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The Brain Drain:

Internal and External

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Historical Perspective

Man has been migrating from the dawn of civilization. From ancient times great centres of culture and learning in West Asia, South Asia, China, the Mediterranean and elsewhere have attracted and nurtured skills from other regions. Such migration has been a vital element in the rise and fall of civilizations. The inter-relationship between the rise of Athens, the in-migration of philosophers, mathematicians, astronomers, scientists and physicians from elsewhere and the flowering of a multitude of talent of many lands in the Greek city-state does not need elaboration. Over the centuries the magnitude and scope of such skill flows have grown: in the last quarter century this phenomenon has developed into an international crisis which we have been describing as the brain drain.

In the centuries immediately preceding World War II much of the world was governed by a few imperial powers and nearly all significant migrations of population occured in territories ruled by these powers. These population movements were of two distinct kinds, which we may label colonialist and commercialist respectively.

The first type was the settlement in large numbers, particularly in North and South America, Oceania and some parts of Africa, of European populations. Most of these regions were thinly populated (or at least, the population was suitably thinned out), and these settlements were regarded by the settlers as extensions of the mother country. Australia, New Zealand, U.S.A., Canada, and to a lesser extent the Latin American countries, have in fact become largely European in race, culture and civilization.

The other type of population movement was the transfer of slave or semi-slave labour to man the plantations, mines and other commercial ventures of the European settlers. This happened even in densely populated areas in Asia where the settlers were relatively too few to superimpose their race, culture and civilization on the native population. Massive movements of Chinese, Indonesian, Indian, African and other populations were organised to man such ventures as the tin mines and rubber plantations of Malaysia, the coffee and tea plantations of India and Sri Lanka, the various

extraction industries all over Africa, the coffee plantations in Brazil and the mines further south, the sugar plantations in the West Indies and the cotton plantations in the U.S.A.

In both these types of settlements capital, skill and labour moved in together. Apart from unskilled labour, the movement was mostly from a more developed to a less developed country. The migration of capital or manpower did not necessarily weaken the donor countries. In fact, there was extensive benefit to the imperial countries which directed these movements in that cheap sources of raw material and captive markets were found for their industries, new and profitable investment opportunities discovered for their surplus capital, and lucrative employment created for their excess manpower.

The last few decades have seen the lateral spread of nationalism and the consolidation of national states. The political face of South and South East Asia and Africa has been in flux. New classes have inherited or captured office over large areas of these continents. Numerous international agencies and multinational firms have come to play important roles in the economic affairs of developing countries. Imperialism in its classical form is virtually extinct.

These and other developments have made migration easier and more attractive than before, especially to the skilled. Many cities have become internationalised with the previous influx of immigrants and the presence of personnel of international organisations, thus making them less 'foreign' to would-be immigrants. The qualifications for many occupations are standardized and internationally recognised. Universities and institutes of higher education are built up with international recognition of their degrees as a high priority target.[1] Many jobs are internationally advertised. There is much better information available and foreign travel is easier, cheaper and more common. Many study abroad and there are numerous foreign scholarships. There are frequent international conferences and seminars which serve as international labour markets.

The population migration which has occurred in the last quarter century is different from the earlier movements in several respects. Firstly, migration today is mostly from a less developed to a more developed

1. There are some developments in the opposite direction too in certain countries including Sri Lanka–caused mainly by the use of national languages in education and national qualifications displacing former imperial ones. A few countries notably China and Tanzania, have deliberately adopted policies closely aligning education and training programmes to local needs, thus making them less suitable to meet developed country needs.

country, with apparently little or no flow back of benefit in return for what is, in effect, technical assistance. Another feature of this flow is that its skill component is considerably increased and is continuing to rise. Large scale international migration of unskilled labour has almost ceased.[2] A large proportion of those now migrating are scientists, engineers, doctors, university teachers and accountants. Many developed countries have adopted policies lowering discrimination against skilled immigrants and raising discrimination against unskilled immigrants. For the greater part, immigrants to developed countries settle permanently in the developed world, and their savings are not repatriated.

In the early stages, the numerous colonial ties and linkages ensured that the brain drain was mainly from the colony or ex-colony to the metropolitan country. In the course of time, political and economic development modified such special relationships based on colonial history. Dominant economies with the highest capacities to absorb skills attracted the best from all over the world. Thus, ex-British colonies in the developing world lose skills to all developed English speaking countries. U.K. is still the biggest beneficiary, but U.S.A. Canada and Australia are claiming increasing shares. U.K. in turn loses skills to U.S.A., Canada and Australia, while Canada and Australia lose skills to U.S.A.

There are several reasons for these changes in the size, composition and direction of the skill flows. Outside the social services, the economies of most developing countries have shown little progress. There are notable exceptions, mostly in countries closely aligned to the developed countries; but even in these countries economic development was heavily dependent on the dominant countries for technology, machinery and equipment, markets, shipping and certain technical and managerial skills. The demand for high level manpower in the developing countries was low except in the service sectors, particularly health and education.

On the other hand, the population explosion caused by the improvement in the health services and the increased investment in education caused the multiplication of educated personnel. Since there has been little movement away from the colonial heritage in the structure and content of education and professional training, many of these skills are those required in the metropolitan countries and have little relevance to the needs of

2. Even the new West Asian labour market is for intermediate and low level skills rather than for unskilled labour. The seasonal migration of mine-workers into South Africa is a notable exception. Elsewhere, natural boundaries obstruct such flows.

developing countries[3]. The educational system designed to produce personnel for the civil service and export agriculture rather than for industry and domestic agriculture is still widely evident in developing countries. Moreover, in these countries education is heavily subsidised, whereas salaries are largely administered prices reflecting the low average standard of living. It is easy to attract students and trainees into teaching and training institutions, but not so easy to retain them in the country after graduation in the face of international competition, either because of unemployment, or because salaries are low (compared to other countries), or both. Thus powerful push forces were generated in relation to a wide range of skills in many developing countries.

In contrast, the developed countries generally enjoyed boom conditions in the early post-war period. There was rapid advance of technology in a labour-saving direction. The productivity of labour rose. The wage levels went up, the service sectors expanded, production became more capital intensive, the demand for high level manpower increased and profits accumulated. Some of the surplus was invested in the more dependent developing countries. Generally, these investments did not require a high level of technology and were designed to exploit the availability of cheap labour and produce consumer goods, raw materials and semi-processed goods for the markets and the more sophisticated industries of the dominant countries. Thus it is the developed countries which exert the strongest pull on highly skilled manpower.

On the other hand, in most developed countries education and training are much more costly (less subsidised) but salaries are much higher and the demand for skills is further increased by generous grants for research and developement. Under these circumstances, education is less attractive but the jobs draw applicants from all over the world. Moreover, since the supply of migrant skills is often greater than the demand for such skills, the country of immigration is usually in a position to pick the best. In fact, disproportionate number of foreign medical graduates in the United States go into teaching and research[4]—perhaps an indication of their academic eminence.

These changes were accelerated by political changes in the international scene and in some developing countries, beginning about the 1950s. The concept of non-alignment, and nationalist and socialist ideologies

3. e. g. The emphasis in the medical colleges is on surgery and curative medicine rather than preventive medicine. Similarly, irrigation engineering gets inadequate attention in the engineering colleges.

4. A Mejia, (1978.) International Migration of profertional halth manpower in halth Manpower Planning, ed. Halth and Mejia, who,

spread and took root. Several developing countries adopted increasingly independent, nationalist and socialist policies, particularly in respect of industrialisation and nationalisation. Foreign invested in these countries dropped, and the surpluses of developed countries were invested in other developed countries, particularly the USA and Japan, or in the dwindling number of developing countries which retained close and stable links with the developed world. The fast expanding output of skills in the developing countries could not be absorbed by their slow-growing economies. In contrast, the demand for high level skills in developed countries continued to increase, accelerating the flow of skilled personnel, many of whom were adversely affected by the changes occurring in their own countries.

A new trend which particularly affects some English speaking countries in South Asia is the flow of low and intermediate level skills to West Asia. The origin of this new market for skills could be traced to the oil crisis. Several West Asian countries are using a good part of their oil wealth to finance a wide range of development programmes in their own countries. Originally the labour movement was within West Asia e.g. U.A.R. and Iraq supplied labour to the Gulf States. With the sharp increase in oil wealth, the balance altered: the demand for labour increased and the exportable surplus decreased, e.g. Iraq became a net importer of labour. West Asian countries therefore turned to densely populated South Asian countries like India, Pakistan, Bangladesh, Indonesia and Sri Lanka, and even countries further east, like the Philippines for their labour requirements.

These streams are in several respects different from the main streams to developed countries. Unlike developed countries, these countries find it necessary to pay heavily for these skills. Much of the earnings are repatriated or transferred to developed countries. Such migration also seems less likely to be permanent than migration to developed countries. Most of these migrants go back to their countries or move on to developed countries with their savings after a few years.

