

## Unit 25

# Critique of Knowledge Society

---

### Contents

- 25.1 Introduction
- 25.2 Criticisms of Knowledge Society
- 25.3 A Critical Appraisal of Discourses on Web-based Knowledge Dispersal
- 25.4 The Digital Divide in Knowledge Society
- 25.5 The Digital Divide Among and Between the Global Countries
- 25.6 The Question of Literacy in Knowledge Society
- 25.7 Accessibility of ICT Infrastructure In Knowledge Society – the Internet
- 25.8 Divide in Employment Accessibility
- 25.9 Conclusion
- 25.10 Further Reading

### Learning Objectives

This unit enables you to critically analyse:

- the conceptual dilemma in defining knowledge society;
- theoretical discourses that examine technology and human progress;
- the empirical impediments in accepting knowledge society as a universal phenomenon;
- the extend of knowledge/digital divide in the contemporary information age.

## 25.1 Introduction

The idea and concept of knowledge society got wide popularity towards the end of twentieth century. This concept has been widely contested too and has been questioned by various scholars from diverse corners. Social scientists have criticised it content, form and direction. Let us see some of the these criticisms in more detail here in this unit. The theoretical discourses that examines technology and human progress and the dimensions of knowledge and digital divide in knowledge societies are also discussed here.

## 25.2 Criticisms of Knowledge Society

- All societies are knowledge societies and hence the argument that the present society is an emerging knowledge society is questioned.
- There still exist an ambiguity in defining knowledge society, which is evident from the interchanged use of knowledge and information society as well as knowledge economy.
- Ambiguity exists not only in defining knowledge society but also defining in the very concept of knowledge with relation to knowledge society.
- The very ambiguity in defining knowledge and knowledge society makes it difficult ot measure knowledge society empirically.
- The difficulty in measuring the knowledge society makes it difficult to measure the extend of penetration of knowledge society into all spheres of society.

- Knowledge society is often referred to as like long learning society. But projects and plans by individuals and groups and institutions to develop lifelong learning are more credibly regarded as a response to the requirement of the state in knowledge society rather than to an independent requirement of the knowledge society itself.
- Growth in higher education is taken into account in assessing the growth in knowledge society. The question is that whether the higher education ensures a the emergencie of an egalitarian society. Or does the knowledge society ensure equal to higher education to all seations of the population can knowledge society ensure an equal standard for higher education.
- Studies on knowledge society indicate a growing “digital divide” (we will learn more about this in the later part of the unit) within and across the communities. It looks as if the pre-existing inequalities in the society are only reinforced in knowledge societies.
- It in often chained that knowledge societies would bring progressive transformations in the society. However, innumerous examples of system crash, deskilling, ever insufficient upskilling, redundant mountains of hardware, incessant innovation, enforced creativity, workplace and lifestyle stress etc., also represent a substantial matter of “knowledge failure” or “systemic waste”. One should not take sight away from such realitics of knowledge society.
- The different theoretical strands related to Internet based knowledge transmission have their own critical approach about knowledge society (we will learn more about this in the succeeding section).
- Some of the knowledge society imperatives such as international economy, fully modenised state, the future of work and well being all seems to be thrust upon the people leaving no scope for the people to make their own choice for accepting or rejecting the system.
- It is also argued that the social fatalism has reached such a height that the latest technological determinism strips the collective and individual intelligence or knowledge of people of its most precious characteristics, namely the ability to critically question and to device alternatives to what must inevitably be.

Now in the following section let us critically evaluate the theoretical discourses on knowledge transmission in knowledge societies.

#### Reflection and Action 25.1

You must have been experiencing the proliferation of various elements of the knowledge society both in your individual and collective social existence. Based on your regular experience write a critique of knowledge society.

