

Brain Drain from Pakistan and the Islamic World: A Critical Study and Solutions

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Introduction:

While Pakistan continues to grapple with terrorism, drone attacks and trouble in neighboring Afghanistan, the country can add another issue to the list: a brain drain of its most talented young people (Nawaz, 2013).(1) So what is brain drain?

Definition of Brain Drain:

According to (Mahmoud, 2012),(2)brain drain is the transfer of human resources who possess knowledge and technical skills from their original developing countries to the developed countries, because of the hurdles that they face like wars, armed conflicts, lack of political stability, unemployment, bleak chances of professional promotion, rarity of scientific research fields or health hazards etc.(3)

Brain Drain from Pakistan and the Islamic World:

Hardly any country has suffered more from the 'brain drain' than has Pakistan. Nearly 3,500 (annual) graduates of Pakistan's medical colleges are jobless; most go abroad. According to official estimates of Pakistan's Overseas Employment Corporation, close to 36,000 professionals, including doctors, engineers and teachers, have migrated to other countries in the last 30 years. Interestingly, this number is indicative of only a small proportion of actual migration, since the majority of emigrants do not register, the number in recent years has increased around 45,000. Though the danger of the brain drain to Pakistan is clear, a large part of the problem is that there are not enough opportunities offered to the country's highly skilled labor for contribution and advancement opportunities. Educated unemployment is very high and salary levels for skilled workers (relative to unskilled workers) are often kept forcibly low by governments to maintain an egalitarian income policy. (Abid, 2009).(4) Though the salaries of highly skilled workforce in developed world is 30-40 times higher than in Pakistan but money is not the only reason for many who opt to go abroad. Lack of respect of the professionals is another reason. Highly skilled software engineers are usually answerable to the bosses that have no knowledge about IT and they ridicule the computerized solutions that the engineers present before them. The government should impart on job training to farmers, welders and plumbers about their profession so that

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they could increase productivity and ensure a progressively better future for them.(5)

According to recent reports, over 5,000 Pakistani students are currently enrolled in higher education institutions in Australia, at least another 5,000 are studying in the United States and nearly 9,000 in the United Kingdom.(6)

Pakistan is young and growing fast. Of an estimated 180 million Pakistanis, two-thirds have yet to reach their 30th birthdays.(7)

Michael Kugelman, senior program associate for South Asia at the Woodrow Wilson Center, says, Pakistan's "youth bulge," and simultaneous intense rate of population growth – at 2 percent, one of the highest in the world – is making for a dangerous mix, particularly if nothing is done to support the next generation of Pakistan's young adults. "There needs to be concern about the consequences that can arise if you have such a large, young population that simply cannot lead a productive, income-generating, happy life," says Kugelman. "But the youth should not be seen as a problem, they need to be looked at as a policy issue to be addressed."(8)

While the recently-elected government, which brought back a party and prime minister previously in power, may be seen by many young Pakistanis as old wine in a new bottle, Kugelman says, it's unfair to expect the government alone to solve these issues. Private sector industries like IT could potentially step in, he argues, not only to provide vocational training and jobs for the millions of young adults lacking both, but literacy programs and funding for small-scale energy projects to benefit many more.(9)

Agha Khan Medical University conducted a study in order to investigate reasons of brain drain among medical professionals in Pakistan. It was found that most doctors migrate because of poor salary packages in Pakistan, besides poor quality of work environment and training. However, terrorism, economic crisis, and low promotion chances were also rated high by most doctors (Sindhu, 2013).(10)

According to Ali Moeen Nawazish, the Youth Ambassador of the Geo/Jang Group, the mass demand for going abroad is primarily fuelled by a lack of opportunities both in number and quality in Pakistan (Bhatti, 2012). (11)

The favorite destinations of the students are situated mainly in Europe, North America, China and Australia. Every year, nearly 10,000 foreign student visas are granted in Pakistan.(12)

There are nearly 10,000 Pakistani students studying in the United Kingdom. Between 2004 and 2008, as many as 42,000 Pakistani students were admitted into the UK. As of 2010, there were 5,222 Pakistani students in the United States, putting Pakistan among the top 25 countries sending

students to the US. There are some 1,000 Pakistani students in Cuba, all of whom are studying medicine on scholarships provided by the Cuban government. (13)

There are over 2,000 Pakistani students of medicine in the Central Asian state of Kyrgyzstan. (14)