It is evident that the brain drain amounts to a massive transfer of resources from poor to rich countries. Developing countries are being drained of skills they desperately need but are unable to convert into effective demand in the face of international competition. On the other hand, key industrial and service sectors in several developed countries are virtually dependent on flows of these very skills from under developed countries. There is growing countribution to research and development in developed countries by expatriate scientists from developing countries. Rich countries often find it possible and profitable to reap skills which poor

countries produce at much cost. Generally this perverse aid flow is from where skills are more needed to where they are less needed, and the flow seems to be mostly in those skills which are scarce in the donor countries.

The nature of the 'aid' generated by the brain drain, an outright grant, often underpriced and without strings, is in sharp contrast to the conventional aid which is frequently tied to conditions such as the purchase of overpriced skills, machinery and equipment from the donor country and has usually to be repaid with interest. Generally the terms and conditions under which the brain drain operates are determined mainly in or by the recipient country, whereas the donor country exercises control over other forms of aid.

Brinley Thomas draws a picture of two circuits, a private circuit in which skills flow from less developed to more developed countries, and a public circuit in which skills flow in the opposite direction; and he suggests that the latter may be in part an expensive and inefficient substitute for the former[5]. We frequently encounter highly paid foreign experts in fields in which better qualified citizens of our country work for much lower pay in the country of the foreign expert. The inequitable exchange of skills adds another dimension to the prevailing international pattern of dominance and dependance.

The structure of rural-urban migration is similar to that of the international brain drain. The course of migration is from the rural areas to the urban centres, from the smaller towns to the bigger ones, from the periphery to the metropolis. The colonial tradition of urban centred education and development has been largely maintained. The content of education and training imparted is designed to meet urban rather than rural needs. The concentration of political and economic power in the capital and the urban centres ensures a tilt in development effort towards the already more developed areas. Such regional development as does take place is often inadequate and ineffective and is controlled by and meant to serve the metropolis.

In this context, the desire of much of the rural youth to move to the urban centres is not suprising. Widespread unemployment, differences in technological levels, and the many comforts and opportunities offered by the cities ensure that the composition of rural-urban migration is biased in favour of the more talented and the more skilled. The rural areas find it impossible to contain many of the skills they so badly require. The wide divergence between need and effective demand is evident.

5. B. Thomas in 'The Economics of Education', Vol. 2, ed. M. Blaug.

The absorption by the centre of the best brains produced by the periphery leads to further enrichment of the centre at the expense of the periphery. The continued loss of the more intelligent, energetic and enterprising sections of the population can seriously undermine the strength and vitality of the rural people. Backward regions drained of talent in this manner tend to get increasingly cut off from the mainstream of national development. The dominant relationship of the metropolitan countries to those on the periphery of the international economy is reflected internally in the relationship of the city to the village. The internal brain drain is no less an integral part of this exploitative structure than the external brain drain.

Magnitude, Composition and Direction of International Migration

It has been worked out that up to 80 or 90 percent of scholars from some UDCs in U.S.A. stay on after graduation. About half of the students from all UDCs who obtain their Ph. D.s in American Universities do not return to their home countries.[6]

Twenty four per cent of the scientists and engineers who entered the U.S.A. in 1963 came from Asia; the UDCs together contributed a third of the immigrant scientific and engineering skill. These proportions are growing.[6]

1482 engineers, 561 natural scientists, 251 physicians and 2277 other professional and teachnical workers emigrated from India to U.S.A. and Canada in the period 1962-66. China(mostly Taiwan) in the same period contributed a total of 4494 professional and technical workers to these two countries. Indonesia, over this period, lost 559 professional and technical personnel to U. S. A. alone, and South Vietnam contributed 185 engineers to France. Nigeria provided U.S.A. with 131 professional and technical workers. Ethiopia, one of the world's poorest countries and with one of the highest inhabitant-physician ratios anywhere (about 69,000) lost 13 physicians to the U.S.A. which has one of the lowest inhabitant-physician ratios (about 680).[7]

It is interesting to note that salaries of scientists and engineers in U.S.A. are declining in relation to those of other professions. One cause is the 'no raiding' agreements among big firms in several industries. But salaries remain higher than in most other countries and 'no raiding' at home must lead to more raiding abroad, especially because the relatively low level of salaries further pushes up the demand for engineers and scientists.

6. Dudley Seers, "The Brain Drain from Poor Countries" I. D. S, Sussex.
7. S. Watanabe, International Labour Review, Vol. 99, No. 4, April 1969.

A high rate of immigration into these professions enables salaries to be kept down, but the low salaries keep down local production of engineering and scientific skills. The intake of engineering students into Universities is levelling off in West Europe and is falling in the U.S.[8]. Thus, paradoxically, there is a two-way causative link between relatively low pay for engineers and scientists in the U.S. and high rates of immigration into these professions from other countries, especially the developing countries.

In the case of the medical profession salaries are higher, but the restrictive policy of the American Medical Association keeps down the local production of doctors, thus keeping up a high rate of immigration of foreign doctors. In fact about eight percent of those classified as foreign medical graduates in U.S.A. were American born but had their medical education in Europe, presumably on account of the shortage of places and the prohibitive cost of education in American medical schools.[4]

In 1972 WHO estimated that there were at least 140,000 expatriate physicians and about the same number of expatriate nurses in the world. The total number of physicians migrating in 1970 equalled one-eighth of the world medical schools output exclusive of China. Over half the migrants go to the United States. The annual immigration of medical graduates to U.S.A. increased from 1000 in 1954 to 12,000 by 1973-a figure in excess of the total output of the U.S. Medical Schools. Foreign medical graduates now fill more than a third of all internships and residency positions and account for over one fourth of all physicians in the United States. The proportion of foreign medical graduates to the total number of physicians in Canada is even higher-already over 25% in 1973.[9]

Nearly half the junior medical staff in Britain's National Health Service are from overseas, mainly from India and Pakistan. So are about half of the Senior Registrars and Senior House Officers in British hospitals. The in-flow of Asian and other doctors more than compensates for the doctors emigrating to the U.S.A., Canada and Australia-a stream equal in size to a quarter of Britain's annual production of doctors. In fact, for many Asian doctors Britain is only a transit stop in the emigration process. These figures were worked out in respect of the period 1955-62. By 1970 the number of immigrant physicians working in Britain had grown to a quarter of the total number of practising physicians.[10]

8. Dudley Seers, op cit.
9. A Mejia, op cit.
10. A Mejia, op cit.

Increasingly, the donor countries are underdeveloped rather than developed. By 1973, about two thirds of the total number of physicians and nurses immigrating into U.S.A. were Asians. By the late sixties, the number of Filipino nurses registering in the United States and Canada was more than the number registering in the Philippines. About half the foreign nurses who registered in U.S.A. in 1972 were Filipinos. The number of nursing students from Mauritius in the U.K. was 2½ times the total number of nurses working in the public sector in Mauritius.[11]

The numbers of physicians from Haiti, Iran, Lebanon, Paraguay and Philippines working abroad in 1970/71 amounted to over 5 years' output of their medical schools. Conversely, the numbers of immigrant physicians in Canada, U.K. and U.S.A. in the same year amounted to over 7 years' out put of their medical schools.[12]

Attempts have been made to quantify the value of the skill flows. Louis Parai gives $ 37 million and $ 20 million respectively as the value of University education alone embodied in human capital flows in and out of Canada in 1961. This amounts to a nett saving of 7% by Canada in its expenditure on University education.[13]

Kells West has estimated that the U.S. would have to build and support medical colleges costing at least the total value of the private and public medical aid now flowing out of the U.S. to all foreign countries and institutions if America is to be self sufficient in respect of physicians and surgeons.[14]

Grubel and Scott have calculated that in the period 1949-61, the value of embodied human capital flowing in to the U.S.A. exceeded one billion dollars, and that in 1957, the inflow amouuted to 13% of the total value of merchandise imported into the U.S.[15]

Statistics of the brain drain reveal a developing crisis. "If present trends continue, the impact on other countries of the US propensity to absorb professional skills may well be intensified. The rate of absorption of professional manpower by the U.S. has tended to fluctuate around a rising trend".[16]

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11. A Mejia, op cit.
12. A Mejia, op cit.
13. L. Parai, (1965) "Immigration and Emigration of Professors and Skilled Manpower during the Post – war Period" – Special Study No. 1, Economic Council of Canada.
14. K. M. West, "Foreign Interns and residents in the United States" in Journal of Medical Education Vol. 40, Dec. 1965.
15. H. B. Grubel and A. Scott — ' The immigration of scientists and engineers for the United States 1949 – 61" in Journal of Political Economics. 76 (4), Aug 1966.
16. B. Thomas, op cit.

