



# General Assembly

Sixtieth session  
New York, 2005  
Item 58 (c) of the provisional agenda  
Eradication of poverty and other development issues

Word count: 8390

## **Human resources development**

### **Report of the Secretary-General**

#### **Summary**

This report is prepared in response to the UN General Assembly resolution 58/207 entitled “Human Resources Development” and provides an overview of the need for promoting comprehensive and cross-sectoral approaches to human resources development. It also emphasizes the mutually reinforcing relationship between human resources development and the realization of the internationally agreed development goals, including those contained in the Millennium Declaration, and how both should be pursued in the context of national development strategies. This report, as stipulated by the General Assembly, more specifically focuses on the need of investment in human resources development, gender mainstreaming and equality, the role of ICTs, the role of the public sector and broad-based engagement in the formulation and implementation of national and local policies to promote human resources development, and the role of UN system support. It also addresses the impact of the movement of highly-skilled and educated people on human resources development in developing countries and makes a number of related recommendations.

## **Table of Contents**

- I. Introduction
- II. Challenges of human resources development and emerging approaches
  - A. Investments in human resources development
  - B. Gender mainstreaming and gender equality in human resources development
  - C. The role of knowledge, science and technology, including ICTs in human resources development
  - D. The role of the public sector in human resources development
  - E. UN system efforts to support human resources development in developing countries
- III. The impact of the movement of skilled labour and people with advanced education
  - A. Level and characteristics of migration of skilled labour
  - B. Management of highly-skilled labour migration and policy options for developing countries
  - C. Measures to shift from “brain drain” to “brain circulation”

### **I. Introduction**

1. Human resources development is essential in enabling people to enlarge their choices<sup>1</sup> and expand their freedoms<sup>2</sup>. At the core of human resources development is the concept of human development, which relates to people’s physical well-being, such as health, nutrition, education and to the widening of choice and enhanced empowerment, including participation, political freedoms and cultural aspects. What people can positively achieve is influenced by and interconnected with economic opportunities, political liberties, social powers, and the enabling conditions of good health, basic education, and the encouragement and cultivation of initiatives. Human resources development is fundamental to the achievement of these freedoms.

---

<sup>1</sup> 1990 UNDP Human Development Report.

<sup>2</sup> “Development as Freedom”, Amartya Sen, Random House, New York, 1999.

2. The Millennium Declaration has stressed the rights of individuals to lead a productive life. The Millennium Project, which focuses on how to achieve the Millennium Development Goals (MDGs), has presented these goals as the very means to build the human capital needed to enable individuals to lead a productive life. A healthier, better nourished worker is a more productive worker, and improved water and sanitation infrastructures reduce illness and raise output per capita.
3. The challenge of human resources development has thus evolved into a much broader socio-economic and public policy concept, embracing more comprehensive, cross-cutting and cross-sectoral approaches that combine investments in economic growth with investments in the provision of basic social services and other relevant sectors in order to enhance the pool of individuals who act as productive agents (or human capital) for development as well as exercise their freedoms.
4. Increases in human resources both facilitate broader participation in economic and social life and augment economic productivity and income. Sustained human resources development requires sustained investment, not only for economic growth, but also for poverty eradication, provision of basic social services, sustained livelihood, empowerment of women, involvement of youth and vulnerable indigenous groups, and all other sectors essential to building human skills and capabilities. This warrants cross-cutting and cross-sectoral approaches - captured in the internationally agreed development goals - to address basic human development needs and all other requirements necessary to build human capital for sustained economic growth and development.
5. Globalization and the evolution of information and communication technologies (ICTs) have increased the international dimension of this issue. International mobility in particular, especially migration of skilled labour, has a direct impact on the effectiveness of national policies and achievements in human resources development. The lack of human resources development in developing countries has repercussions on a number of other areas beyond national borders such as

human security, international stability and peace. The management of this issue thus requires both national and global responses.

6. This report builds on earlier reports on this subject and has been prepared in response to General Assembly resolution 58/207. As stipulated in the resolution, the report examines, in section II, the strategic framework for investment in human resources development. The section further considers the role in promoting human resources development of gender mainstreaming and equality, science, technology, ICTs, and the public sector. It also discusses UN system efforts supporting developing countries in these areas. Section III of the report focuses on the impact of the movement of skilled labour. It analyses the level and characteristics of migration of skilled labour, the issue of its management, and proposed measures to shift from “brain drain” to “brain circulation”.

## **II. Challenges of human resources development and emerging approaches**

### **A. Investments in human resources development**

7. National development strategies that have successfully triggered a virtuous cycle of economic performance focused both on macroeconomic growth and human development. There is no unique path to trigger a virtuous cycle. This is, however, more likely to occur when economic growth is based on an adequate rate of investment and equitable income distribution through employment generation and poverty eradication policies, and when there are high ratios of government expenditure in human development. It is widely recognized that investment -domestically or externally financed – in areas such as health, nutrition, education, training, skills development, capacity building, and R&D-contributes significantly to building the human resources necessary to ensure a virtuous cycle of sustained economic growth. Data on education, for instance, reveals that while investment flows affect economic profitability in the short run, human resources development affects profitability and economic growth in the long run. Female education has shown to be critical in ensuring economic growth and human resources development.