China also attracts a large number of students from Pakistan, with 2006 estimates putting their number well over 1,000; in Xingjian alone, there are over 500 Pakistanis in universities. Another most favored destination for Pakistani students is Australia. There were 1,626 Pakistani students in Australia in 2005; in entirety, some 5,000 Pakistani students chose that country for studies in 2011.(15)

Most of the Pakistani students who go abroad for higher or specialized education every year, very few return to their homeland. Though Pakistan has a number of institutions for higher education, various students prefer going abroad. Presently, there are 68 public universities and 56 private universities in Pakistan. Eight public and 18 private institutions have a degree-awarding status. According to a BBC report, Gallup-Pakistan survey indicates that not only qualified professionals and university graduates want to leave the country but even semi-skilled and unskilled workers also want to migrate in search of better prospects. About 62 per cent of the adults interviewed for the survey expressed the desire to go abroad to work, while 38 per cent said that they would prefer to settle permanently outside the country. This shows that many Pakistanis are gradually losing faith in the country's economic future (Babar, 2012).(16)

Higher Education Statistics Agency (HESA) statistics of July, 2007, show that the total number of Pakistani students enrolled in the UK was 9,335 in 2006 - 2007, with 6,205 students in postgraduate and 3,130 in undergraduate courses. The number increased to 9,840 in 2007-2008, out of which 6,550 Pakistani students were postgraduate and 3,290 were undergraduate.(17)

There are mainly two types of students who go abroad: First are the most talented students; they generally go to elite schools and are fortunate enough to attain the best education the country has to offer and excel at it. These students set their sights on the world's best universities such as Cambridge, Harvard, Yale or Oxford. While not everyone makes it, they still wind up going abroad to their "safe choices" of universities, which might not be great but are still outside of Pakistan. It is not just about education, but also about a lifetime experience. They either get scholarships, or their parents are able to arrange for their expenses on their own, while a few struggle to find other ways.(18)

The elite educational institutions charge them heavily for their “services” to enable them to make this journey, often making false transcripts and writing fabricated stories about them as recommendations. One often sees advertisements of these schools boasting about how many students they got admitted to universities abroad. (19)

Many of these students do hope to come back to Pakistan after attaining their education and changing things, but frankly speaking, it seldom takes place.

The second type is made up of students who are from middle or even lower middle class. These students have not had a chance to obtain a quality education, nor have their financial circumstances allowed it. These students have a dream of going abroad, not primarily to study, but also to work, to sustain them and, perhaps, send some money back home. Lured by dreams of a utopia abroad, they become victims of “agents” who, in the interest of making money, send these students to mediocre/low level or even non-existent universities. They mostly end up staying illegally abroad, away from their families and are forced to do menial labor jobs at low wages.(20)

The most critical aspect of this issue is the brain drain. We are losing our best brains to the developed nations and it is unfortunate that no serious steps are being taken to check this trend. Successive governments have made no well-thought-out policies in this regard. The government does not persuade Pakistani students to come back and serve their country. They are not offered proper jobs according to their qualifications.(21)

According to a British Council report in July 2009, the driving force for all Pakistanis to study overseas is the increased employability in a competitive marketplace. This whole map shows that in coming years, people aged between 18 and 38, will prefer to study abroad and make their careers abroad also. This trend will continue. (22)

There is no denying the fact that the Higher Education Commission (HEC) is a success story when it comes to the provision of higher education in Pakistan, and it has changed the higher education landscape in the country. However, the government also needs to cooperate more with the HEC in terms of funding. (23)

Reducing this brain drain is pivotal for the development of the country as a whole. We need more universities to accommodate the increasing number of students. The HEC needs to ensure quality and regulate higher education especially in private sector ‘business oriented’ universities.

There is also a need for serious efforts towards excellence in research, which is an inherent university feature that is to certain extent lacking in Pakistan.

We also need to look into industry to create employment for our graduating students and the government to ensure fair wages.

Pakistan's neighboring country, India, is a clear success model in this regard as a BBC documentary showed that most Indian students now prefer to stay in India for higher education than going abroad. This has been fuelled by an intense focus on quality, and a heavy government subsidy for local students, along with employment opportunities.²⁴

Going abroad to attain education is good thing; our students should go abroad. But our most talented students not coming back to Pakistan is wrong, especially after having been given the best opportunities in the country. It is sad that those given the best opportunities are not using them to add value to the country and society.