Individual Motivation

Many emigrants find the financial attractions irresistible. This may be the most important determinant. Inability to get a job can be a factor but at least in respect of Sri Lanka, the evidence points to most emigrants having held jobs[17]: those unemployed in Sri Lanka find it difficult to get immigrant visas or jobs abroad.

Over the years the cost of living has escalated faster than wages in nearly the whole of the public sector and much of the private sector. Increasingly, wage earners are seeking means to supplement their regular incomes, or subsidies of various kinds to reduce their expenditure (e.g. queuing at co-operative shops during working hours) or more remunerative employment, either locally or abroad. This diversion of interest, time and energy must lead to reduction in the quality and quantity of output in their work places. The mounting financial difficulties also serve to stimulate the brain drain.

A factor frequently mentioned by emigrants as a cause of their departure is discrimination and injustice in appointments, transfers, promotions and selections for scholarships and study leave. As far as the Public Service is concerned there are usually established schemes and procedures to cover these. The allegation is that these are often disregarded when the authorities wish to discriminate in favour of one person or against another.

Many immigrants to developed countries are also dissatisfied with the political and social changes at home. Since many of them are from among the most privileged elite, almost any radical political or social reform is likely to be contrary to the interests of their class. They may find it easier to adjust to a less privileged position abroad than at home. It is interesting to note that in Sri Lanka, each nationalist advance, viz. independence, free education, the introduction of the national languages as the media of education, the displacement of English as the official language, the take-over of assisted schools, bouts of nationalisation, the introduction of the first Republican Constitution in 1972 etc., has sent out extra waves of emigrants. Many emigrants express uncertainty about the place of their children in the social strata of tomorrow; in this respect the emigrants may find in due course that their capacity to ensure privileged positions for their children in the developed countries is even less than in their own.

Ethnic, linguistic, religious and even caste problems may induce emigration e.g. in the 1950s and 1960s, a significant proportion of the elite among the Dutch Burgher community of Sri Lanka emigrated, as did a

17. Report of the Cabinet Committee inquiring into the problem of Technologically, Professionally and Academically qualified personnel leaving Sri Lanka – Sessional Paper X of 1974

large number of English-speaking families from other communities. They found the displacement of English in administration, education and public life unacceptable. The requirement regarding proficiency in Sinhala reduced their opportunities of advancement in the public service. There is also a growing proportion of Tamils who emigrate as they resent the imposition of Sinhala in administration to the exclusion of Tamil. This outflow is quickened on account of the fear and suspicion of communal discrimination in recruitment to and promotion in the public service and in admission to institutions of training and higher education. The scheme of linguistic standardization in the University entrance examination has been, perhaps, the most important stimulus to the outflow among Tamils of students at the pre-University stage and of families with children in secondary schools. The communal riots of 1958 and 1977 have also given impetus to the emigration of Tamils.

Restrictive policies in respect of higher education and training have also induced the emigration of many of the more ambitious and enterprising youth e.g in Sri Lanka, every year large numbers who qualify for University entry are denied admission as the number of places available is disproportionately small. Government departmental training programmes generally cater to only a fraction of the actual requirements, e.g. in teacher training, or at most to the number of vacancies in government service. No account is taken of the needs of the private sector, or of wastage due to causes other than officers reaching the age of compulsory retirement in determining the numbers to be trained in agriculture, nursing, radiography, physiotherapy, etc. Since there are no other training programmes in many of these fields in Sri Lanka, one result of this type of 'economising' is that these professions are permanently short of trained personnel, both in the public and private sectors.[18] Some of the private sector professional bodies, e.g. the Institute of Chartered Accountants, are also very restrictive and many students emigrate, usually to the U.K., in the conviction that it is easier to secure professional qualifications there than in Sri Lanka. The considerable student migration on account of such restrictive education and training policies is not reflected in the available brain drain statistics.

Another factor encouraging emigration of students is the desire to secure internationally recognised qualifications. In Sri Lanka, the change over of the medium of instruction from English to Sinhala and Tamil and

18. The strikingly close balance between projected domestic demand and supply of skills shown in Table 1 does not reveal the acute shortage of some of these skills on account of the brain drain, nor the economic waste due to under-utilisation of complementary factor inputs eg. radiography or physiotherapy equipment idling for lack of radiographers or physiotherapists, nor the social cost due to prolongation of curable illness.

the substitution of national degrees and diplomas not recognised in many foreign countries in place of British qualifications cause many parents to send their children abroad for educational and professional training. Often the parents emigrate to enable their children to do so.

In the case of scientific and technical personnel, it is only natural that they may wish to serve in institutions in the mainstream of scientific development, working with brilliant colleagues, meeting outstanding scientists, using the best equipment and the best libraries and having plenty of funds available for research. These are particulary important if the scientist is engaged in sophisticated research 'on the frontiers of knowledge'. Apart from other advantages, these conditions will help in professional advancement and securing international recognition. Often work experience of the type available only in developed countries may be considered an essential part of study (this again depending on the field of study).

Even within the country, foreign and international agencies may, to a limited extent, offer some of these facilities. Association with these institutions and their personnel, including foreign experts, may serve to orient the work content, outlook and aspirations of scientific personnel away from domestic to foreign directions. This process may eventually induce the emigration of the individuals concerned.

There are also more mundane reasons for emigration, such as the glamour of living and working in a modern developed country; working in a smart hospital or an ultra modern factory; the desire to enjoy comforts and attractions not available in the home country and, perhaps, return home sometime with vehicles, household equipment, etc. not available there. The desire to keep up with one's relatives, neighbours, friends and colleagues who have emigrated or plan to do so may be a strong incentive.

The benefits of emigration are often magnified and the disadvantages glossed over. Those who have emigrated often feel obliged to justify their action by painting a rosy picture of conditions in the country of immigration, sometimes exaggerating their own occupational and financial status. The arrival of charter flights bringing expatriates on holiday to Sri Lanka from the U.K. and elsewhere are important social events in Colombo. The tales of the emigrants, the gifts they bring, the fashions they sport, and even the accents they have acquired are great attractions to the youth among whom are many would-be emigrants.

Emigration is frequently undertaken without full awareness of the consequences, the cultural shock, the loneliness of exile, the break-up of the family, the feeling of insecurity and rootlessness, exposure to racial discrimina-

tion, etc. It may be difficult to get meaningful statistics of those who wish to return, because expectations, tastes and habits have changed since emigration which may make it unattractive to the emigrants to return. Many emigrants from UDCs find that once they have lived in a developed country for some years, they get accustomed to living standards and working conditions not attainable in their homeland. These circumstances may make it virtually impossible to return home even though they may be unhappy in the country of immigration. Perhaps emigration to another developing country is more easily reversed.

Generally the forces propelling rural-urban migration are not very different from those propelling the external brain drain. The natural desire for financial gain; parochial problems including ethnic, caste and family jealousies, rivalries and discrimination; the desire for educational and professional advancement and recognition; the glamour of the city; etc. play their part.

Rural poverty and landlessness are key factors behind the push forces keeping the rural-urban brain drain flowing. In the case of the well-to-do migrants the urban pull forces may be more relevant. Some succeed, but often the utopia turns out to be a mirage. In particular the poorer and less resourceful migrant frequently finds that he has moved from rural under employment to urban unemployment, from rural poverty to even more squalid poverty in an urban slum.[19]

A recent study of rural-urban migration in developing countries revealed that:-

"Migration is indeed the child of inequality. It is from the village where land is most unequally distributed that migration rates are highest,... Migration, however, is also the father of inequality. It confers cumulative gains upon the richer migrant's family, including access to further probable migration: for the poorer migrant, migration is increasingly a wandering search for work; and even if the search succeeds, it is unlikely to do more for his family than prevent a decline into deeper poverty".[20]

For very much the same reasons as in the case of the external brain drain, rural-urban migration is usually a one way flow. The weaker the ties (especially of family and property) with the rural homeland on the one hand, the longer the urban sojourn and the more sophisticated the environ-

19. Connel, Dasgupta, Laishley and Lipton, (1976), Migration from Rural Areas: the evidence from vilage studies', Delhi.

20. Connel, Dasgupta, Laishley and Lipton, op cit.

ment on the other, the more difficult it may be to reverse the migration, even in the event of prolonged urban unemployment and grinding poverty.

Costs and Benefits of International Migration

There are many who argue that on balance migration of skills is beneficial; some would argue that there is no loss even to the country of emigration. The advantages to the migrant and the country of immigration do not need elaboration, but it is claimed that the country of emigration too benefits directly by way of remittances sent home and indirectly in many ways from the spread effects of economic gains and creative energy; by the greater contribution which the emigrant can make to the international pool of knowledge from which all can draw; by the favourable influence of the emigrant on policies in the new country in relation to the old country; by the prestige value to the mother country of the achievements of the scientist made possible by his emigration; etc.

