine can easily be visualized as powerful tools

in augmenting capacities of functioning educational and health infrastructures, but it would be unrealistic to regard these as substitutes.

The answers to these three sequential questions -- access, content, and utilization -- vary considerably for the poor in rich, as against in poor countries. It is important to note such differences in order to avoid untenable generalizations with regard to the potential or real impact of ICT on the lives of the poor. Specifically at the level of the poor and devising strategies of poverty alleviation in the developing economies, the potentiality of ICT has to be exploited within the framework of ongoing strategies of poverty alleviation which confront the deep-rooted dimensions of poverty.

Institutional intermediation, networking and empowerment

A massive digital divide, a chasm over which it is unfeasible to leap on an individual basis, confronts the poor. Cooperation, collective strategies and solidaristic partnerships are imperative for achieving this end. The constraint operates at each of the three phases of access, content and utilization of new ICT capabilities. Institutional and organizational intermediation could be critical for overcoming the digital divide and for the effective use of ICT potentialities, for countering socially and structurally embedded biases in development processes and policies.

Such strategies also call for an enhancement of the operational capabilities of NGOs. This could be a necessary institutional precondition for the inclusion of the poor in the ICT domain. Beyond group access, there is the issue of overcoming biases in content, value addition in information, and in the effective utilization of information for grass-roots development transformations.

To translate virtual potentialities into real breakthroughs for the poor early experience suggests three prototypical paths. The first is that pioneered by the Grameen Bank, which provides mobile cell phones to its (mostly) female members. This clearly improves telephone connectivity for the Village Phone project sites, incomes for the operators and convenience for families wanting to keep in close touch with their overseas or domestic migrant working members.

A second prototype is provided by the Swaminathan Foundation's Village Knowledge Centres, which set up an ICT facility within project villages, including dedicated websites which provide a variety of locally relevant content.[iv]

A third version focuses on enhancing the ICT capacities of local development agencies and at the same time improving the interaction between these agencies and the poor. In this version, a variety of informational and connectivity advantages accrue to the poor through the improved operational capacities of the specialized local agencies by virtue of exploiting new ICTs. This does not preclude the provision of ICT access along the lines of the village knowledge centers, nor does it preclude the Village Phone initiatives.

It is vital that these and all other significant prototypes thrown up by local experience and initiatives be carefully scrutinized with a view to identifying effective models of exploiting ICT fully for poverty alleviation and emancipatory purposes. Some of the instruments, which can be used for encouraging ICT use by the poor is shown in the table below.

Selected instruments for encouraging ICT use by the poor in developing countries

Objectives	Selected instruments
1. Lowering access thresholds	• Encouraging mechanisms and schemes for shared institutional and commercial group access. • Developing public-private partnerships for ICT capacity building, e.g. in schools. • Improving rural connectivity, telephony; solar energy use.
2. Improving content	S Extension to local languages; font development and standardizations; local language content. S Expansion of poverty relevant content usable by the poor. S Information on poverty alleviation programmes, especially with interactive possibilities of registering feedback, complaints and suggestions. S Information useful for small/marginal farmers on market prices, technologies, etc.
3. Improving NGO capacities, coordination and interactions	S Encourage coordination of general and especially local plans and interventions of specialized NGOs, e.g. in field of child welfare, or basic education, or health and nutrition programmes.
tworking and empowerment ɔoor	S Networks and fora for empowerment through developing aggregation of isolated poor constituencies. S Linking networks to monitoring implementation of executive/legislative agencies active in field of development and human rights. S Mobilization and articulation of emancipatory claims and demands of the poor.
5. Comprehensive poverty audit for Government and NGO ICT structures and policies	S Government and NGO capacity and policy profiles comprehensively audited with regard to their access, relevance and user-interface from the perspective of poverty alleviation and the poor.

Facilitating governance and enhancing service delivery for citizens

ICT applications are being used to help reduce the costs of generating and disseminating government information and they are being used to support new kinds of partnerships between government and the private sector.

However, only very general official government web sites have been set up in the poorest countries. Nevertheless, the Internet has the potential at least to provide "one-stop-shops" for interactions between citizens and their governments so that their service needs can be met on a more coordinated basis.

ICTs also provide a valuable resource for the management of government itself. For instance, Intranets can be used internally to provide access to regulations, procedures, policies and documentation and to provide links to external databases and contacts. In Morocco, for example, a Public Administration Support Project is using ICTs to enhance the efficiency of its Ministries of Finance and Planning. Tax administration, audits, and public expenditure planning are being supported by computer modeling techniques that contribute to the more effective management of resources and greater collaboration between the various ministries involved in economic management.

Improving the management and cost-effective provision of health care, environmental protection, and other public services.

Conclusion

There are two major conclusions that emerge. The first is that ICT has the potential to expand opportunities and to accelerate the process of economic development and poverty alleviation in the developing world. The second is that for many of these benefits to be reaped requires even greater vigour in pursuing the basic development agenda with its emphasis on human and infrastructure development and more transparent and effective governance so that the benefits of development could be felt by the ordinary people in the developing world.

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[i]. Global Economic Prospects and the Developing Countries 1995, World Bank, Chapter 3: More to trade: the internationalisation of services, p. 43-56.

[ii]. Braga, C. (1995), The Impact of the internationalization of services on developing countries, World Bank article, http://www.worldbank.org/fandd/english/0396/articles/070396.htm

[iii]. See S. Mitter, ATeleworking and Teletrade in India; Combining diverse perspectives and visions@, *Economic and Political Weekly*, June 24, 2000, p. 2248.

[iv] While there are significantly greater informational gains (simultaneous to the provision of village telephony), there are also strong limits to the usefulness of the content and ICT use possibilities for poverty alleviation or empowerment. Having good nutritional information does not transform into a meal, just as knowing good medical practice cannot substitute for a shortage of medicines, clean water, and village medical services.