Secondly, there is no point in paying ten times more for the same quality education that is available in Pakistan. Going abroad is not a magical thing where everything will be better than in Pakistan. There is no point for our students to go to mediocre, or low-level, universities abroad when we can provide them better education here in Pakistan.(25)

Brain drain is a natural phenomenon on earth, if it is dealt with in a good way, it could be a means of betterment for the Ummah in the form of earning technology and new cultures. It could lead our Ummah to the way of development and prosperity, increase in its expertise and activism. But if this phenomenon of brain drain is left on its own, it can cause an irreparable loss to the Ummah by depriving it from its most precious wealth.

According to (Kolan, 1975), migration, like most policies, is a mixed blessing. Both the size of the migrant stock already in Europe and the backlog of applicants awaiting recruitment – each numbering in the hundreds of thousands – indicate that despite the personal costs of leaving one's country and living abroad, often at sub-standard levels and under social tensions, the potential for saving and realizing other objectives promises an even greater pay-off. However, without further evidence, it is not possible to make either a similar or opposite claim for the national economy from which the migrants depart. (26)

But according to (London, 1974), a country does not attract talented manpower out of indifference to the plight of others – but because the economic signals are hoisted. Or if you like, there is an invisible current flowing towards a center of increasing cash flow. Where there is cash there is an opportunity for investment, new production capacity and job opportunities.(27)

Concept of migration in the Islamic heritage:

Migration means to transfer and it is of two kinds, physical; from one place to another or ideological; from one ideology to another or from one belief to another. Allah the All Mighty says:

﴿وَاصْبِرْ عَلَىٰ مَا يَقُولُونَ وَاهْجُرْهُمْ هَجْرًا جَمِيلًا﴾ (28)

'And be patient (O Muhammad SAW) with what they say, and keep away from them in a good way'.

Imam Ahmad narrated that the Prophet peace and blessings of Allah be upon him was asked that which migration is better, He replied:

"أن تهجر ما كره ربك" (29)

"That you leave what your Lord dislikes..."

Migration in its both meanings is connected with the intention of the migrant as the Prophet peace and blessings of Allah be upon him said:

"إنما الأعمال بالنيات وإنما لكل امرء ما نوى فمن كانت هجرته إلى الله ورسوله فهجرته إلى الله ورسوله

ومن كانت هجرته لدنيا يصيبها أو امرأة ينكحها فهجرته إلى ما هاجر إليه" (30)

"The reward of deeds depends upon the intention and every person will get the reward according to what he has intended. So whoever emigrated for Allah and His Apostle, then his emigration was for Allah and His Apostle. And whoever emigrated for worldly benefits or for a woman to marry, his emigration was for what he emigrated for."

Sometimes the migration in its physical sense becomes obligatory as Allah the All Mighty says:

﴿إِنَّ الَّذِينَ تَوَفَّاهُمُ الْمَلَائِكَةُ ظَالِمِي أَنْفُسِهِمْ قَالُوا فِيمَ كُنْتُمْ قَالُوا كُنَّا مُسْتَضْعَفِينَ فِي الْأَرْضِ قَالُوا أَلَمْ

تَكُنْ أَرْضُ اللَّهِ وَاسِعَةً فَتُهَاجِرُوا فِيهَا...﴾ (31)

Verily! As for those whom the angels take (in death) while they are wronging themselves (as they stayed among the disbelievers even though emigration was obligatory for them), they (angels) say (to them): "In what (condition) were you?" They reply: "We were weak and oppressed on earth." They (angels) say: "Was not the earth of Allâh spacious enough for you to emigrate therein?" Such men will find their abode in Hell - What an evil destination!

And sometimes it is prohibited when there is no need to migrate as the Prophet peace and blessings of Allah be upon him said:

"لا هجرة بعد الفتح ولكن جهاد ونية" (32).

"There is no migration after the conquest of Makkah but Jihad and good intention will continue."

Migration in its ideological and moral sense continues forever as the Prophet peace and blessings of Allah be upon him said:

"لا تَنْقَطِعُ الْهِجْرَةُ حَتَّى تَنْقَطِعَ التَّوْبَةُ ، وَلَا تَنْقَطِعَ التَّوْبَةُ حَتَّى تَطْلُعَ الشَّمْسُ مِنْ مَغْرِبِهَا" (33)

"Migration will not stop until the door of repentance is closed, and the door of repentance will not be closed until the sun rises from the west".