These arguments carry little weight in respect of most UDCs. If the emigration is permanent, a significant flow back of remittances is unlikely, especially since the emigrant's family is often in reasonably good circumstances in the mother country.[21] In any case currency restrictions in most UDCs may tempt the emigrant to use the black market for any currency remittances. Very little of the contribution of the emigrant may be in the form of freely available knowledge. The argument that a country might well find it profitable to rent foreign produced technology rather than seek to be self sufficient in this respect, begs the question of the type of knowledge produced. It has been estimated that over 98 per cent of the world's technology is produced in the developed and/or socialist countries, and inevitably this technology is oriented towards the requirements of those countries. It may well be that when a scientist emigrates the usefulness of his work to the mother country is lost. If the emigrant was disgruntled with political developments at home, the value to his old country of any influence he may have in the new country may even be negative, as often in the case of emigrants from socialist countries such as Cuba, East Germany and the U.S.S.R., and several UDCs. It can be argued that national prestige will be better served by the scientist remaining in his home country and making whatever contribution he can.

The theory that the international market mechanism for skills will ensure that skills flow to where they are most needed till the optimum balance is reached hardly merits consideration. We have already seen that

21. This may not hold in respect of much of the recent emigration to West Asia.

the facts clearly disprove this argument. e.g. The flow of doctors from Ethiopia to U.S. where the inhabitant/doctor ratio is less than 1/100 of that in Ethiopia, may only confirm that the U.S. is the more affluent country.[22]

The flow increases the disparity in health standards; this increases the disparity in productivity; and this in turn increases the disparity in economic levels thus completing the vicious circle. Increasing the income of doctors in Ethiopia is the solution often recommended by neo-classical economists (and, no doubt, doctors in Ethiopia!). This may possibly be part of the solution, but this policy has the disadvantage of widening income disparities within Ethiopia, which are already extraordinarily high. Moreover, since Ethiopia is a very poor country, increasing salaries of doctors sufficiently high to deter them from emigrating may not be feasible. Nor will it be possible to merely step up the production of doctors in Ethiopia. This solution would be both costly and inadequate; it may only amount to increased technical assistance from Ethiopia to U.S.A. in respect of medical skills.

Grubel and Scott urge a realignment of national objectives. They point out that a nation's per capita income may not be reduced by emigration or may be reduced marginally, though national income may fall substantially. They suggest that a 'country' should be interpreted as an association of individuals whose welfare its leaders seek to maximise. Under this view emigration is beneficial if the emigrant improves his income and if his departure does not reduce the income of those left behind; the effect on national income is irrelevant; it is per capita income that matters.[23]

Others argue that physical and human capital are generally treated as interchangeable in the long run, and the overall capital/labour ratio will therefore increase or decrease according as whether the human capital embodied in the emigrant is less or greater than overall national capital labour ratio. This ratio can be regarded as a rough index of national welfare. The change in this ratio is marginal. Further, if pay is approximately equal to marginal product, other incomes change only marginally on account of the income redistribution effects of the changes caused by emigration, and these changes tend to cancel each other out, i.e. the nett change in welfare is 'a margin of a margin' of the original scale of income transfer.

22. S. Watanabe, 'International Labour Review' Vol. 99, No. 4, April 1969.
23. H. G. Grubel and A. D. Scott, op cit.

Even if most migrants are young and highly skilled, it is claimed that the nett loss on account of their departure is much less than appears at first sight on a long run analysis of the consequences. The main costs, apart from any shrinking of the services sector, will be the short-run adjustment costs on account of unemployment or inefficient employment of factors of production. The magnitude of the loss will depend on

(1) Whether the brain drain is even or uneven, predictable or unpredictable,

(2) Availability of slack capacity in the system,

(3) The sensitivity and efficiency of the economy in adjusting to change,

(4) Short run substitutability of other factors of production or skills,

(5) The time taken to train replacements,

(6) The scarcity of the factor inputs which need to be redirected to make good the loss, etc.

It is argued, that while admittedly there is a long gestation period for the production of most emigrating skills, there is also a streamlined 'pipeline' of production, often within the organisation that employs them, so that frictional loss on account of speeding up movement through the pipeline is minimal. The practice of carrying spare capacity of human capital, often within the organisation, and the institutional arrangements regarding the giving of long notice of resignation contribute to reducing frictional losses.

These arguments are more applicable to developed countries. The developing countries suffer from a general shortage of capital, skills and the capacity to produce a certain range of skills, and the economies are often inefficient in dealing with unforeseen shortages of producton inputs. In the circumstances, the losses on account of these factors may be substantial in respect of many (but not all) skills.

There could be setbacks brought about by the loss of leadership, the break up of teams, the loss in national morale due to the emigration of well known persons, etc. E.g. the loss of a single outstanding university professor from Sri Lanka may be a matter of national concern. It might seriously dislocate a University faculty. The setback is not short term but indefinite. There is no pipeline through which there is a regular flow of skills of standard quality. Migration often creates a vacuum which is not

satisfactorily filled for many years, and the ill-effects may linger even longer. The externalities can add up to a considerable value not reflected in the man's pay or the office he holds.

Harry Johnson's observations on earlier skill flows from Britain indicates the type of debilitating effect unregulated skill outflows can have even on a developed country. Surely no developing country can afford such one way flow of high level skills or even students as it is the abler and the more enterprising who are most likely to migrate.

" . . . . . on a broader view of national interest. . . . .it can be seriously argued that the outflow, through much of the 19th century, of her more energetic and ambitious entrepreneurial and professional people is one of the major causes of the lack of energy and initiative that, in the judgement of some observers, characterises present day British society and is ultimately responsible for Britain's chronic balance of payments problem and relatively slow rate of increase of productivity.[24]

The spread effects of economic gains are also much greater within the country than between countries, especially if the two economies have little in common as in the case of say, U.S.A. and Sri Lanka. (It may be different between U.S.A. and Canada, wich have much closer communication and economic relations). The acquisition of wealth by a Sri Lankan in the U.S.A. may not benefit Sri Lanka in any way. Within a country, there is a similar problem when someone migrates from a rural area to a city or from one town to another, but the fiscal machinery and closer communication between such a migrant and his home ensure that there is some, often substantial, flow back of benefit. National boundaries often obstruct such flows,

The charge that the emigrant takes with him skills on which the taxpayer has a claim is inescapable.

"If education is financed solely or partly by general taxation of the resident population, every emigrant takes with him a gift, in the form of education he has received, from the place he leaves to the place he goes to. To put the point another way, the region of immigration gets the right to tax the high income made possible by an educational investment it has not paid for, while the region of emigration losses the opportunity to recoup by taxation the cost of the educational investment it has made".[25]

24· H. G. Johnson, 'Some economic aspects of the brain drain', Pakistan Development Review 7 (3), (Autumn 1967)

25· H. G. Johnson, op cit.

In this context, Johnson's suggestion for solving Canada's problems in the event of the skill flows from Europe drying up is interesting.

"One possible solution would be to make a determined effort to recruit from outside Europe, say from Asia or Latin America where unpaid talents abound. The solution currently being recommended is to increase the country's investment in education. The earlier analysis of this paper indicates certain possible dangers in that solution, at least if it is applied indiscriminately. First, since the methods of financing education involve a large free gift from the general taxpayer to the educated individual, who can emigrate with it to another country, more education may foster emigration both by equipping the individual better to emigrate and by lowering the after tax income he can expect if he stays. . . . . .[26]

Others argue that while the opportunity to derive tax benefits from the emigrant is lost, this is compensated by the saving on the obligation in respect of the emigrant's pension, his children's education, their consumption of subsidised utilities, etc. It is suggested that the incidence of tax is roughly equal to the incidence of benefits.[27]

". . . . . the process of financing education represents an intergeneration transfer of resources under which the currently productive generation taxes itself to educate the young, who in turn, upon maturity, provide for the next generation of children and so on. What is relevant for our purpose of analysis is that the average burden of financing education falling on the emigrant's generation is not changed by his departure, because he takes along not only his contribution to tax revenue but also his children, on whom this share of revenue would have been spent".[28]

"The tax financed gift of human capital is balanced by a social welfare obligation which travels with it. The difference between the gift and the obligation will de positive for some people and negative for others, but it is not enough to build a case against the brain drain upon.[29]

26· H. G. Johnson, "The economics of the brain drain – the Canadian Case", Minerva Vol. III No. 3, Spring 1965.

27· This argument must be qualified in respect of developing countries, as often the family and dependants are left behind and continue to enjoy subsidised utilities at home whereas little or nothing of the foreign earnings may reach home through official money transfers i.e. the home country may earn no tax or foreign exchange from such employment.