### 25.3 A Critical Appraisal of Discourses on Web-based Knowledge Dispersal

There are different discourses that relate knowledge and power in a knowledge-based society. Foucault (1977), who demonstrated how knowledge and power are related, argues whenever someone transmits knowledge it involves power. Whenever power is exerted, knowledge is involved. The four discourses related to Internet based knowledge transmission, which forms significant basis of knowledge-based society are techno-utopianism, techno-cynicism, techno-zealotry and technostructuralism (<http://cade.icaap.org>). In this section let us look briefly the counters of these theoretical discourses. The concentration or dispersal of knowledge power through the medium of Internet and World Wide Web is the main question in all these four discourses.

### Techno-Utopianism

Techno-utopians are optimists who believe the Web leads to greater access to education and there by greater dispersal of knowledge. This facilitates the universal accessibility of knowledge and this may lead to empowerment of larger section of the population because in knowledge-based society the acquisition of knowledge empowers the individuals. In this discourse, they argue, the Web i) lowers barriers that impede access to education in face-to-face settings, ii) will eventually result in equity, iii) reaches the hard-to-reach iv) straddles cultural boundaries v) constitutes a "paradigm shift" in learning and education vi) fosters high degrees of interaction vii) leads to a reinstallation of fading local democracies viii) invites learner participation ix) encourages a desirable level of collaborative (rather than individual) learning, teamwork and cooperation.

Techno-utopians are often have a global vision about the ICT infrastructure and ICT penetration without taking into account local particularities. They predict a universal dispersal of knowledge through Internet and World Wide Web without taking into consideration of the fact that a vast majority of the world population are in the developing countries where the first priority of the people even in this 21<sup>st</sup> century is the basic amenities of life not ICT infrastructure. For example in developing Asia, despite techno-utopian talk of "paradigm shifts" there are only roughly 9.8 million people on line - a mere 0.3 percent of the population (Erickson, 1998). Techno-utopians version of "information highway" - a utopian narrative which argue that progress and salvation through technology and transportation - makes little sense in most part of the world even today. If the techno-utopians fail to view technological advancements in the societal contexts of inequality, illiteracy, poverty, ill health and other forms of social backwardness that persist in many parts of the globe, the paradigm shift that they claim that they claim the technological will bring about may instead lead to a "paradigm lost" (SinghaRoy 2002).

### Techno-Cynicism

Techno-cynics have a critical view about the role of Internet and Web in the dispersal of knowledge. They do not believe that the Web is a wired utopia for learning and education. Instead, they argue, it will lead to a concentration of power. Techno-cynics are realists, distrust corporatism and the commodification of education and regard globalisation as a code for Americanisation. They argue the Web i) will not significantly enhance access to education, ii) will not yield equity iii) will aggravate the gap between the 'have's' and 'have-nots', iv) will converge around the orthodoxy of Americana (Boshier, Wilson and Qayyum 1999), v) will help foist free-trade on the world and thus lower occupational, health and environmental regulations, vi) enable global enterprises to monitor markets and make instantaneous adjustments with the click of a mouse and thus reinstall exploitative colonialism.

Techno-cynics were largely critical of techno-utopian ideas. They argue that technology itself is not bad. The problem is in the way it constructs relationships. They believe being too connected (online) may deprive people of humanity. Interactions through Net give people a chance to ignore the human side of such relationships. A disturbing part of the techno-cynic position is enunciated by Mander (1996) who argues that economic globalisation involves the most "fundamental re-design" of socio-political and economic arrangements since the industrial revolution. Advocates and beneficiaries of the new order (free trade, deregulation, restructuring) use computers, not to empower communities, as techno-utopians would claim, but as a tool of financial exploitation. "Computer technology may actually be the most centralising technology ever invented, at least in terms of economic and political power. This much is certain. The global corporation of today could not exist without computers. The technology makes globalisation possible by conferring a degree of control beyond anything ever seen before" (p. 12). In the old days this kind of globalisation was called colonisation.

Techno cynics disagree with the techno utopians on many grounds. They agree that the virtual universities - a major mode for the dispersal of knowledge in knowledge societies according to the utopians - in effect will function as a digital diploma mills. Noble (1997) is a leading North American exponent of techno cynicism claims online courses will lead to commercialisation of higher education, the loss of faculty independence, a secondrate "shadow cyber-education" and virtual universities with perhaps no faculty whatsoever.