8. A useful strategic framework for investment in human resources development is offered by Gustav Ranis and Frances Stewart<sup>3</sup>. They suggest, and demonstrate empirically, that a successful way of generating a virtuous cycle of both higher economic growth and human capital development gives priority to human development. A path that postpones human development until economic resources expansion makes it affordable will make economic growth unsustainable and will eventually take countries back to a vicious cycle with failures to both human development and economic growth. Evidence showed that no country succeeded in moving from economic growth-biased development processes to a virtuous cycle. The diversion of resources away from human development, unequal distribution of income and/or low social expenditure ratios invariably leads to unsustainable economic growth.

9. Countries that have been successful in integrating to the world economy, such as the Republic of Korea, Singapore, Malaysia, Mauritius and Ireland, have adopted comprehensive approaches carefully combining targeted investment in human resources with investment in physical capital and industries. Countries that made early progress in human development also stood a better chance of sustaining their human resources record during difficult economic downturns and adjustment periods.

10. Progress in human resources development in general is far from uniform across the world, with huge disparities across and within countries. In the majority of developing countries, maintaining adequate capital investment rates, along with sustained investments in human development has proven to be very difficult. Poor countries have not been able to maintain sufficient levels of savings and investment rates to meet both economic growth and human development. In most situations, there is either good economic growth but poor human development because of low public expenditure, or good human development but poor growth because the investment rate is too low. Some countries are caught in a poverty trap of severe resource constraints resulting in low saving rates, low tax revenues, and low foreign investment. This is likely to be accompanied by violent

---

<sup>3</sup> QEH Working Paper Series –QEHWPS32- “Strategies for Success in Human Development”.

conflict, brain drain, high birth rates and rapid population growth, environmental degradation, and low innovation. All of these adversely reinforce and amplify poverty and further deplete the human resource base.

11. HIV/AIDS, brain drain, and rapid economic, social and technological changes have contributed to further depleting scarce developing country resources and capacity to build the human resources necessary to create and sustain economic growth. The scale and magnitude of the HIV/AIDS epidemic is unique because it affects the young, most productive members of societies. In many countries, AIDS is rolling back decades of development advances, deepening poverty, reversing achievements in education, diverting health budgets away from other priorities and reducing economic growth. It is estimated that by 2006, eleven countries in sub-Saharan Africa will have lost more than one-tenth of their labour force to AIDS. In 2004 alone, 3.1 million people died of AIDS, of which more than 80 percent were adults in their most productive years. The epidemic is straining local coping mechanisms and generating greater demand for social services. It is eroding government capacity to deliver basic social services and creating a need to build additional human resources to design and implement HIV/AIDS programmes, alongside those required for current prevention, treatment and care.

12. The move towards knowledge- and skills-based societies and fast integrating markets has further increased the institutional requirements and pressures on developing countries to integrate in the global economy. The 2005 Secretary-General's report on "Globalization and Interdependence" examines these challenges. The task of developing countries is further complicated by continuous economic, social and technological changes. **To close the skill gap with developed countries, developing countries will need to adopt more comprehensive economic, labour market and social policies promoting economic and employment growth. Supply-side policies, such as those on science and technology, education and training, and industry and enterprise will need to be combined with policies that expand aggregate demand in the economy, such as policies targeting the labour market, social**

**issues, investment-friendly economic policies, income distribution and fiscal policies, social security and basic incentives to invest in training.**

**13.** Financial shocks might also worsen or cause temporary poverty, which tends to affect negatively human resources and exacerbate inequalities in developing countries. Without donor support, situations of transient poverty might lead to chronic poverty. **Donor support should focus on the provisions of insurance programs, micro credit programs, crop insurance programs, employment guarantee schemes and price stabilization policies to help stricken countries deal with the effects of transient poverty and avoid unravelling accrued development gains.**

14. Breaking the poverty trap in some of the poorest countries requires a big push of basic investments in public administration, human resources and key infrastructure. Without the support of the international community, these countries would not be able to establish an adequate base of infrastructure and human resources that will enable them to escape the poverty trap. The differences across countries and regions are extremely large in terms of affordability of human resources development and external financing needs. In Sub-Saharan Africa, external aid plays the largest role, since most countries have a long way to go towards development and possess limited capacity to mobilize domestic funds to build human resources. In the majority of developing countries, poor human development is concentrated in certain regions and in certain segments of the population. Rural areas are generally worse off than urban areas. In many countries, for example, limited rural educational opportunities are the reason for low overall level of education.

**15.** The core challenge to invest effectively in human resources development is to reach the largest proportions of populations and to ensure the sustainability of human resources development through comprehensive human resources development strategies as an integral part of national development strategies or poverty reduction strategies where they exist. **Scaling-up investment requires policy coherence and integration of human resources development with the overall national development**

**strategy to ensure effectiveness and sustainability of investment. It requires national commitment and partnership among all development partners to ensure adequate allocation of resources.**

**B. Gender mainstreaming and gender equality in human resources development**

16. Women continue to be among the disadvantaged groups denied opportunities that are central to participation in the social, political and cultural life of society. This is mainly the result of their limited access to education, skills training, health care and employment.