Brain drain in past and present:

Migration is known by the humanity from the time immemorial. It is a cultural phenomenon known and practiced by nations and tribes and it is an important factor in the development of civilization and intermingling of ideas. Moreover, it has its clear imprints on the history of the Islamic world, starting from the journeys and migrations of Quraish in winters and summers³⁴ and the migration of the Prophet, peace and blessings of Allah be upon him, to Madina and how it resulted in establishing the Islamic state, Islamic Ummah and Islamic civilization.

This migration continued after the Prophet, peace and blessings of Allah be upon him, left this world, by his companions and then by the early scholars of this Ummah for the purpose of seeking knowledge and spreading it. It was stopped for a short period of time by the second caliph Umar bin Khattab as he strictly prevented the Sahaba from settling out of Madina for the sake of keeping them available for consultations in newly arising matters to reach consensus of their opinions (*ijma*) that was necessary in the process of legislation (al-Shaikh1427).(35) Hence Umar bin Khattab was the first who tried successfully to stop brain drain.

Later it was seen that the migration presented a bright face of the Islamic civilization and vast aspects of knowledge derived from the intermingling of ideas, jurisprudence and various scientific environments, resulting in widening the circle of Islamic thought with all its major components, embracing all cultures and new scientific developments.

Hence the migration in the Islamic thought is a model to revive the Ummah and enhance its activism and planning ability, coinciding with the human thriving and taking the appropriate means. It is an educational way to overcome the suppression, come out of the abominable reality and continue in learning the modern sciences and expertise.

In the modern era the emigration of highly skilled labor has become problematic. The brain drain applies not only to older, more experienced people, but to recent university and technical graduates. To date, the magnitude of the problem can only be partially appreciated using available, empirical data (ECWA 1978a).³⁶ For example between 1962 and 1977, the USA, which is one of the largest recipients of Arab skills, absorbed some 18,200 professional, technical and kindred workers, of whom 2,500 were

engineers, 3,700 medical professionals, and 1,100 natural scientists (Shaw, 1983).(37)

Advantages of Migration:

The advantages of migration could be summarized here:

1. Overcoming the hard situations and coming out of them while being firm in the ideology one possesses.
2. Earning knowledge and expertise, understanding others closely to own the qualifications of inheriting the civilization on earth.
3. Spreading the Islamic civilization, its true face and values, its philosophy and behavior, in the land of migration.

Having said this, it is suggested that we are in need of reviewing our understanding of migration, its rules and causes and also review the special terms related to it like Land of Islam (Dar al-Islam) and Land of War (Dar al-Harb) or Land of disbelief (Dar al-Kufr), particularly when we are in the age of globalization, concept of a village like world, communication technology and the hard realities that the Islamic Ummah lives. Indeed there are some facts that push us to reconsider them carefully. They are the following:

- The political situations in the Islamic world: Is the Islamic world really *Dar al-Islam* (Land of Islam) with all its meanings?
- The freedoms of belief, opinion and thought that a Muslim finds in the land which is called *Dar al-Kufr* (Land of Disbelief) are far greater than they are found in lands of Islam.
- The land of non-Muslims is no more forbidden for the Muslims, rather the Muslims have an active political, social and ideological existence in it, whether they are migrants or natives of that land.

Here two questions could be raised:

1. How may we get advantage of this migration in getting energy and training our cadre?
2. How may we succeed in investing the migrating brains on the basis of give and take, to get the benefits of this migration?

Before answering these questions we need to know the reasons of this migrations.

Reasons of Brain Drain in the Modern Era:

There are many factors that attract the youth to go to Europe, America, Australia and other developed countries. Among these factors are luxurious life style, perpetual and peaceful stay over there, getting nationality according to the laws that are designed to attract the genius minds to get maximum benefit from them. Moreover, there had been some factors that were playing an active role in making an educated person feel as

if he/she was rejected in his own country and by his own Ummah, so he leaves them.

The following statistics may explain how much great attractions these factors have:

- 50% of physicians and 26% of engineers migrated from the developing Muslim countries. Most of them settled in USA, Canada and UK. (38)
- Number of migrants having higher scientific degrees from Egypt alone reached 450,000 scientists. (39)
- There are more than 4102 scientists from the Islamic countries in the western research centers of various fields.(40)

From the above statistics, which is pretty old and the numbers must have been doubled or tripled by now, one may imagine the size of brain drain. Let us examine the reasons for this brain drain.