Another argument is on the basis of racial divide. In the United States access to the Web appears to depend on race. According to a study done by Hoffman and Novak (1998) in late 1966 and early 1997, 44.3 per cent of white and only 29 per cent of black Americans own a home computer. In households with incomes \$40,000 or less, white people were six times more likely than black people to have used the Web in the week prior to the survey.

Another manifestation of techno-cynicism arises from the Web's inclination to promote a conservative view of education. They argue that there is much more to education than filling empty vessels or producing "stuffed docks." The problem with Web learning, according to them, is with the fact the Web and too many other distance technologies deliver information without raising appropriate questions or to make a critical evaluation of the information transferred. The Web causes people to think of education as an information transfer process. "We are building an educational system on the assumption that our minds are a lot of hard drives that can simply be filled up with data" (Ott 1998).

### Techno-Zealotry

For Techno-zealots power relations of technology and knowledge are irrelevant because technology has inherent value irrespective of how it used. In significant ways, technology is neutral. Techno-zealots are typically consultants or academics with few theoretical pretensions and a vested interest in cultivating corporate interests or others who control research and development grants. Techno-zealots typically use a PowerPoint presentation (which greatly minimises the likelihood of critique) to enthuse about "convergences," "paradigm shifts" and the galaxy of wonders lying at the intersection of telecommunications and computers (<http://cade.icaap.org>).

In the techno-zealotry discourse i) deploying the Web is a "rational-technical" process that knows no bounds. It's just a "technical" problem, ii) statements about the benefits of the Web are couched as grand generalisations which have little regard to discrepancies between rich and poor, developed and developing countries or the learning proclivities of different people iii) technology and the Web are worth pursuing for their own sake - irrespective of the context or what they might mean for the human condition, iv) the Web is a technology bristling with potential for profit.

The views of techno-zealots are significantly detached from material realities including rural landscapes, where information technology is nowhere to be seen. They argue that information technology can overpower "cultural barriers, economic inequalities (and) compensate for intellectual disparities. High technology can put unequal human beings on an equal footing and that makes it the most potent democratising tool ever devised" (Pitroda 1993). But the critiques view that in a situation where the number of people without phones is growing faster than the number of people with them, the prospect of bandwidth intensive Web applications seems downright criminal (Leonard 1998).

### Techno-Structuralism

Techno-structuralists are not interested in whether technology is good, bad or neutral. They are mostly interested in institutional forces or the social context wherein the Web is used. In the techno-structuralism discourse there are questions about: i) who is using the Web, who is doing what to whom and for

what reason? ii) the extent to which the Web is “World Wide” or largely carrying an American message iii) the extent the Web will invigorate or enfeeble democratic structures and processes iv) will it reinforce or challenge the interests of corporate, political and military elites? v) will it lead to a celebration of “information highway” (an utopian concept) vi) the nature of power relations nested in Web learning and education? vii) how the Web suits the modus operandi or learning proclivities of different groups (such as indigenous people, women, rural folk).

The centrepiece of this discourse is the way technology is used. As Galtung (1979) noted “A naive view of technology sees it merely as a question of tools - hardware - skills and knowledge and software. These components are certainly important, but they are the surface of technology, like the visible tip of the iceberg. Technology also includes an associated structure, even a deep structure, a mental framework, a social cosmology, serving as the fertile soil in which the seeds of a certain type of knowledge may be planted and grow and generate new knowledge ... Tools do not operate in a vacuum; they are man-made and man-used and require certain social arrangements”.

According to the techno structuralists although the Web can facilitate vertical and horizontal communication, more information does not, by itself, lead to desired action. It’s a question of who is doing what to whom and why? Other questions informed by a techno-structuralist discourse concern who uses the Web.

After having a look at the theoretical critiquing of knowledge societies, let us turn to the one of the often discussed aspect of empirical critiquing of knowledge society the digital/knowledge divide.