28· H. G. Grubel and A.D. Scott, op. cit.

29· A. D. Scott, 'Economics of Education 2, ed. M. Blaug.

In another article, Johnson questions the assumption that there is a debt arising out of subsidised education. Is it a gift conditional on the return gift of the right to tax earnings? In which case it is not so much a gift as a contract between those who finance and those who receive public education.[30]

The answers to this question depends on whether education is regarded as consumption or investment. Perhaps developed countries can afford the luxury of regarding education primarily as consumption, but socialist and developing countries have generally emphasised the investment aspects of education.[31] The nature of the education given in most developing countries satisfies consumption rather than investment requirements, but there has recently been a shift in this respect in several developing countries, including Sri Lanka.

Policy statements of the previous government of Sri Lanka and the drastic educational changes introduced by that government make the objectives clear.

"Secondary education will, in general, be provided through comprehensive schools that will emphasise scientific and technical teaching and be geared to manpower needs.[32]

"Thus it becomes evident that an educated population becomes a national asset only to the extent that it is able to fit into the productive occupations that the economy is capable of providing. Education must therefore be looked upon as an investment in human resources which will contribute to the productivity of the economic system. The training, the skills, the attitudes and aspirations that are the product of the educational system must be related to the socio-economic environment. The content of education, the curricula, syllabuses and the number undergoing training in the different fields of knowledge must conform in broad outline to the country's occupationl profile. Today the increasing gap between the knowledge, skills and attitudes generated by the school system and those required for rapid social and economic development has become more and more apparent . . . . The main objective of the curricular changes that are to be inaugurated from 1972 is to integrate the academic and vocational

30· H, G. Johnson, 'Economics of Education 2, ed. M. Blaug.

31· There had been much controversy on this subject. The articles by W. Schutlz, H.G. Johnson, H.G. Shaffer, W.G. Bowen, M.J. Bowman, W. Lee Henson, B.A. Weisbrod G. S. Becker, R.S. Eckaus, & M. Blaug in Economics of Education 1, ed. M. Blaug are relevant to this controversy.

32. The Throne Speech on the opening of the first session of the new parliament of 1970

aspects of education in the general school system . . . . . In the Universities and other institutions of higher education changes would need to be made to diversify courses of instruction and to emphasise applied studies in the Arts and Sciences.[33]

Not all costs and benefits relating to the brain drain can be quantified. The reduction in the quality and quantity of the work of an individual unwillingly kept back in service is a factor to be taken into account, as also the adverse effect of such an individual on those around him. The loss may be particularly high in activities requiring creative imagination, initiative and leadership rather than mechanical techniques.

The corollary also holds

"Migration from one society, culture or country to another frequently acts as a liberating force, freeing the human mind for creative work that it would not otherwise produce. Creative work in this context includes everything from entrepreneurial and commercial innovation to scientific and artistic accomplishment. Any well organised society contains strong and inherent mechanisms for resisting change, some of which operate through external social controls over the individual and others through internal limitations on his thought processess and imagination. Migration to a different social context within or between countries frequently loosens these controls and at the same time shows the migrant opportunities for creativity of which the society to which he moves is unaware and which the society from which he moved did not possess".[34]

Few will dispute this. There is ample evidence in that many of the greatest achivements of mankind have been by expatriates. Over the centuries, many of the outstanding philosophers, mathematicians, scientists, explorers, inventors, businessmen, industrialists, administrators, social workers, writers, artists and sportsmen have made their best contribution in countries other than their own. The world has benefited by the migration of Aristotle from Thrace to Athens, Galileo from Pisa to Padua, Columbus from Portugal to Spain, Marconi from Bologna to London, Schweitzer from Alsace to Lambarene, Shaw from Dublin to London, and Einstein from Berlin to Princeton. It may well be that even the regions from which they emigrated have in the long run gained more than they lost by their departure.

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33. The Five Year Plan 1972 – 76.

34. H. G. Johnson, op cit.

Is this true of the emigration from Sri Lanka of scientists and physiotherapists to North America, of engineers and nurses to Europe, of accountants and technicians to West Asia, of doctors and teachers to Africa? There is no simple answer.

Situation in Sri Lanka

Manpower Planning in Sri Lanka is still in the embryonic stage. Till recently it was not listed as subject or function of any Ministry or Department. "Employment and Manpower Planning" was gazetted as a function of the Ministry of Planning and Economic Affairs a few years ago. There are now at least three ministries charged with responsibility in this field. "Manpower Planning" is now a subject of the Ministry of Plan Implementation; "Employment Planning" and "National Employment Scheme" are subjects of the Ministry of Youth Affairs and Employment; and "Employment, Employment Information and Unemployment" and "Training of Persons for Employment" are subjects of the Ministry of Labour. The Ministry of Plan Implementation also handles the Job Bank, which is essentially an employment placement scheme to fill intermediate and minor grades in the public service from among a pool of 168,000 politically selected persons.

There has been inadequate co-ordination between different public sector institutions engaged in technical education and training programmes, and virtually no co-ordination with private sector institutions. Consequently some skills are overproduced and many skills underproduced; the levels of the skills produced, may also not match requirements. The Ministry of Education has been responsible for university education and the programmes of the various technical colleges and other educational institutions. University education and most of technical education are now subjects of the new Ministry of Higher Education. The Labour Department has training courses in certain fields, mostly at the craft level, open to those self-employed or employed in the private sector. Generally, other ministries, departments and public corporations have training courses exclusively to meet their own needs.[35] Some of the major private sector institutions also have training programmes largely for their own requirements.

The National Apprenticeship Board (NAB) set up a few years ago under the Ministry of Industries and Scientific Affairs and now functioning under the Ministry of Youth Affairs and Employment, has made some

35. Failure to take into account basic realities such as the brain drain has caused continuing skill scarcities in many fields. These shortages could have been overcome by more imaginative intake into the training courses.

progress towards remedying this circumstance. The NAB has done some research into manpower supply and demand and is involved with both public and private sector agencies in some ongoing programmes for the production of skills. Much of the effort to rationalise training programmes has been undermined by the brain drain.

In the Universities the sizes of the different faculties are neither according to the manpower needs of the country nor according to the choice of the students, nor even according to the availability of staff, equipment and other teaching facilities. The rapid expansion of secondary education in the 1950s and 1960s had led to the build-up of pressure for the expansion of higher education. In the case of the engineering, medical, and other science courses, the intake is determined largely by the capacity of teaching facilities e.g. the sizes of the laboratories and the teaching staff, but gaps in teaching skills have persisted. The intake into the engineering degree courses was stepped up sharply in 1972 with the unplanned upgrading of Katubedde Technical College to University status. This has now led to the elimination of the shortage of electrical and mechanical engineers. The shortage of civil engineers remains acute on account of the brain drain, but the annual output of civil engineering graduates is to be doubled. Some deterioration in the average quality of teaching and training seems inevitable.

The intake of medical undergraduates is limited by the shortage of teaching staff as well as teaching hospitals. Till recently only Colombo and Kandy General Hospitals were recognised as teaching hospitals. With the upgrading of Jaffna and Galle General Hospitals and the establishment of the Jaffna Medical College and the proposed establishment of the Galle Medical College, the shortage of doctors should become less acute. Mainly on account of shortage of staff a fall in teaching standards seems likely. Since the medical course is a long one and there is a shortage of doctors accumulated over many years, the shortage is likely to persist right through the 1980s.

In the case of the Arts and Oriental Language courses, there is greater freedom of choice at the University level, but in effect even this choice is restricted on account of the limited range of subjects taught in most schools at the senior secondary level. Since most schools do not teach science in the higher classes, the students are compelled to offer Arts subjects. This pressure has resulted in the disproportionate expansion of the Arts and Oriental Languages faculties. This expansion seems unrelated to teaching capacity e.g. the Sociology Department is heavily understaffed. The proposed new Universities in Galle and Batticaloa and the new Campus at Polgolla are even more heavily weighted in favour of the Humanities. Acute

shortages of skills may therefore continue in many scientific and technical fields while thousands of graduates in the Humanities with uncertain prospects of employment enter the labour market every year.

The brain drain has made the situation much more difficult, in that it is mostly for those skills which are in local short supply that there is overseas demand. Particularly where the training is undertaken by a ministry, government department or corporation to cater to its own staff requirements, the flexibility required to expand the training input to meet such factors as the brain drain is lacking. A comparison of Table 1 showing the projected domestic, (in some cases departmental) demand and supply of high level manpower skill levels (1971–78), and Table 2 showing the numbers of trained personnel who left for employment abroad in the period May 1971–December 1976 will clarify the position in respect of doctors and engineers.