17. The exclusion of women has an important impact not only on their well-being and development, but also on countries' ability to reduce poverty and facilitate economic growth. There is abundant evidence that female education tends to improve child nutrition and survival levels: the higher the level of female schooling, the lower the levels of fertility and of infant mortality rates. A study of Brazil indicates that an increase in the non-labour income of women increases the probability of child survival by 20 times that of an equivalent increase in the non-labour income of men.

18. The assumption is that enhancing female access to education, skills training, health care and employment would reduce overall poverty and positively affect sustained human resources development and economic growth. It would also reduce inequalities in income distribution and employment opportunities and conditions. Economists increasingly utilize economic efficiency rationales to encourage investment in women's development and capacity.

**GENDER EQUALITY AND ECONOMIC EFFICIENCY**

*-Research on agricultural productivity in Africa shows that reducing gender inequality could significantly increase agricultural yields. For instance, studies have shown that giving women farmers in Kenya the same level of agricultural inputs and education as men farmers could increase yields of farms by more than 20 per cent.*

*-Research on economic growth and education shows that failing to invest in women's education can*

*lower the growth in gross national product (GNP). Everything else being equal, countries in which the ratio of female-to-male enrolment in primary or secondary education is less than .75 can expect levels of GNP that are roughly 25 per cent lower than countries in which there is less gender disparity in education.*

*-Gender inequality also reduces the productivity of the next generation – the World Bank reports mounting evidence that increases in women’s well-being yield productivity gains in the future. The probability of children being enrolled in school increases with their mothers’ educational level and extra income going to mothers has more positive impact on household nutrition, health and education of children than extra income going to fathers.*

19. Biases against women in accessing land and credit markets partly explain why poverty is more widespread among them. In most countries, women and men are distributed differently across sectors, occupations and between formal and informal sectors. Women are also more likely than men to be in low-paid jobs and “non-standard” work (part-time, temporary, home-based), and likely to have less access than men to productive assets such as education, skills, property and credit. These patterns mean that economic trends and economic policies are likely to affect women and men differently.

20. Governments throughout the world are already taking action to promote better access by women to education, training and skills development in various ways. Women are among those specifically targeted by many government training and employment support programmes. Training programmes for girls and women have been successful in improving skill levels and employability. This is particularly true of training that is geared to market opportunities and provided as part of an integrated and targeted set of measures to promote the labour market inclusion of women, rather than as stand-alone programmes.

**21. To enhance the well-being and economic potential of women, the gender perspective should be mainstreamed in the analysis and formulation of human resource development policies. This will help redress gender differences and inequalities in human resource development and improve their access to productive activities. Targeted activities to promote the advancement of women and**

**gender equality should also be promoted to address serious gender gaps, support women's empowerment and develop women's leadership capacities.**

22. A first step to developing gender-based human resources strategies and policies for developing countries is to build statistical capacity to collect and analyze sex-disaggregated data. This will increase Governments' capacity to understand and address development issues - including human resources development and economic growth- from a gender perspective. It will also facilitate the formulation of appropriate policies and programs, including mechanisms and institutions to enable the expression and integration of gender concerns in the decision-making process. A key challenge will then be to translate research and knowledge on gender perspectives at the micro-level into macro-level policy, planning and institutional development decisions. Commitment to identifying gender perspectives in human resources development, as well as entry-points in all other policy areas, is fundamental to this endeavour and to the formulation of appropriate strategies.

**23. Subsequent steps to enhance gender mainstreaming and equality in human resource development should focus on: developing quantitative measures of women's contributions to the economy; developing sex-disaggregated data for the formulation of human resource development policies and strategies that are gender sensitive; identifying institutional changes that would allow greater contribution by women in the economy, facilitating consultation and participation of women in policy making and in all phases of development activities; and investing greater resources to enhance understanding of gender impacts and to monitor progress.**

### **C. The role of knowledge, science and technology, including ICTs, in human resources development**

24. The recent report of the United Nations Millennium Project and the United Nations Secretary-General's report "In larger freedom: towards development, security and human rights for all" (A/59/2005) have both highlighted the importance of science, innovation and technology in realizing the

MDGs and related national development priorities. Building institutions and a critical mass of knowledge and technical workers to advance science, technology and innovation is a clear goal of the MDG-based development initiatives of many countries seeking to build strong economies and participate fully in technology driven global business community development. ICTs have an important role to play here. The strategic, widespread, intensive and innovative use of ICTs in national development policies and programmes can facilitate the achievement of the internationally agreed development goals, including those contained in the Millennium Declaration, and increase human resources necessary to advance science and technology. Knowledge, science and technology, especially information and communication technologies, are key building blocks for future economic and social development and job creation. But this requires enormous social investments to promote scientific and technological capacities. Poor countries have largely been spectators, or at best users, of the technological advances produced in high-income countries.