The reasons for brain drain maybe categorized in the following:

Administrative Reasons:

Bureaucracy, abuse of administrative powers and restricting the freedoms of innovative scientific minds may come under this category.

Political Reasons:

They could be seen in what is practiced by some political systems in the Islamic countries, including the undue pressure on the opponents and holders of different opinions and forcing them to migrate. This opens up an access to exit, and the same reason could be used by the developed countries to attract the great minds from the developing countries by giving them political asylum.

Academic and Scientific Reasons:

They are seen in the backwardness of the Islamic world in the fields of science, information and technology, from the western world. At the same time the ambitions of the Muslim scientists and researchers to excel in their fields, have formed a great attraction for them to migrate towards the west.

In the last five years some 305 million research papers were published. Among them 37% were from EU, 34% from USA, 21% from Asia Pacific, 20% from India and 10% from Israel. While the 22 Arab countries all together produced less than 1%. (41)

Economic Reasons:

They are represented in the poor expenditure on the scientific research from the total GDP, which creates hurdles for the scientists and researchers in their scientific product. At the individual level the low income of the scientists results in their inability to publish their research

articles. The UNDP's Human Development report mentions that in the period between 1996-2002, only \$24 annually were spent on an Arab researcher from the GDP while in the industrial nations this amount reaches \$124 and it reaches \$110 in Israel. (42)

Social Reasons:

They are represented in the spread of scientific illiteracy among the Arab and Islamic societies as these societies seldom appreciate and show concern to the scholars in general and highly expert among them in particular, which makes these scientists strangers in their own homelands, unlike what they see and find in the western societies that this appreciation and concern is shown not only by the society but on the state level also. Precious awards are given to them and the media coverage for their research is ensured. Their researches are not only published rather the important political decisions are based on these studies. On the contrary, the stagnancy in production and development and depriving the society from basic human needs like drinking water, electricity and health care, particularly in poor Muslim countries have pushed the talented individuals out of their homelands. At the same time the modern means of communication have opened new horizons for the Muslim youth who have become aware of the available opportunities ahead of them as compared to what their homelands have to offer them.

Brain drain between loss and gain:

It may be seen that there are some strong negative and positive imprints which this migration has left. They could be summarized as under.

Negative impacts of the brain drain:

A great wave of brain drain that left the Arab and Islamic societies empty from many great scientists at a time when the Muslim world was in dire need of them, which led to inviting scientists from abroad who were not only very expensive rather they were not loyal to the Muslim world also, and this consequently had its own harms politically and economically. A report by Arab league says:

- a. 54% of Arab students who go abroad to study, do not come back to their countries.
- b. 34% of physicians in UK are from Arab countries.
- c. 75% of highly educated Arabs have migrated to USA, UK and Canada.
- d. The Arab world contributes 31% of total brain drain from developing countries to the west.
- e. The Arab world contributes 50% of physicians from the total number of physicians who migrate from developing countries to the west.

- f. The Arab world contributes 23% of engineers from the total number of engineers who migrate from developing countries to the west.
- i. A great financial loss caused by the brain drain. Egypt alone bears the loss of \$50 billion because of the migration of its intellectual minds.
- ii. Western attempts to attract the scientists and political personalities from the Muslim world for their strategic, political or military interests and sometimes using them against their own nations directly or indirectly. Most of the great projects in the Muslim countries that are pending for decades could be related to this, e.g. Kala Bagh Dam in Pakistan.
- iii. Getting nationality of the western countries, getting married there and living there for decades without interaction with the native homeland, its belief, ideology and traditions, create danger of ideological, cultural and behavioral change upon the migrants, particularly upon their children who were born and raised there, until and unless they are taken care of.
- iv. The phenomenon of brain drain causes Arab countries 200 billion dollars annually.(43)
- v. Statistics show that 7350 Iraqi scientists migrated to the west between 1991 – 1998 due to the embargo imposed on Iraq.(44)
- vi. In the first three years of American invasion of Iraq (between 2003 – 2006), eighty nine (89) university professors and scientists were assassinated in Iraq.(45)

There could be some positive impacts of the brain drain also, if this phenomenon is properly supervised and guided, maximum advantage could be taken from it.