**Reflection and Action 25.2**

What are the differences that you can find between techno-utopians and techno-structuralists?

## 25.4 The Digital Divide in Knowledge Society

In the previous unit we have already seen that the free flow of information and ideas has sparked an explosive growth of knowledge and its myriad new applications in the information age. We also noticed that information, its access, dissemination and control, is at the core of this revolutionary phase of human development and as a result, economic and social structures and relations are being transformed in the contemporary phase of human development. Yet the vast majority of people in the world remain untouched by these revolutionary developments in information and communication technologies and explosive growth of knowledge. Although this transformation to information age and knowledge society offers many potential benefits to developing and transition countries, increasing reliance on digital information and advanced communication technologies carries, at the same time, the real danger of a growing digital divide/gap among and within nations.

Digital or knowledge divide refer to the gap between the technology-empowered and the technology-excluded communities in the world around; as well as to the lack of information transfers in and between these communities. The developing world and transition economies comprise the largest portion of the digital and knowledge divides. While global teledensity shows signs of improving the gap between those with and without access to the Internet continues to increase throughout the world. The ‘digital divide’ has created a knowledge gap between information rich and information poor peoples, which has the potential to give rise to a new form of ‘illiteracy.’ The ‘digital divide’ promotes information and knowledge poverty and limits the opportunities for economic growth and wealth distribution. ICTs spur the



creation of economic and social 'networks' of individuals and communities. The power of these networks is their ability to connect diverse groups by allowing them to access and exchange information and knowledge that is crucial for their socio-economic development. Traders and entrepreneurs benefit from ICTs through the opportunities created by promoting their businesses nationally, regionally and globally. As well, ICT offers the possibility of delivering basic health and education services more efficiently because people can have access to them from their own communities. Unfortunately the accessibility to ICT to the larger population is very limited and hence their chances for taking advantage of these technological developments is very limited creating a division among people.

Our increased ability to communicate and share information and knowledge increases the possibility for a more peaceful and prosperous world for all of its inhabitants. However, the majority of the world's people will not be able to benefit from this information revolution unless they are enabled to participate fully in the emerging knowledge-based society. In an universal knowledge society knowledge and information should be easily accessible to all, including those living in rural areas and the disabled. Special attention must be paid to the marginalised, unemployed, underprivileged, disenfranchised peoples, children, the elderly, the disabled, indigenous peoples and those with special needs. The universal human values of equality, and justice, democracy, solidarity, mutual tolerance, human dignity, economic progress, protection of the environment, and respect for diversity are the foundations for a truly inclusive global information society. Now let us examine in the succeeding sections the digital or knowledge divide in relation to skill and infrastructure for knowledge generation and dissemination and employment structure in knowledge societies.

## 25.5 The Digital Divide Among and Between the Global Countries

The 'digital divide' threatens to widen the already existing development gap between the rich and the poor among and within countries. The majority of the world's people will not be able to benefit from this revolution unless they are enabled to participate fully in the emerging knowledge-based information society. Internal divide is between digitally empowered rich and the disempowered poor; linguistic cultural divide between domination of Anglo-Saxon and the other world culture; divide in access of technology between the rich and the poor nation; and the divide between the values of ICTs driven affluent elite and conventional authority and hierarchies (Keniston 2003). Disparities in per capita income and standards of living could translate into the marginalisation of entire societies or segments of society. Also within countries, technological change often means that groups, which were already disadvantaged or excluded — low-income families, rural populations, women, minorities, and the elderly — fall farther behind. In the United Kingdom, for example, only 4 percent of households in the poorest income quintile are connected to the Internet, compared with 43 percent in the top quintile, and the gap is increasing every year. In the United States the proportion of Afro-American families that are connected is half that for white families (OECD 2001: 149). The 2001 ILO report reveals a "digital gender gap" in many parts of the world, including OECD countries. Although some economies have near parity in Internet use (examples are Taiwan, China, with 45 percent female users, and Korea, with 43 percent), the situation is more often far from balanced.