**25. There is a need to build scientific and technological capacities in developing countries. This will help promote economic growth and solve countries' own scientific challenges. In the case of ICTs, while not all countries have sufficient infrastructure, incentives and partnerships in place to develop ICTs as a sector, all countries could benefit from using ICTs as an enabler.**

26. ICTs can empower people to make better choices through improved information flows, increased formal and informal educational opportunities, and human as well as institutional capacity development. It can also directly spur economic growth by creating opportunities and addressing barriers and inefficiencies through increased transparency and accountability.

27. ICTs are finding their way in virtually every sector of the economy and all aspects of social life, from the workplace to health care and education, to governance and human rights. ICTs are becoming an important tool for human resources development, both in terms of advocacy and information access and dissemination and as a

tool for knowledge and learning. Increasingly, institutions' programmes, strategies and methods rely on ICTs to provide education and training.

28. Access to ICTs, however, remains an important challenge for many developing countries. Several countries have still not reached a basic access level to telecommunication, especially in Sub-Saharan Africa and the LDCs. Yet, even when telecommunications systems are installed and accessible, without literacy and basic computer skills, people will have little access to the network society.

29. The increasing profile and importance of the use of ICTs in the education sector are visible in many developing countries. ICTs are currently used widely for education in many LDCs. More needs to be done, however, to establish the effectiveness of ICT investments in education: in promoting educational reform in general, and Education for All (EFA) goals in particular. The challenges facing education systems in most of these countries are formidable and sometimes intractable. In countries in which the teacher corps is ravaged by AIDS, where there is a grossly inadequate number of schools, lack of equal educational opportunities for girls, and desperate poverty, ICTs can play a role in helping to overcome these challenges.

30. E-learning is making inroads in schools, colleges, community centres, training institutions and universities. The flexibility and affordability of ICTs in developing countries, when available, has helped reduce costs associated with human resources development, such as education costs, and costs of health care services. For example, information on prevention and diseases is disseminated more effectively on-line, while access costs for consumers to health care centres are being reduced. Flexibility and affordability of ICTs has also helped maximize human capital gains, for it has proved to enable more effective ways of learning. Distance learning programmes are expanding at a rapid pace. Many "mega-universities" provide distance learning programmes to a total of some 2.8 million students a year.

31. The rapid expansion of distance learning generated by ICTs also has the effect of increasing access of disadvantaged groups to information and learning opportunities. People in remote communities can benefit from these opportunities as ICTs begin to reach them. This presents an unprecedented opportunity to focus on and address more systematically the specific human resource needs of these groups and better target action. A classic example is the Telesecundaria programme in Mexico which reaches some 700,000 students in 100,000 small, remote communities endowed with few schools and teachers. In some countries, ICTs are playing an important role in counteracting the so-called brain drain. Internet exchanges can play a significant part in recapturing some expatriates' new expertise, transferring knowledge and technology to the home country and contributing to human resources development there. In the 1990s, the Internet has been key to an apparent growth and intensity of expatriate organizations. For example, the United Nations Information and Communication Technologies Task Force has helped establish African and Caribbean Diaspora Networks in North America and Europe.

32. In an ICT-driven development strategy, ICT capacity building and infrastructure development needs to be shaped by a vision of the ICT competencies and skills that people need to acquire. ICTs have changed the nature of work and type of skills required in most fields and professions. This trend poses challenges for educational systems to produce workers with the requisite skills who are adaptable and receptive to lifelong learning.

**33. An effective use of ICTs for human resources development in developing countries should rely on favourable national policies, government support, and regulatory frameworks, increasing access to ICTs and people's capabilities to use them. Government policies should also facilitate the active engagement of private sector and all relevant stakeholders to build the necessary infrastructure to develop ICTs and related skills. Realistic plans based on a good knowledge of the**

**local needs, culture, practices, support and accessibility of resources should be the basis for ICT capacity-building programmes.**

**D. The role of the public sector in human resources development**

34. Public investments are key to human resources development leading to sustained economic growth. Public spending in critical areas such as health, education, infrastructure, environmental management (including water and sanitation), information and communications, scientific research, and land for affordable housing are crucial in this respect. Accountable and efficient public administration of all these areas is essential to countries' development performance and, in turn, depends on the quality of human resources in the public sector. It is people, coordinated by institutions, who deliver public services such as health care and education. When public institutions perform well, it is primarily because of the motivation, skills and integrity of the human resources and the quality of leadership.

35. The *World Public Sector Report 2005* (WPSR) explores principles and techniques to enhance the quality and effectiveness of Government public administration and human resources management. Presence of a merit-oriented and career-based civil service is decisive in explaining cross-country differences in the performance of governments in terms of the quality of services and the absence of corruption.

36. Among the important challenges, the Report identifies the need to incorporate or reinvigorate desirable traditional civil service values, such as impartiality, integrity and dedication to public service, while at the same time promoting management innovations and efficiency improvements, as well as encouraging forms of administration that are more open and responsive to new challenges and needs. Strong stakeholder engagement, including business and social organizations, would help increase the effectiveness and sustainability of public services. The engagement of these stakeholders would also ensure relevance of public investments, lead to decisions that best address the people's needs as they perceive them, and serve as watchdogs for the development and implementation of government policies. By placing a greater emphasis on openness, partnerships and networks with stakeholders, it would be

possible to draw on additional skills and resources and to ensure impartial, professional and responsive public sectors.