The administered policy in respect of conservation of essential skills in short supply is largely a sum of ad hoc measures introduced and modified over the years as particularly acute skill shortages surfaced. These measures, though essential in particular situations, have no long term perspective and are designed to temporarily ease rather than solve the problem. Some foreign governments have been prevailed upon to refrain from poaching skills from Sri Lanka's public sector without clearance from the government. The Compulsory Public Service Act No. 9 of 1971 and the Passport (Regulation) and Exit Permit Act of 1971 were designed to restrict the outflow of doctors, engineers and some technical persons whose skills were in short supply, and to ensure regular remittances from our citizens working abroad.

There has been some administrative relaxation and at present, it is mostly some medical and para-medical personnel who are affected by the Compulsory Public Service Act. The requirements regarding foreign exchange remittances and exit permits have been done away with altogether. The stipulation regarding signing of bonds to serve the country after scholarship or leave abroad are contained in various circulars and financial and establishment regulations. The instructions contained in Establishment Circular Letter No. 170 of 18·12·1974 concerning officers proceeding on study or training on full pay study leave, and Establishment Circular Letter No. 179 of 6·3·1975 concerning officers proceeding on no pay leave, superceded the earlier, more stringent instructions and regulations on bonds and agreements. Circular No. 179 was quickly cancelled by the Ministry of Public Administration, but Circular No. 170 is still in force. Generally, the effect of this circular is to reduce the period of obligatory

service after study/training abroad on full pay leave and also to permit the immediate discharge of such obligation on payment of cash.

Some of these relaxations were the consequence of the report of the Cabinet Committee which inquired into the problem of technologically, professionally and academically qualified personnel leaving Sri Lanka- Sessional Paper No. X of 1974. This comprehensive, liberal and farsighted report by a high powered Cabinet Committee was the first attempt to take an overall view of the problems of brain drain from Sri Lanka, analyse its causes and work out solutions. The Cabinet accepted these recommendations and decided that they should be implemented with effect from 1 November, 1974. Though an Officials Committee was appointed to work out details for implementation of the recommendations, only a few of these have been given effect to, and some others have been virtually annulled as seen by the withdrawal of Establishment Circular Letter No. 179. Perhaps, it was considered that the effect of some of the recommendations might be to quicken some of the existing skill outflows. In fact the outflow has increased since 1974.

An interesting recommendation in the Cabinet Committee report of 1974 relates to the flow of manpower to developing countries. The Committee has recommended the exchange of technical personnel with other developing countries on a bilateral basis. This recommendation has been implemented hesitantly and in one direction only-flow out of Sri Lanka.[36] Except for some very recent developments, the initiative has come almost entirely from other countries.

In the 68 month period from May 1971 to December 1976, 1254 doctors, 1074 engineers, 499 accountants, 141 University teachers and 1325 other skilled personnel left Sri Lanka for employment abroad. - vide Table 2. These persons constitute about 15 percent of the total number of professional and technical personnel (including teachers) available in the country in 1971. The proportions are particularly high in the case of doctors and accountants, and in both cases, the rate of flow has steadily increased from year to year. These are skills of which Sri Lanka is short. The shortage is very acute in certain medical and para-medical specialities and university teachers in certain subjects. The migration of high level man power has been predominantly to developed countries, particularly, U.K., U.S.A., Australia and New Zealand.[37]

36. The recent import of doctors from the Philippines and the proposed import of doctors from India are exceptions. It is too early to say if this arrangement will be successful.

37. Report of the Cabinet Committee inquiring into the problem of Technologically, Professionally and Academically qualified Personnel leaving Sri Lanka - Sessional Paper X of 1974.

These figures grossly understate the outflow in that they do not include statistics of many of the Sri Lankans who qualify abroad into the professions. There is an increasing number of Sri Lankans undergoing post-secondary education overseas. The monthly outflow of professionals is of the order of 100 (Table 2) whereas the total monthly emigration is of the order of 10,000 (Table 3). Undoubtedly the latter figure includes many students who seek high level professional training abroad and who will probably stay on overseas after graduation.

A recent development has been the opening and widening of new outlets in West Asia for skill flows from Sri Lanka. Much of these flows have been of skilled and semi-skilled personnel but there has also been considerable flow of labour categorised as unskilled. According to one estimate about 20,000 emigrated from Sri Lanka to West Asia in the period 1.1.76 to 30.6.78 including 720 middle level technicians, 2840 masons, 2665 carpenters, 2197 mechanics and 5452 categorised as unskilled.[38] Numerous recruitment agencies have sprung up and are active, some of these of doubtful reputation. Many instances of financial and other malpractices on the part of the employment agencies, as well as unsatisfactory conditions of employment in the country of immigration have been reported, but the flow is unabated. A consequence of this emigration is that many vital intermediate and low-level skills are in short supply.

Another important development is that for the first time, Sri Lanka is exporting female labour, mostly classified as semi-skilled or unskilled, in significant numbers. Many unsophisticated semi-literate young women from Sri Lanka are in domestic employment in West Asia. According to one estimate about 1660 females have left Sri Lanka for employment in West Asia in the period 1·1·76 to 30·6·78.[27] Inevitably this has led to social problems. Some horror stories have been highlighted in the local papers, and some pressure has built up to curb the export of female labour. On the other hand it is evident that many thousands of women in Sri Lanka are seeking jobs in West Asia, undaunted by adverse reports.

Unlike earlier emigration to developed countries, this emigration requires the intervention of specialised employment agencies. The Department of Labour has been functioning as the largest recruitment agency for employment in skilled and semi-skilled positions in West Asia. In the period 1·1·76 to 30·6·78 the Commissioner of Labour has assisted the emigration from Sri Lanka and employment in West Asia of 3,252 persons, mostly in craft level occupations.[39] However several private sector agencies have

38· R. B. Korale in unpublished paper.

39· R. B. Korale, op cit.

been functioning irregularly and irresponsibly. The Government of Sri Lanka has now decided to control and regulate the activities of private employment agencies, primarily to protect the emigrant/prospective emigrant. The function of licensing private sector employment agencies and regulating and controlling their activities has been assigned to the Ministry of Labour. The necessary legislation is under preparation.

The pattern of migration within and from Sri Lanka is changing. In terms of numbers, the biggest movement, apart from skill flows to West Asia, is the re-patriation of stateless persons of Indian origin, under two bilateral agreements between India and Sri Lanka. These pacts determined the future citizenship and domicile of the stateless Indian Tamil population resident in Sri Lanka and then numbering about 975,000.

The first pact signed in 1964, provided for the repatriation of 525,000 persons (and their natural increase) to India, against the grant of Sri Lankan citizenship to 300,000 persons (and their natural increase). This pact left the status of another 150,000 stateless persons indeterminate. The pact of 1974 settled this matter by providing for the repatriation of 75,000 of these persons (and their natural increase), against the grant of Sri Lanka citizenship to the balance 75,000 (and their natural increase) The whole programme was to have been completed in 15 years, i.e. by 1979, but the target date has been put off more than once. Present trends indicate that the programme of repatriation to India and the grant of Sri Lankan citizenship will continue into the late 1980s. The progress made so far on this repatriation programme is shown in Table 4.

These immigrants are mostly categorised as unskilled. For the greater part, they have little formal education, but are experienced plantation workers, many of whom are moving into new tea plantations in South India. One consequence of this emigration is the dramatic transformation of the labour situation on the hill country tea plantations from acute labour surplus and severe under employment till about the mid 1970s to spreading and intensifying labour shortage. This shortage may persist for some time inspite of the increasing recruitment of village (Sinhalese) labour from the surrounding areas to supplement the dwindling number of resident (Tamil) labour on the estates.

The displacement of some of the resident plantation labour in the wake of the implementation in 1974 of the Land Reforms Law of 1972, and the dispersal of some of the plantation labour during the communal riots of August 1977 have aggravated the labour scarcity. Plantation wage rates have

been increased, and living conditions of the resident labour are being improved. It is hoped to attract more village labour into regular employment on the estates and also re-employ estate labour previously displaced.

The massive Mahaweli River Diversion project may by expected to transform the pattern of internal migration. Apart from the increasing number engaged in construction work connected with the scheme, large numbers are likely to move in to the Mahaweli basin in the 1980s as settlers in the newly cleared and newly irrigated lands, to supplement the labour on existing paddy lands on which cropping frequency may increase from once per year to twice or thrice per year, and into the numerous agricultural, industrial and service sector ventures which will form part of the Mahaweli Development programme.

The Free Trade Zone complex is likely to attract large numbers permanently into the various industrial and commercial establishments, as well as temporarily into construction activity. Similarly the Greater Colombo Urban Development programme will attract and absorb into employment in Colombo, migrants from elsewhere. Such major development schemes, by increasing employment opportunities and income levels at home, could also be expected to slow down the external brain drain.