On a global scale, it divides industrial and developing countries according to their ability to use, adapt, produce, and diffuse knowledge. In Korea the number of households connected to the Internet in 2000 doubled, raising the total to 3 million homes, whereas in Japan only 450,000 homes are connected. The technological gap between high-income and low-income countries is

reflected in the number of personal computers per 1,000 inhabitants — less than 1 in Burkina Faso, compared with 27 in South Africa, 38 in Chile, 172 in Singapore, and 348 in Switzerland. Sub-Saharan African countries together have 1 Internet user per 5,000 population; in Europe and North America the proportion is 1 user for every 6 inhabitants (International Communications Union data). Among developing countries, the digital divide sets apart the technologically more advanced countries from the less advanced ones. Whereas a few African countries with small populations still lack even one Internet host, in Singapore 98 percent of households use the Internet. Within a given region, some countries have a stronger information and communication infrastructure than others. In Sub-Saharan Africa the number of Internet hosts per 1,000 population ranges from 0.01 in Burkina Faso to 3.82 in South Africa (International Telecommunications Union data). Most reports on disparities in ICT access within countries look at the problem according to socio-economic criteria such as race, income, geographical location, education, age, gender, and disability.

Notwithstanding this divide many experts are of the opinion that the countries that do not adopt and adapt to the current technological changes will be marginalized widening further digital divide within and between the countries.

**Reflection and Action 25.3**

What do you understand by digital divide? Examine the dimensions of digital divide that exist in our country.

## 25.6 The Question of Literacy in Knowledge Society

In the information societies knowledge is the power. But this knowledge power will become reality only if one has accessibility to knowledge.

The appearance and the rapid evolution of ICT have created at least two major challenges for education: to achieve the appropriate integration of ICT into overall education systems and institutions, and to ensure that the new technologies become agents of expanded access and equity and increase educational opportunities for all, not just for the wealthy or the technologically privileged. Indeed, early policy research in the United States, one of the first widespread adopters of new ICT, found strong evidence that uneven access to the technologies was worsening existing equity gaps in education. Explicit attention needs to be given to equity considerations so that the new technologies, which “shatter geographical barriers (may do so without) erecting new ones and worsening the digital divide” (Gladieux and Swail 1999: 17).

There is another potential threat for education in knowledge societies. It is now established that the knowledge economy needs an educational arrangement to promote extensive use of ICTs, educational programmes that can be traded across the border as commodity and life long learning for the workforce. Several noted experts on distance education however, have viewed ICTs as a vehicle for commercialisation education globally. To David F. Noble (1997) against the backdrop of phenomenal expansion of ICTs educational campuses are now being identified as a significant site of capital accumulation by converting intellectual activity into intellectual capital. To him this processes has penetrated with the process of commoditisation of the research function and of the educational function of the university, transformation courses into courseware, learning instruction itself into commercially viable products that can be owned, bought and sold in the market. Against the backdrop of the exponential emergence of knowledge economy he highlights that the corporate and political leaders of the major industrialised countries in order to retain their economic supremacy now turn towards the “knowledge-based” industries.

To him, as impacts of commoditisation of university function, teachers as labour are made subject to all the pressures of undergoing rapid technological transformation from above. They have also reduced their autonomy, independence, and control over their work. Now universities are transformed into market for the commodities being produced, whereby faculty who conducted research in the role as educators and scholars, has become instead producers of commodities for their employer. 'Much to suffice the commercial end there has emerged close partnership between universities and industries to convert the instructional process into marketable products, such as a CD ROMs, Websites, or courseware which they themselves may or may not "deliver" (Noble 1997).

Latchem, C. and Hanna, D.E. (2002) find that in general the 'higher education is experiencing a shift from supply driven to a demand driven pressures due to impact of globalisation and information and communication technology (ICT), competition from new providers, and the need to be self sustaining. Universities are increasingly seeking solutions to these challenges in the open and the flexible and ICT based online or virtual learning, and the ODL system also getting transformed from quality driven and marginal to commercially-oriented and mainstream.