37. For example, the access to and delivery of health services to rural communities should be designed with the participation of these communities, health care providers and all other affected groups. This would help create a public service that better reflects the needs of both health care recipients and providers (community members and nurses and physicians); augment its quality and sustainability over time; and ultimately improve the health status of rural communities. In the same vein, this approach should be used for human resources planning purposes and as a tool for recruiting health care providers to rural and remote communities.

**38. The support of the international community is essential to help developing countries to build public sector capacity by developing and managing the necessary human resources and by assisting them to set in place broad-based consultative approaches with national stakeholders for the design and implementation of effective and responsive public services.**

**39. The international community has an essential role in supporting developing countries to counter-balance the loss of skilled and experienced public servants to migration or HIV/AIDS.**

#### **E. UN system efforts to support human resources development in developing countries**

40. Human resources development has featured prominently in the development framework of the UN, which highlights its importance for economic growth and sustainable development. Over the years, the development community, including the UN system, has increasingly focused on the relationship between human resource development and sustainable development. The achievement of the MDGs is viewed as influenced directly or indirectly by a country's human resource development policies and strategies. Available research and analysis show how human resource development is linked to the attainment of most of the MDGs. In particular, poverty reduction, gender equality and prevention of

HIV/AIDS, malaria and other diseases in developing countries are all directly affected by or affect human resource strategies.

41. Through the MDG framework, the development community and the UN are addressing the many dimensions of human development. Human resource development is taking on a new importance in the development agenda of many UN system organizations supporting national poverty eradication efforts. Many of them have integrated in their programmes and activities a focus on human capacity development and seek to enhance national capacity to monitor and assess progress in pursuing this objective in the context of the MDGs. For example, ILO's work is guided by the Human Resources Development Recommendation, 2004 (No. 195), adopted in June 2004, which emphasizes education, training and lifelong learning. Similarly, Education for All is a key framework for UNESCO in the area of education, as is basic health services for all for WHO. UNDP promotes understanding the concept of human poverty as a complement of income poverty. It advocates for nationally-owned solutions and helps to make them effective through ensuring a greater voice for poor people, expanding access to productive assets and economic opportunities, and linking poverty programmes with countries' international economic and financial policies.

42. In the UN common strategic frameworks for development cooperation policies, such as the Common Country Assessment (CCA) and the United Nations Development Assistance Framework (UNDAF), human capacity development features prominently in the UN system support to national efforts to formulate national poverty eradication strategies based on local needs and priorities. The effectiveness and impact of UN system support will be enhanced by increasingly more comprehensive and integrated approaches of system agencies in this area within the MDG framework. The report "One United Nations: Catalyst for Progress and Change", prepared by the United Nations System Chief Executives Board for Coordination (CEB), provides an analytical overview of how UN system organizations are working together to help countries achieve the Millennium Declaration's objectives. Significant progress has been made by the UN system in better integrating such a framework in its

programmes and activities. The goals have helped galvanize inter-agency collaboration and joint initiatives, including strategies to achieve the objectives of Education For All by 2015. UNICEF is also leading the Girls' education initiative (UNGEI), a ten year sustained effort to promote girls' education, involving 13 UN entities.

### **III. The impact of the movement of skilled labour and people with advanced education**

#### **A. Level and characteristics of migration of skilled labour**

44. Over the last few years, issues related to international migration, especially migration of highly-skilled workers, have received increasing attention from policy-makers. The 2004 World Economic and Social Survey addresses the issue of international migration in a comprehensive way. This increased attention reflects the sharp rise in the international demand for skilled labour generated by the evolution of modern economies and the forces of globalization over the last decade and a half. These evolutions have produced a significant outflow of educated elites from developing countries to more developed nations.

45. Broadly, migration of skilled labour and people with advanced education has been stimulated by: a global economy that is becoming increasingly knowledge-intensive and values higher education and skill level; increasing wage inequality and the unbalanced professional opportunities in different countries and regions, particularly between more developed and less developed economies; and recruitment policies of more developed countries, designed to ease skill shortages in their workforces. Emigration of highly-skilled people has been facilitated by their command of key resources for mobility.

46. Uneven and unsteady global labour market conditions and demographic imbalances particularly between developed and developing countries may also contribute to the acceleration of international mobility. Highly-skilled people have migrated regionally or further abroad where they could improve

their economic and professional perspectives. For talented and highly-skilled people, emigration sometimes represents the only way to attain better job opportunities, higher salaries and/or access to technical facilities, infrastructures and R&D to expand their careers.