The concern of the present government on account of the external brain drain is clear from the following extract from its first statement of policy in the National State Assembly:

"My Government will take measures to relieve the frustration caused among the intelligentsia and other highly trained and qualified persons, resulting in large numbers of such persons who are urgently needed for the development of our country leaving our shores for service abroad, by creating the necessary climate and providing incentives and opportunities for their progress and job satisfaction, not only to halt the tragic 'Brain Drain' in the future but also to attract those who have already left to return to the service of our people.

My Government believes that the people of our country are entitled to enjoy without restriction the best professional and technical services that are available in the country, and will formulate, in consultation with the appropriate professional and technical personnel both within and outside the public services, appropriate schemes to make such services freely available to the people".

This statement has been backed up not only, by the decision to expand the training of scientific and technical personnel particularly, doctors and civil engineers but also by a series of improvements in the salary scales and

other benefits. Doctors and engineers have gained most by these benefits which include payment of special allowances, allowance of virtually unrestricted private practice outside working hours, no pay leave for study employment abroad, facilities to import cars, and re-employment on satisfactory terms for those who had resigned or retired, (e.g. the benefits set out in Public Administration Circular No. 120 titled 'Exodus of Engineers from Sri Lanka'). In his Budget Speech of 15 November 1978, the Finance Minister indicated that the sweeping salary increases and tax concessions to state officers were designed partly to counter the external brain drain. These benefits are also intended to reduce the brain drain from the public to the private sector within Sri Lanka.

Government policy in relation to the brain drain is now more positive than ever before. The Minister of Labour visited 5 West Asian countries with large Sri Lankan population in June 1978 and met and spoke to many Sri Lankans working there. He took up the question of their living and working conditions and also the possibility of further emigration of Sri Lankans to those countries. A report of these visits was presented to Parliament.

Policy

The internal brain drain is closely related to the external brain drain in both cause and effect. It afflicts all countries, rich and poor, but generally developing countries suffer more. Among developing countries, those in which the urban-rural or other regional differentials are sharpest would be most affected. The obvious remedy lies in the social and economic development of the backward regions on a priority basis, coupled with special incentives to skilled persons to serve in these regions. Very few developing countries have succeeded in effectively implementing such policies. In fact it is the reverse bias which is widely prevalent.

Superficially the internal brain drain may appear easier to control than the external brain drain, in that its solution is entirely within the competence of the government of the country, but this may be illusive. The base of political and economic power is usually in the more developed urban centres, and these areas receive priority attention for further development, to the neglect of the backward regions. Coercive attempts to stem the internal brain drain without solving the root causes (e.g. compelling Government medical officers to serve in areas and institutions where minimum social amenities or working facilities are not available) may only serve to flood the external brain drain.

There are backward areas in almost every country in which the economy is sick and contracting, and from which most of the young and able, the energetic, ambitious and enterprising have fled. The community in such regions may be surviving mainly on state subsidies, the savings and pensions of the older folk, and some money sent in to their dependants by those who have migrated to regions with healthier economies. The sick regions on their own can attract neither the capital nor the skills required for economic regeneration. Without substantial and planned intervention from outside, the vicious circle leading to the continued degradation of the region cannot be broken. Generally it is the State which can undertake this task. Central to any scheme of state intervention must be a programme to halt and reverse the brain drain.

The economic and social development of the periphery are both vital to stem the internal brain drain. The rural area must not only hold economic opportunities but also enjoy the benefits of adequate educational, health, housing, recreational, transport, shopping and other facilities. Under developed regions can be given priority in locating public investment, and special incentives such as tax benefits can be offered for private sector investment in these areas. Public officers serving in certain areas may need to be given privileges such as special allowances, transport facilities and living quarters on nominal charge. Special consideration can be given to those who have put in a stipulated minimum period of service in disadvantaged regions in the matter of transfers, promotions, selection for fellowships and special appointments. At present those in the urban centres, particularly the capital, hold the advantage in most of these matters. This bias will be particularly difficult to reverse.

Key motive forces in the brain drain, both internal and external, are the absence of satisfactory career prospects, inadequate professional recognition and lack of job satisfaction. It is important to ensure that technical personnel even in remote outposts have reasonable access to professional journals and relevant scientific literature. It is also necessary to ensure that people working in the periphery have opportunities of doing research, and of participating in the activities of scientific and professional bodies.

Radical reorientation and restructuring of the curriculum content and system of education and training to make these more relevant to local needs is essential. Generally, the educational changes instituted in Sri Lanka in the period 1972–76 had this objective. These reforms became discredited as some of the changes were hastily conceived and badly implemented. Moreover, these reforms were largely confined to schooling. These can be of little use without corresponding changes in tertiary education and

technical training. Whatever the shortcomings, the validity of the basic underlying concept of closely linking education and training to the needs of society can hardly be disputed.

A consequence of such reforms will be the curtailment of the brain drain, both internal and external. A person whose training, skills and attitudes are more appropriate to the needs of his environment is likely to be more useful to his society, and better adjused to his living and working conditions. The push factor in relation to the brain drain will be less. Moreover, if the education and training imparted are less sophisticated and further removed from the qualifications and skills required of migrants to the cities or to the advanced industrial countries, the pull to such centres will also be less. E.g. it may be better to man the more remote peripheral units in Sri Lanka with apothecaries rather than doctors. Their skills are adequate for most purposes, their training course in much shorter, they are cheaper to employ, they are more likely to accept their available living and working conditions, and they may have less inclination and much less opportunities to migrate to the cities and to foreign countries. The value of their services to such rural societies may be substantially greater than those of medical graduates with expensive and sophisticated training in various specialities.

Lack of mobility can be just as problematic as excess mobility. This is particularly true of internal migration. Many countries have pockets of peristent labour surplus as well as pockets of persistent labour shortage. In addition, within a town or a region, there may be some occupations for which labour supply far exceeds demand others for which labour supply falls far short of demand. In Sri Lanka there are many areas in the Dry Zone which suffer severe seasonal shortages of agricultural labour; there are many hill country tea areas which suffer from lack of labour nearly all the year round on account of the repatriation of Indian estate labour. On the other hand the official unemploymont figure for the country is well over one million i.e. over 20% of the total labour force. Lack of internal mobility both geographical and between occupations accounts for this paradox. It may be possible to clear obstacles to geographical mobility by offering land for settlement, various subsidies and good living and working conditions. Occupational barriers could be overcome by changes in the wage structure and living and working conditions.

The policies to be adopted in respect of the external brain drain would depend on such factors as the supply and demand of skills, their elasticities, the cost of production of various categories of skills and their

relative prices. Where there is severe shortage (e.g. in the case of certain medical specialities and para-medial services in Sri Lanka), temporary prohibition against emigration may be required as well as incentives to attract skills from abroad. This may involve travel restrictions, individual bonds and agreements with foreign governments to refrain from poaching on these skills. These are tolerable only as short term emergency measures. Such a negative policy will cause much hardship and will induce some of those unwillingly restrained in the country to find some way of circumventing the oppressive restrictions and escaping. Those unable to escape are unlikely to give of their best.

Where the skill shortage is less acute but the training cost or the skill level high (e.g. in the case of electrical engineers and lawyers in Sri Lanka), skills could be sold. There could be government to government agreements on outright payment on emigration, or there could be individual bonds to repatriate a specified quantity of money in foreign currency. Alternatively, the skills could be loaned, e.g. state officers could be released for a period on no-pay leave on bond to return and serve the country for a specified term. Where the training costs and skill levels are low, emigration can be freely permitted, or even encouraged so as to ease the employment problem at home and assist the development of the country of immigration In certain cases, skill flows can be profitably tied to reverse aid projects, e.g. the flow of doctors to the U.S.A. to U.S. aid to the medical colleges, the flow of engineers to the U.K. to British aid to the engineering colleges, and the flow of civil engineerfng craftsmen to West Asia to West Asian aid for craft level training programmes. There could also be mutually beneficial arrangements for the exchange of skills, particularly with other developing countries.

The bulk of skilled personnel will be required to stay and contribute to the development of the country. It is most desirable that they should stay willingly and give of their best. Broadening of higher educational facilities could assure those contemplating emigration of the education prospects of their children in their homeland. In some cases salary scales may have to be increased and promotion prospects improved. Although salaries in poor countries cannot possibly be made comparable to those in rich countries, these should be structured to reflect the relative importance assigned to the different skills. Good working facilities and satisfactory living conditions are important. Access to scientific and professional literature, facilities for higher studies, research and professional advance-

ment, and opportunities to gain recognition at home and abroad should be provided. Fair promotional prospects and a satisfactory system of appointments and transfers are essential.