## 25.7 Accessibility of ICT Infrastructure in Knowledge Society – the Internet

In the previous unit on Knowledge Society we have seen how the ICT infrastructure of tele and Internet based information dissemination technologies act as the backbone of knowledge societies. In this information age Internet is the largest self-governing organisation, all pervasive. Even those opposed to globalisation depend on it to exchange ideas and mobilise support. While the Internet facilitates exchange of ideas, access to knowledge, communication between diverse people etc., it also alters the structure of knowledge and proves advantageous to those who have better access to it. The info-technological revolution is restructuring the global social economic equations - shifting from income divide to knowledge divide. But how can Internet and corollary technologies contribute to the building of knowledge societies without universal access to education and information? How can people benefit from the Internet if they lack access or if they are in constant fear of persecution?

In the so-called knowledge societies more than 850 million people in the developing countries are excluded from the wide range of information and knowledge. The poor in the developing countries remain much isolated economically, socially and culturally from the burgeoning information and progress in arts, science and technology. Little is known about the barriers to evolution and growth of knowledge societies in developing countries in spite of advancements in the use of information and communication technologies.

Real disparities exist in access to and use of information and communications technology (ICT) between countries (the "international digital divide") and between groups within countries (the "domestic digital divide"). There is a wealth of real and anecdotal evidence to support this statement. The volume of statistics is impressive and persuasive: "In the entire continent of Africa, there are a mere 14 million phone lines - fewer than in either Manhattan or Tokyo. Wealthy nations comprise some 16 per cent of the world's population, but command 90 per cent of Internet host computers. Of all the Internet users worldwide, 60 per cent reside in North America, where a mere five per cent of the world's population reside" (Nkrumah). "One in two Americans is online, compared with only one in 250 Africans. In Bangladesh a computer costs the equivalent of eight years average pay" (The Economist). Underlying trends are often lost in the heated debate over how to define the problem, but a pattern emerges from within the statistics.



There is an overall trend of growing ICT disparities between and within countries:

- All countries, even the poorest, are increasing their access to and use of ICT. But the “information have” countries are increasing their access and use at such an exponential rate that, in effect, the divide between countries is actually growing.
- Within countries, all groups, even the poorest, are also increasing their access to and use of ICT. But within countries the “information haves” are increasing access and use at such an exponential rate that, in effect, the division within countries is also actually growing.

This basic pattern of disparities is repeated again and again with other technologies such as telephones. There is a wide disparity in access to phones. In 1998 there were 146 telephones per thousand people in the world, but only 19 per 1000 in South Asia, and only 3 per 1000 in countries such as Uganda (World Bank 2001). Mobile Phones show a similar disparity, for every 1000 people in the world, 55 had mobile phones in 1998, but only 1 person in 1000 had a mobile phone in either South Asia or Uganda.

Two basic disparities exist in the affordability of ICTs - in the basic cost of the technology, and in the cost of the technology relative to per capita income. Access costs are almost four times as expensive in the Czech Republic and Hungary as in the United States (during off hours; peak prices are even higher) (OECD 2001). Outside a few select countries, only wealthy individuals and sections of the middle class can currently afford access. The majority of people in developing countries cannot afford the technology, even when it is available, so usage remains low: “Poverty remains the greatest barrier to Internet growth in Africa. The monthly connection cost for the Internet in Africa exceeds the monthly income of a significant portion of the population (Ibid).