47. The boom in ICTs further enhanced the role of human capital in economic growth and contributed to this outflow. ICT competencies and skills, however, are not the only ones in demand. Ageing populations in most OECD countries and the related increase in health care requirements are increasing the demand for medical personnel. Doctors, nurses, nursing auxiliaries and care assistants are particularly sought after in the United States, the United Kingdom, Canada and many other OECD countries. Increasingly, health and ICT professionals move from India to the United Kingdom, the United States, Canada or Germany; from Pakistan to the United States or Canada; from South Africa to Canada; and from Philippines to the United States. By the year 2000 it was estimated that 30 to 50 per cent of information technology workers and 60 per cent of physicians in the Philippines had emigrated overseas, mostly to English speaking countries and often facilitated by bi-lateral agreements with host countries. The same applies to teachers, translators, human resources in science and technology (HRST), and in the biomedical and agro-food sectors.

48. Competition among industrialized nations to attract the human resources that they lack and to retain those who might emigrate is intense. Many countries amended their legislation in the late 1990s to facilitate the entry of skilled foreign workers and to allow foreign students to access their labour markets upon graduation. Most countries introduced greater flexibility in their existing labour migration policies, while others also launched more specific recruitment programmes to meet labour shortages. In addition to immigration policy measures, some OECD countries have introduced specific fiscal incentives to attract highly skilled migrants. Some of these offer virtually income-tax-free status for up to five years for certain categories of highly qualified personnel most demanded, or large tax deductions: for example, 25% in Sweden, 30% in the Netherlands, 35% in Austria or 40% in Korea.

New legislation along the same lines has been recently adopted in France and is under consideration in New Zealand. At the same time, some countries have also taken steps to encourage nurses and doctors to stay in their home country, such as creating the Commonwealth Code of Practice for the International Recruitment of Health Workers (2003).

49. The acceleration of highly-skilled labour mobility, particularly from developing to developed countries, has again raised concerns about the so-called “brain drain” and the loss of economic potential in the countries of origin which could result from it. Developing countries experience shortages across a range of highly-skilled occupations affecting vital sectors, such as health care and education. This could potentially undermine not only their economic growth, but also their ability to achieve the MDGs. Some data indicate that 56% of all emigrating physicians move from developing to developed countries; developing countries in turn, receive only 11 % of emigrating physicians, principally from other developing countries. Rates are even higher for nurses. Developing countries invest about US\$ 500 million each year in training health care professionals, who are then recruited by or otherwise move to developed countries. This amount is equivalent to roughly 25% of the total ODA that developing countries receive for health.

50. Despite this increased mobility and the heightened concern about its impact, the quality and comparability of international data on migration have scarcely kept pace sufficient to better inform policy makers on ways to manage it. There has been no systematic empirical assessment of its dynamics, determinants and impact, especially its impact on developing countries’ human resources and economic growth.

51. If receiving countries and migrants are generally believed to profit from the opening up of borders to international migration of highly-skilled labour, which adds to their accumulation of human capital and knowledge, the impact on countries of origin is not so clear. The effects of migration tend to be seen as an erosion of the human resources base, which can have a negative impact on the economic and

social development of home countries and increase their economic dependency from external savings-remittances. Negative effects are visible on productivity, R&D, tax revenues and the opportunity cost of public expenditure on education. Potential favourable effects from migration of skilled labour include potential technology and knowledge transfer and capital investments by overseas or returning workers. The magnitude of the brain drain is also relevant to its overall impact. Additional analyses are needed to assess the magnitude of the impact of brain drain on human resources development.

52. A recent study of immigrants in OECD countries shows that migration of skilled labour affects developing countries in different ways depending on their size. The study indicates that the highest brain-drain rates (emigration of highly-skilled labour as a proportion of the potential educated labour force in sending countries) are observed in the Caribbean, Central America, and Western and Eastern Africa. Countries with a population below four million have been the most affected. Emigration rates exceed 80% in Suriname, Guyana, and Jamaica.

53. This study indicates that small countries are more adversely affected by emigration of highly-skilled workers, which prevents them from reaching a critical mass of human resources necessary to foster long-term economic development. Larger countries, on the other hand, seem not to be significantly affected and indeed may benefit from indirect effects associated with this mobility (such as return migration, knowledge and technology transfers and remittances).

54. Some poor countries are more vulnerable because human capital accumulation has been the result of enormous public investment efforts in the context of tight public budgets. For example, it is estimated that each emigrating African professional represents a loss of \$184,000 to Africa and that South Africa alone has lost more than \$5 billion in migration of highly-skilled labour between 1997 and 2001.

55. In developing countries, the international mobility of highly-skilled workers undoubtedly presents a serious challenge. Economic theory and available research suggest that the direct impact of brain drain is a sizeable loss of highly educated nationals abroad, which represents a reduction in the stock of

human capital or knowledge, critical to productivity and economic growth. It also sets in play a number of forces that can lead to economic growth. The positive example of some countries, in which migration of skilled labour triggered a virtuous cycle of economic growth, creates an incentive for developing countries to manage rather than control migration.