The most important proposal of the Cabinet Committee Report of 1974 was the grant of no-pay leave to scientific and technical personnel in the public service to work abroad for up to 5 years, preserving pension rights and gaining incremental credit. This facility would enable officers to serve abroad temporarily, widen their experience and save money in foreign exchange to import cars and other items which may otherwise be out of their reach. It is unfortunate that this recommendation, though originally accepted by the Cabinet, was not implemented. Particularly in the case of the younger, junior and middle grade personnel, this privilege alone could satisfy much of their hopes and aspirations without recourse to permanent emigration. The cost to the State would have been minimal, and other countries could also have benefited.

A similar proposal has now been mooted but no firm decision has been given by the overnment. Almost certainly in the long run, and even perhaps in the short run, the net outflow of scarce skills can be slowed down if such a scheme is correctly administered. Most officers keen to do a spell abroad would be willing to await their turn for no pay leave if they are confident that the scheme is being implemented in a fair manner and that they will not have to wait too long for their turn. In return they will have the satisfaction that their posts would be kept for them with pension rights preserved and increments added. The administrative difficulties in working out a scheme of this nature are not insurmountable.

In some fields, these measures may have to be supplenented by policies to attract back earlier emigrants. Those who had resigned their posts in the public service could be offered their jobs back on the salary points they would have reached if they had not emigrated. Certain categories of personnel have already been given this privilege. There could also be income tax relief in respect of foreign currency earnings brought in, and special concessions in respect of corresponding foreign exchange requirements, latter for specified purposes such as education. Some progress has been made in the granting of such privileges. Some relief has already has given in respect of import restrictions and import duty.

Some of these policies require the concurrence of other governments. It is only to be expected that countries which have been able to draw all the skills they require from other countries without cost or strings, may not wish to be tied up in various agreements, or pay compensation for the

skills they so acquire. On the other hand, developing countries cannot tolerate such raiding idefinitely. Joint action by the 'donors', mostly developing countries, and some hard bargaining with 'recipients', mostly developed countries, may be necessary. Multilateral co-operation in this field is essential.

A recent innovation tried out in Turkey is a scheme to get down highly skilled expatriates on brief assignments.[40] This programme was worked out with the help of the UNDP which paid the air fare both ways plus subsistence allowance. Turkey was expected to contribute a nominal additional allowance but often no payment was made: it was found that many Turkish expatriates with scarce skills are willing to put in short stints of work in Turkey for low remuneration. Skills obtained in this manner were found to be not only cheaper, but generally more useful than the skills obtained through the standard technical assistance channels-due to high motivation, intimate knowledge of conditions in Turkey, etc.

A programme of this nature may encounter many difficulties. Preparing and regularly revising an inventory of expatriate expertise available for such programmes; identifying and constantly updating the changing national requirements in respect of expatriate skills; programming appropriate and useful assignments at times and on terms suitable to both parties; working out a multitude and variety of individual contracts; overcoming rivalry between expatriates and their former colleagues with whom they may have to work together but on different terms and for unequal remuneration; avoiding possible friction between the expatriates and others, considerably better paid but possibly less eminent, foreign experts on regular UN assignments; etc. will not be easy. The net impact of such programmes on the brain drain is difficult to predict. However, the scheme is very interesting and could be adopted, at least on a trial basis.

There are promising prospects of mutually profitable agreements relating to the brain drain between developing and developed countries. E.g. a developed country may find it difficult or unduly expensive to produce all the skills it requires within its own borders or among its own citizens, and may prefer to finance the expansion of a training programme to develop such skills in a developing country, which could in return export

40. N. Shallom, UNDP Resident Representative in Turkey— Evaluation paper on the 'Re-Transfer of Technology to Turkey (RTTT) programme' presented at the Seminar on Re-Transfer of Technology through Expatriate Nationals–The Turkish Experiment, 1 June 1978.

some of the skills so produced to the aidgiving developed country. Among bilateral agreements which provide for the marketing of medical manpower are those between the Republic of Korea and the Federal Republic of Germany, and between Australia and the Philippines. Bilateral agreements may be difficult to enforce in the absence of co-operation on the part of other countries to which the emigrant may re-emigrate. Some framework of international agreement is therefore necessary, within which various bilateral agreements could be accommodated.

The scope for mutually beneficial agreements between developing countries may be even broader. At the ILO Session in Geneva on 10.6.1975 the former Prime Minister proposed the establishment of an international skilled manpower pool and regional co-operation between developing countries in this matter, but this proposal was not adequately followed up. Comprehensive bilateral agreements covering the sale, lease, loan or gift of skills and related import, export and exchange control policies may be possible. In addition, there could be agreements on a broad range of issues connected with employment, manpower planning, education, research, training, technical co-operation, etc.

International co-operation in manpower studies to estimate present and future, domestic and international, manpower supply and demand may be necessary. Agreement on the development of a network of specialised institutions spread over the region for higher education, professional training and research relevant to the region would be valuable. This will involve long overdue shifts away from the colonial pattern in respect of the content and orientation of education and training courses towards curricula and training more related to the needs of the region today. If, in consequence, developed countries withdraw recognition of such degrees and diplomas, it night prove to be a blessing. Recognition by other developing countries of degrees and diplomas awarded by institutions in the Third world and some measures of standardization as well as preferential use of training and higher educational facilities in other developing countries, supported by a network of fellowships, grants and subsidies are desirable. The tendency to look exclusively to the developed countries for higher education and specialisation will not be easily broken.

Regional co-operation in the sharing of technology, and the publication and distribution of scientific journals relevant to the needs and problems of developing countries is essential. Schemes of national and international awards could be instituted to recognise outstanding achievements of persons from developing countries in any field, and to recognise and sponsor any research or other contribution relevant to the welfare of the developing countries by any person or institution.

The brain drain, both internal and external, can distort and obstruct the development of a country, Strong, positive remedial action may be required. Some of these measures can be taken by an afflicted country acting on its own; others will require the co-operation of other countries. Most developing countries may find it necessary to formulate and implement clear cut policies in respect of the import and export, and internal migration of skills. It may be in the long term interest of all countries that satisfactory international agreement on the brain drain is reached.

TABLE 1

Demand and supply of High Level Manpower, Technicians and Skilled Workers1971 - 1978

Category	Demand	Supply
Engineers ..	1,489	1,880
Architects ..	40	90
Technicians ..	7,950	7,200
Skilled Craftsmen ..	18,400	19,200
Doctors ..	1,800	1,950
Dentists ..	240	270
Nurses ..	3,620	3,620
Agriculture Graduates ..	470	450
Agriculture Technicians ..	1,000	1,000
Veterinary Surgeons ..	160	160
Science Graduates ..	7,920	3,150
Teachers ..	26,500	28,250

Source: 'Data on the Demand and Supply of skilled workers, Scientists, Engineers and Professionals'. Employment and Manpower Planning Division, Ministry of Employment and Economic Affairs 14·11·75.

TABLE 2

Trained Personnel who left for Employment Abroad

Occupation Category	May 1971 April 1972	May 1972 April 1973	May 1973 April 1974	May & June 1974	July 1974 June 1975	July 1975 June 1976	July 1976 Dec. 1976	Total
Doctors ..	108	171	238	41	243	343	110	1254
Engineers ..	54	113	94	14	118	498	183	1074
Accountants ..	23	41	88	11	86	162	88	499
University Teachers ..	—	15	24	02	14	54	32	141
Other Teachers ..	82	55	52	04	70	279	86	628
Lawyers ..	08	35	13	02	28	49	25	160
Technicians ..	—	20	27	15	228	176	71	537
Total ..	275	450	536	89	787	1561	595	4293

* Not reliable; data was obtained by examining Embarkation Cards.

Source: 'Migration of trained and skilled manpower and unskilled labour to West Asia', Employment and Manpower Planning Division, Ministry of Plan Implementation, 26·9·78.

TABLE 3

Emigration Statistics: Passports issued

Month	Number Issued
1977 December	8,499
1978 January	9,496
February	8,405
March	10,554
April	8,277
May	10,107
June	11,007
July	11,466
August	10,890
Total	88,701

Average monthly issue: 9,855

Source: 'Migration of trained and skilled manpower and unskilled labour to West Asia', Employment and Manpower Planning Division, Ministry of Plan Implementation, 26·9·78.

TABLE 4

Statistics of Persons Repatriated and granted Citizenship under the 1964 Indo-Ceylon Agreement

Year	Repatriated	Granted Citizenship
1964	14	—
1965	512	—
1966	1,910	—
1967	2,648	—
1968	2,123	161
1969	5,284	2,939
1970	8,733	7,468
1971	21,867	13,696
1972	27,575	16,107
1973	33,175	18,960
1974	35,141	20,074
1975	18,511	10,591
1976	33,321	19,034
1977	28,388	16,220
1978	20,281	11,594
Total ..	239,483	136,844

Source: Department of Immigration and Emigration.

Note: These figures do not include children born afer 30·10·64.