Now if we turn to domestic scene we can see that ICTs however, function in societal context. Most reports on disparities in ICT access within countries look at the problem according to socio-economic criteria such as race, income, geographical location, education age, gender etc. if we take the case of India, we can see that globalisation and information age have led to a diverse social formation in India within and between societies. A large section has remained outsiders from within, being subordinated and excluded from the dominant processes of globalisation and knowledge economy. Indian societal context is ridden with unequal distribution of resources, and divides based on caste, class, ethnicity and gender. Illiteracy, low income and spatial isolation widely contribute to sustain the pre-existing social exclusion. Along the time, there are also the dimensions of digital divides of various sorts. These divides are between rich and poor, between urban and rural, between English speaking upwardly mobile literati and non-English speaking rest of people. This digital divides are again accentuated with the varied extent of access of electricity, telephone and computer in different states in India (See table 7). In the globalised world while these has emerged areas of inclusion; there also exists a vast section as excluded from within. While most of the urban areas have been connected with the forces of globalisation and ICT networks and a distinctive category of elites have emerged therein as the ICT driven ‘digiterati’ within the same urban set a large segment of the work force working mostly in the unorganised sector and surviving in a sub-human existence has remained excluded from the ICTs access. The rural areas on the other hand while the rudimentary forms of connectivity have only touched the upwardly mobile gentry; the agricultural labourers, tenants, poor peasants and the artisans who represent the vast section of the marginalised people of India has also remained excluded. Their educational and economic status often bar them from getting integrated with the information age.

Table 25.1: Digital Divide in India

Country	Access to Electricity % of household	Telephone Connection per 100 people (2004)	Internet Connections per 1000 people
Maharashtra	59.7	5.34	8.21
Punjab	83.5	10.86	1.24
Kerala	61.1	9.79	0.87
Karnataka	63.0	5.58	2.73
West Bengal	18.8	1.96	2.51
Orissa	20.1	2.45	0.12
Uttar Pradesh	-	4.66	0.12
Andhra Pradesh	-	4.76	-

Source: Balakrishnan 2001 and Observer Statistical Handbook 2005

### The linguistic diversity and cultural identity

Here we may analyse the impact of certain incidents of the information society on social and cultural development. Culture is at the heart of contemporary debates about identity, social cohesion, and the development of a knowledge-based economy. The promotion of linguistic diversity on global information networks, the production of local and indigenous content on the Internet and universal access to cyberspace are central issues. Language is one of the major barriers to the formation of perfect knowledge societies in developing countries. Each day over two million pages are added on the Internet but there is a very small content representation on the net in the vernacular languages of the southern countries. Statistics point out that over 85% of the content on the net is in English; yet fewer than one in ten people worldwide speak that language. Further, with high rates of illiteracy in the developing countries, people who are unable to read the content even in local languages would be excluded from the knowledge-sharing network. Thus, the literally well connected have an overpowering advantage over the illiterate poor, whose voices and concern would be left out of the global conversation.

#### Reflection and Action 25.4

Do you think the existence of multiple languages in India will hamper the growth of knowledge based society in India? Suggest some ways to overcome the situation.

## 25.8 Divide in Employment Accessibility

In the contemporary phase of rapid globalisation and revolutionary changes in the technological developments there is a widening gap in terms of country's participation in global economy and the benefits that these countries, enterprises and individuals reap from this participation. Also within many countries the gap in terms of access to decent work and incomes and participation in economic and social life is widening between various income groups. The poorly educated and trained are generally the losers in the process of economic change where society as a whole seems to march towards higher order of development. This is what happens in knowledge societies. Those who have access to knowledge and related technologies can take advantage of emerging economy and thus the economic advantage. This true in the case of both the individuals and nations.

Globalisation, declining communication and transportation costs, and the opening of political borders combine to facilitate increased movements of skilled people (knowledge workers). This dynamic is de facto leading to a

global market for advanced human capital in which individuals with higher education are the most likely to participate (Carrington and Detragiache 1999). This may lead to mobilisation of qualified people from lesser developed to the developed countries, thereby depriving the developing countries the service of their better minds.

In this 21st century marketplace, the richer countries strive to attract and retain the world's best-trained minds in many ways. Among the more powerful "pull" factors are effective policies that stimulate R&D activities and increase direct investment, offer attractive post-graduate training and research opportunities, and recruit younger graduates and professionals (Glanz 2001). OECD countries are increasing their investments in R&D not only in the science and technology sector but also in other knowledge-based sectors, thus creating job opportunities for well-trained people. For example, in early 2001 the Australian government announced a 100 percent increase in the funding of the Australian Research Council and a tax write-off equivalent to 175 percent of the value of R&D spending by firms.