Positive impacts of brain drain:

- a. Openness and cultural interaction of the Islamic Ummah with the world at large and getting benefit from the scientific and cultural produce of other nations and civilizations.
- b. Grasping the scientific knowledge and skills from the original sources i.e. the west, as the migrating scholars carry very rare intellectual abilities.
- c. Knowledge of the goals, strategies, sources and philosophies of the western scientific outcome from inside their research centers.
- d. Publishing and teaching the obtained scientific knowledge in the universities of the Islamic world and participating with the research centers and the decision making authorities.
- e. Screening the obtained scientific knowledge from the west and purifying it from whatever contradicts with the beliefs and values of

the Islamic Ummah, particularly in the applied and theoretical fields, i.e. political, economic and social etc.

- f. Foreign exchange earned by the homeland.

Reasons for migrants' long stay in the overseas:

- Getting used to the western life style and means besides having the appropriate scientific environment in the developed countries.
- Getting married in the overseas with native women and having children from them puts an emigrant in a practically difficult situation to leave his wife and children there as majority of these ladies and their children also do not want to live in his homeland. Moreover, there are many laws that create hurdles in front of a person who decides to come back to his country, for example some Muslim countries do not allow to employ those who have foreign wives or dual nationality to occupy sensitive and higher positions in the Muslim countries, hence he may not be able to provide the same luxuries to his family that he used to provide before. With the passage of time the idea of going back home dies in the heart of the emigrant.
- Non-existence of their specialty according to their qualification in the native countries of the emigrants, not to speak of the problem of not appreciating the science and the scientists in some Muslim countries.

Impact of the brain drain over the future of economic, social and educational development of the Muslim countries:

- Wastage of efforts and scientifically productive energies that are drained to the western countries while the development in Muslim countries needs qualifications in the fields of economics, education, health, planning, scientific research and technology.
- Loss of Muslim human and financial capital, spent on educating and training the competent cadre, who migrated to the west and were received by the developed countries without spending anything.
- Weakness and deterioration of the scientific research production in the Muslim countries as compared to the scientific research of the emigrants in the western countries.

Suggested Mechanism of involving the emigrants in the development of their homelands:

The efficiency of the gifted emigrants to serve in their homeland should be based on the spirit of volunteerism, honorarium and appreciation. For the mechanism of involving the emigrants in the development of their homelands, following suggestions could be given:

- The time period of their performance should be limited (two weeks to three months) to exchange the expertise earned abroad in the fields of research, academia and public or private establishments.
- The invitation of the gifted personnel should start from the government level then the private academic institutions, research centers, NGOs and companies from the private sector could also come forward.
- The expenses of inviting the native volunteers as consultants will certainly be a lot cheaper than inviting the experts from international market, besides its being on continuous basis.
- The natural love for the motherland in the hearts of these emigrants will help in succeeding the development projects as they would be contributing in these projects willingly and sincerely.(46)

Guiding the migrating minds:

To achieve the benefits of brain drain and avoid its negative impacts, some guiding procedures could be adopted which are summarized as under:

1. It is incumbent that the spirit of loyalty to the Islamic Ummah should be inculcated among those who migrate. They should stay in touch with the Muslim Ummah, particularly the youth among them who go abroad for study, so that they should not import the western culture and thoughts with them on their way back.
2. Acquire the accurate statistics of all the brain drained from the Muslim world, classify them according to their geographical existence, their specialties, academic qualifications, job places, social values and nationality. This may be done by an organization having a worldwide vision, financial capability and expert human cadre who may be able to use the latest communication technology to reach this goal.
3. Advise the emigrants to stay in touch with the Islamic Center close to his/her area. This will save him/her from being melted in the western culture.
4. Advise the emigrants that while their stay abroad they should keep on thinking about the solutions for the above mentioned reasons that cause brain drain.
5. Advise the emigrants that while their stay abroad they should keep their eyes open and look for talented intellectuals belonging to their homeland and persuade them to go back.

If a student or professional working abroad is obligated to return or frequently communicates with persons at home, he is much more likely to go back. But if these pulls are weak or if he develops new connections with foreign countries, his chances of emigrating increase. According to (Glaser,

1978) extra pulls from home increase the certainty and speed of return. These pulls are:

1. Sponsored students are more likely to return, particularly if the money comes from home.
2. Students on scholarships from the host country are more likely to return than the privately supported.
3. Guarantees of a job are associated with higher return.
4. Communication with employers at home increase the chances to return.
5. Official programs from the countries of origin, publicizing openings and urging the migrants to return are very effective.
6. Persons receiving more letters and publications from home are more likely to return.
7. Marrying a countryman – particularly before departure abroad – is associated with return. The most influential advisor is the spouse. So their advice is more likely to be followed in coming back home.
8. Members of national clubs are more likely to return.
9. Friendship with compatriots is associated with return, while many persons with friends from the host country prefer to emigrate.
10. In summary, persons with the strongest attachments to home are most likely to return.(47)