**B. Management of highly-skilled labour migration and policy options for developing countries**

56. International mobility of skilled workers is likely to increase. Economic theory has identified major positive feedback effects of skilled emigration. Return migrants, for instance, bring back skills and work experience gained abroad and savings as a boost to productivity. Expatriates contribute significant capital inflows through remittances and transfer of knowledge and technology through networks maintained with the countries of origin that can increase productivity and economic growth of the home countries. Neoclassic models, on the other hand, find that a high level of skilled emigration slows economic growth and “new growth” models find even greater reduction of economic growth and increases in poverty. More recently, the concept of “brain circulation” sees the migration of skilled workers as a component of the flow of goods and information in a global economy. It emphasizes the potential for exchanges rather than losses between countries. It identifies as a central challenge for developing countries the need to engage appropriately in the exchange of skills in the global labour market.

57. The effects on the human resources and development of developing countries would depend on whether or not the emigration of high-skilled labour ends up being a medium to long-term drag on economic growth. The extremes are exemplified by Indian IT workers and African health care workers. The emigration of Indian IT professionals set in motion virtuous cycles that led to new industries and jobs and improved the quality of IT services throughout India. It suggests that non-migrants also benefited in the country through knowledge and technology transfers, which generated human capital

increases and capital investment in the country. The Indian example illustrates that returnees can indeed bring valuable management experience, entrepreneurial skills and access to global networks and even venture capital. The resulting increase in human capital through knowledge and technology transfer also makes the country more attractive to local and foreign investors, triggering a virtuous cycle of economic growth. On the other side of the spectrum, the emigration of African doctors and nurses has reduced the availability of skilled workers at home. This has in some cases led to worse health care especially in rural areas, discouraged investment and triggered a vicious cycle of declining productivity and income. Since doctors and teachers cannot quickly be replaced internally - because of the delayed return on education - their migration necessarily brings a net loss from “brain drain”.

58. A recent ILO study explores possible policy responses for developing countries to international mobility of skilled labour that might help to reduce it or to offset its negative effects. The study promotes policies that focus on improving domestic opportunities in the education sector, as well as policies that target domestic economic growth and reduce the incentive to emigrate. Giving people a reason to stay (or return) is doubtless the most effective policy for reducing emigration and the surest long-term means of boosting average level of human capital, as well as economic growth. The study also identifies policies designed to benefit from expatriate population, or “diaspora”, as an effective way to offset the negative effects of highly skilled migration. Much of this happens on its own, as there is a natural proclivity for emigrants to maintain ties with their home country through human and financial networks. This generates flows of knowledge, technology, investment, and trade to and from their home country, which is also facilitated by contacts between home and host country academic and private sector institutions and migrant associations. Whether emigrants are permanent or short term, their linkages with the home country may offer significant benefits to offset the loss from brain drain.

59. There is no single, simple policy option that could guarantee a win-win outcome, where all stakeholders - migrants, countries of origin, receiving countries - would gain from the international

mobility of skilled workers. The policies of developing countries encouraging short-term migration, returns and remittances are more likely to trigger a virtuous cycle in their economy. In the case of the Taiwan Province of China, remittances and returns have hastened an economic take-off led by knowledge and technology transfer and capital investments from the ICT sector. There are, however, only a few similar cases (i.e. India and the Republic of Korea). More often than not, countries of origin fall into a vicious cycle in which professionals flee their countries of origin, which then experience net losses in terms of human capital and economic growth. These countries are generally left with very limited policy options. Restrictive emigration policies to maintain the human resource base needed to achieve an economic take off is difficult to sustain, for it is often hard for graduates to find good jobs locally, which is why many migrate. In addition, home countries face fierce competition from developed countries to attract such labour. **The increasingly high mobility of skilled labour and the worldwide competition for these workers will make it increasingly necessary to shift from “migration control” to “migration management”.**

60. Policy reforms aimed at attracting or retaining highly-skilled labour in developing countries should not only be driven by competition for human resources, but should also take into consideration other policy dimensions. **Home countries should combine investment in human resources development with economic incentives to strengthen labour markets and institutions; they should also facilitate and foster indigenous entrepreneurship and innovation.** The relative success of India, the Taiwan Province of China, the Republic of Korea and Ireland in attracting return migration has been attributed to the opening of their economies and to policies fostering investment in innovation and R&D. It has also been attributed to the creation of a context that supports not only the upgrading of the established producers but also indigenous entrepreneurship. The Government of the Republic of Korea launched a training programme for return migrants, and within the first six months of establishing the programme, 4,000 workers were reported to have participated in the scheme. The Sri Lanka Bureau of Foreign

Employment has adopted reintegration programmes, including loan schemes and migrant children's education scholarships. The Governments of Uruguay and Argentina have implemented policies to favour the return of migrants through tax exemptions for the products brought back by the migrants.

61. Migrant associations around the world have the explicit purpose of gathering resources to support hometown projects or connect country nationals, entrepreneurs and professionals, while promoting the exchange of skills and knowledge. Some of these networks are directly promoted by home country Governments such as the three-for-one Mexican programme in which migrants, local, state, and federal governments, each shares 25% of the cost of a particular hometown project.