Roughly 25 percent of the science and engineering students in U.S. graduate schools come from other countries. This amounts to some where between 50,000 and 100,000 students from abroad who are introduced into the U.S. market for advanced human capital. Most of these students received their basic education and first degrees in their home countries – meaning that the cost of their initial training was probably assumed by the countries of origin rather than by the country of employment (NSF 2000: app. table 4-22). Advanced countries are opening recruitment offices in countries where, because of lack of opportunity and political instability, graduates are available. Australia, Canada, EU members, and others all compete for their share of well-trained people in the global marketplace. France and Germany have freed up the issuance of visas to attract foreign professionals in technology-related areas, and in October 2000 the United States introduced an amendment to its immigration laws that made available 600,000 new visas for scientists and engineers.

The global labor market for advanced human capital is an expanding reality that brings the circulation of skills and the related problem of "brain drain" to the forefront of national concern, particularly in developing countries. Whether it results from push or pull factors, brain drain can have a debilitating effect on national governing structures, management capacities, productive sectors, and tertiary institutions. It is estimated, for example, that at least 40 percent of the graduates of the highly regarded Indian Institutes of Technology seek employment abroad. The countries of Sub-Saharan Africa have an average tertiary enrollment rate of only 4 percent, compared with 81 percent in the United States, yet it is estimated that about 30,000 Africans holding Ph.D.s live outside Africa and that 130,000 Africans are currently studying overseas. Although the phenomenon of brain drain - international mobility of skilled human resources - existed in the past too, this received an increased acceleration in the contemporary phase of technological development when knowledge and knowledge workers become commodities of high value. The rising process of brain drain can have positive as well as negative effects on countries at all levels of development. Developing countries, however, tend to suffer largely adverse consequences, as they may lose the very technical and professional specialists who would be capable of contributing to poverty-alleviating improvements in the living conditions of the local population.

## 25.9 Conclusion

This unit makes an attempt to make a sociological critiquing of the phenomenon of knowledge society at all the three levels of conceptual, empirical and theoretical. In conceptual critiquing the very concept of knowledge-based society is questioned since all the human societies are knowledge societies. Also the ambiguity in defining the concept of knowledge is widely criticised.

On theoretical grounds there are different ideological strands that relate technology and human progress. While techno utopians consider technology all pervasive and it leads to universal human progress, techno cynics consider technology as facilitating the existing societal divisions and inequalities. Whereas, techno structuralists are not concerned with the merits of technology but the way technology is used. They believe that if technology is used with a deliberate determination of reducing the existing disparities in development, it will be beneficial to the humanity as a whole. In empirical critiquing the unit is more focused on digital/knowledge divide. The wide gap in the mass participation in the process of knowledge production, dissemination and deployment in a knowledge-based society has been highlighted in this unit. We have seen wide disparities in ICT accessibility exist between the countries on the basis of GDP rates and within the countries based on socio-economic criteria such as geographical location, race, income, education etc.

From the fore-going discussions we understand that the challenge before the knowledge-based society is whether such a society, the basis of which is the universal phenomena of knowledge and its production, dissemination and application actually will be able to achieve the universal concepts of equity and equality to all.

## 25.10 Further Reading

Castells, Manuel 1996-8 *The Information Age: Economy, Society and Culture*. Vol. 1: *The Rise of the Network Society*; Vol.2: *The Power of Identity*; Vol. 3. *End Of Millennium*. Blackwell: Oxford

Giddens, Anthony 2000. *The Third Way and its Critics*. Polity Press: Cambridge

Jessop, Bob 2003. "The State and the Contradictions of the Knowledge-Driven Economy". In Bryson, J.R. et.al. (eds.) *Knowledge, Space, Economy* Routledge: London