Questions asked by an emigrant to him/herself:

When a person leaves his family, friends and country, he certainly hopes and dreams to come back to his homeland, but when he reaches there he keeps on thinking over the following questions:

1. When is the appropriate time to go back home? Immediately after the completion of study and specialization or I should spend few more years to work and get experience?
2. Is going back home secures for me and my family our financial needs and for how long?
3. What is the price that I will pay by leaving the luxurious life style of the west and going back home?
4. It is true that I miss my homeland but I am not sure whether my homeland misses me the same way.
5. How and what I may contribute if I go back to my country?
6. Will the conditions and environments of work in my country suit me?
7. Is it my responsibility to go back home and work there?

Steps that should be taken by the Islamic governments to limit brain drain:

Following suggestions could be given to the Islamic governments to limit brain drain:

- To establish a center for brain management at the level of Islamic world on the basis of integrating human capital into other Muslim countries that face its shortness. This center should also manage all affairs of the emigrating scientists.(48)
In the year 2003 UNESCO cooperated with Hewlett Packard to develop several projects by using the latest technology for "brain gain" in favor of those countries that were specially effected from the brain drain of academics and scientists.(49)
- To obtain a comprehensive data of the Muslim brains that drained out, with the objective of knowing their numbers, places of living, fields of specializations, commitments and work environments. In this way, the Islamic countries may specify the specializations they need and chose from the emigrants that have the ability to work with the projects needed in the Islamic countries.
- Arrange some programs on national level to give consultations to those who are about to leave their homeland for higher studies to inculcate in their hearts and minds the importance of coming back to serve their own country.
- The Islamic governments should establish societies and organizations to give incentives to the emigrants to come back, remove all hurdles that may come in the way of connecting them with their homelands as some of them do not feel at home even in their own countries because after coming to their homeland, after long years, they may find that many things including people, places, values and laws have changed.
- There could be a generation gap and the returnee's own neighbors may not recognize him. Sometimes the emigrant brings back huge amount of money to invest in a business or project but he finds many hurdles in his way as compared to where he was.
- The universities in the Islamic countries should work hard in networking with the western universities where our best brains have been studying or doing research work. They should be in contact and if any one of them excels in any field, he/she should be awarded by the universities in their home countries also. Moreover, these emigrants should be invited to the conferences organized by our universities and their help should be sought in either technology transfer or participation in development projects.
- The salary system offered to the scientists coming back to their homelands should be reconsidered. Moreover, they should be paid extra on producing research papers.

- Designing visiting programs for the second generation scientists to visit their fatherland and motherland and its institutions, as some of them possess high level of capabilities and also enjoy good reputation in the western societies.
- The embassies of the Islamic countries in the west should be instructed to take care of the emigrants and help them interact with their homeland.
- Legally, the Islamic countries should make some new laws to attract back the cream of the crop that has migrated overseas. (50)
- Quality education to be provided in our educational institutions:

It may include qualified teachers, adequate facilities, proper funding, comprehensive curriculums, affordable tuition fees and the availability of scholarships, research facilities and proper educational support. All of these factors are dependent to a certain degree on budget. For accessible quality education, a serious financial commitment by the government is necessary. One of the important measures to be taken at the national level is the reorientation of educational system to discourage the migration of qualified intellectuals.(51)

Scholarships/economic support program should be initiated for the poor talented students, without compromising their self-respect.

- Manpower Planning should be emphasized upon:

As mentioned in UNESCO 127th executive conference in developing countries, planning in education sector has to be in conformity with the social strategy, economic needs, structure of qualifications and skills. Manpower planning has not been a great success in a number of Islamic countries affected by brain drain.

- Educational Programs should be conducted.

Educational opportunities and qualitative improvement of the training can reduce the pressure for studies abroad. Bilateral foreign aid programs and fellowships by international organizations should be utilized fully for such trainings.

- Developmental opportunities along with fair merit system to be adopted.
- Teachers' Role should be played again.

Teachers may assist students in a variety of information about themselves, their values, skills and interests. They may guide them about the occupations and careers they may opt while going abroad for education.

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