62. Support of the international community to initiatives encouraging the exchange of knowledge between professionals in home countries and the diasporas have had positive results that may be further supported. The United Nations Information and Communication Technologies Task Force, along with the United Nations Development Fund for Women (UNIFEM), the United Nations Fund for International Partnerships, Digital Partners Institute and Grupo Cerfe have developed an initiative for Africa. Since 2002, this initiative has already developed an African database of ICT skills, a social venture fund for Africa, and a steering committee to manage the implementation of the process (the Digital Diaspora Network for Africa). A similar partnership has been established in 2003 for the Digital Diaspora Network for the Caribbean. A different, though parallel, initiative is the United Nations programme called Transfer of Knowledge through Expatriate Nationals (TOKTEN), by which voluntary expatriate high- skilled migrants are financed to visit their countries of origin for a temporary period of 3 to 12 weeks. During this period, experts work in the government, universities, public and private enterprises. The programme pays a round-trip airfare ticket and living expenses for the period of service.

**63. Concerted strategies between receiving and home countries -in partnership with international agencies and development partners- to address the issue of skilled labor migration as an integral**

part of development cooperation efforts could help ensure a more favourable outcome of international mobility for developing countries. An important component of these strategies should be the strengthening or building of migrants networks with their home countries to facilitate the flow of knowledge, technology, investment and trade.

### C. Measures to shift from “brain drain” to “brain circulation”

64. Only broad-based approaches to managing migration involving both countries of origin and destination, aiming at reducing push factors in origin countries, and limiting some of the adverse effects of international recruitment in receiving countries, can result in a significant sharing of the benefits attached to international mobility. Adequate incentives should come from both origin and destination countries to progress from “brain drain” to “brain circulation”.

65. In the home country, brain circulation could be facilitated through labour and migration policies. **Migration policies that facilitate migrants’ home visits, sending of remittances, transfer of technologies and tariff reduction on imported equipment from migrants, may improve the chances to create regular contact and strong links with home countries and induce eventual return. Such policies may further encourage migrants to establish micro-enterprises in the home country.** The software industry is a good example of the way in which cross-border flows of skilled workers have become essential to the way firms in developing and developed countries connect and transact. **Labour policies may help tackle shortages of skilled labour and reduce pressure of international demand for skilled workers by adjusting domestic salary or enhanced career development prospects in the economic sectors affected.**

66. At the international level, bilateral agreements could increasingly involve highly skilled and qualified labour, such as the temporary programmes for nurses from the Philippines working in Norway and the Netherlands. In general, these agreements provide a means for countries to strengthen

coordination on migration issues and provide protection to their nationals abroad while safeguarding the well-being of migrants on their own soil. Occasionally host countries also offer the opportunity to further immigrants' skill level, leading to significant transfers of skills and technology to their home country. At the multilateral level, **stakeholders should work together to establish good practices in the employment of highly-skilled labour. Countries should agree on a global arrangement to manage employment, recruitment, training and work permit schemes that facilitates brain circulation, ensures fair competition for skilled labour, and ultimately benefits all stakeholders. This sensitivity to shared responsibilities should be reflected by public and private institutions in charge of employment, recruitment, training and work permit schemes in host and recipient countries.**

67. As States become points of origin, transit and destination of migrants, they increasingly share a common ground in terms of migration interests, concerns, priorities and benefits. **Countries should increase coordination and collaboration at the global, regional and sub-regional levels to share and improve data and information on sectors in which there is labour shortage and surplus and facilitate mobility and flexibility of labour markets to meet labour demand everywhere.**

68. Multilateral initiatives are already in place in regional blocs such as MERCOSUR, the Andean Community, the Central American Integration System, etc., which include specific recognition of the importance of migration. **In this sense, sub-regional integration agreements offer suitable spaces for dealing with migration as a vital component of partnerships between members who share greater similarities in terms of their socio-economic conditions. Efforts to strengthen the bilateral, regional and multilateral agreements to facilitate labour mobility should be supported. Countries should be encouraged to undertake bilateral, regional and inter-regional consultative processes, as**

**these are central to the development of cooperative migration management and contribute to cooperation at the global level.**

70. International migration has important implications for other areas and policies. The multilateral agenda must include efforts to address systematically questions of migration in other processes. For example, migration should be addressed in cooperation programs between regions and by regional organizations, as well as in global fora concerned with trade, environment, and taxation. Free Trade Areas Agreements have been integrating some dispositions related to the free movement of certain categories of professionals, such as the North American Free Trade Agreement (NAFTA). Policy changes that liberalize migration across international borders presumably give rise to "gains from trade" even as they may increase the competitive pressures on national and sub-national fiscal systems. The on-going negotiation process of the General Agreement on Trade in Services (GATS) Mode 4, which rules the movement of natural persons to provide services, may standardize GATS definitions on occupations and duration of stay of foreign workers and have far reaching effects on the movement of highly-skilled labour. Other intergovernmental consultation processes and international initiatives are contributing to placing migration on the global agenda and managing this phenomenon for the benefit of all. The United Nations General Assembly resolution on International Migration and Development and the establishment by the United Nations Secretary-General of a Global Commission on International Migration (GCIM) are important steps in this direction. Recognizing the increasing importance of this issue, the GA also decided to hold a high-level dialogue on international migration and development in 2006 to discuss its multidimensional aspects and identify ways and means to maximize its developmental benefits and minimize its negative impacts.