# The Appropriate Approaches For Successful Transfer Of Knowledge In Contemporary Muslim Civilization

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**Abstract**
It is often argued that the most important aspect of knowledge and technology is that it must be disseminated properly among the beneficiaries for whom it is actually created. The scientists and the researchers therefore have suggested a number of approaches through which knowledge and technologies have been diffused to many cultures of the world. Likewise, the knowledge and technology created by the modern world and as they are approved by social norms and religious values, may also be disseminated especially to the present Muslim communities. In this context, it is important to identify the most suitable and appropriate approaches and their proper uses in the contemporary Muslim societies. Our understanding of the production, dissemination and the application of knowledge and technology may be enhanced through an attitudinal change of the people and mobilizing them properly through the socio-religious guidance and values. It also tries to evaluate some successful approaches so far employed in transferring knowledge and technology pertinent to agricultural development throughout the Muslim world. Based on the discussion, the paper concluded in the form of some suggestions which the policy planners in the Muslim countries may adopt in their planning strategies for scientific innovation and transferring knowledge.

**Abstrak**
Ia sering dikatakan bahawa aspek ilmu serta teknologi yang paling penting adalah bahawa ia perlu disebarkan secara betul di kalangan benefisiari untuk siapa ia sebenarnya dicipta. Oleh itu, para saintis dan penyelidik telah mencadangkan beberapa pendekatan di mana ilmu dan teknologi telah disebarkan kepada kebanyakan budaya di dunia. Begitu juga, ilmu dan teknologi yang dicipta oleh dunia moden dan kerana ia diterima oleh norma-norma sosial dan nilai-nilai agama, ia juga boleh disebarkan terutamanya kepada masyarakat Islam masa kini. Dalam konteks ini, ia adalah penting untuk mengenal pasti pendekatan yang paling sesuai dan wajar dan penggunaan betulnya di kalangan masyarakat Islam kontemporari. Pemahaman kita tentang pengeluaran, penyebaran dan penggunaan ilmu dan teknologi boleh dipertingkatkan melalui perubahan sikap rakyat dan memobilisasikan mereka dengan betul melalui bimbingan dan nilai-nilai sosio-agama. Ia jugak cuba untuk menilai beberapa pendekatan yang berjaya digunakan setakat ini dalam memindahkan ilmu dan teknologi yang berkaitan dengan perkembangan pertanian di seluruh dunia Islam. Berdasarkan perbincangan, kajian ini membuat kesimpulan dalam beberapa bentuk cadangan yang jururancang polisi di negara-negara Islam boleh menerima dan menggunakannya dalam perancangan strategi bagi inovasi saintifik dan pemindahan ilmu.

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## Introduction

The production and dissemination of knowledge is an important indicator for the advancement of human society. The philosophers and the historians usually agree that the advancement of civilization has a positive correlation with the advancement of knowledge and the ways in which knowledge is used by members of the society. The early Greeks identified the higher level of education as an essential pre-requisite for developing a successful career in a democratic government. They firmly believed that a ruler must be a knowledgeable person and the great philosopher Plato for that reason, suggested that the salvation of the citizens is only possible through a government run by adequately educated rulers and knowledgeable persons of the state.[1] From this introduction, it is fairly clear that knowledge is closely related with the advancement of human development.

When we speak of knowledge being tied to the advancement of society, we are then conceptualizing a very broad general statement. Knowledge takes on many forms and many different classification of it has been shown. One of the best known classifications is Schelerr's tracheotomy between instrumental knowledge (Herrschaftswissen), intellectual knowledge (Bidungswissen) and spiritual knowledge or Erlosungwissen.[2] On the other hand, Machlup's alternative classification suggested for five broad distinctive types of knowledge: (i) practical knowledge, (ii) intellectual knowledge, (iii) small-talks and part-time knowledge, (iv) spiritual knowledge and (v) unwanted knowledge.[3] Whatever may be the classification however, one of the important requirements of knowledge is its verifiability whether it was tested and was found true in all time and places. This is actually one of the postulates of a scientific attitude where one is willing to accept evidence sufficiently based on verified knowledge. Knowledge is universal and it had existed in all societies in the past and it does exist now and will

[1] George H. Sabine, A History of Political Theory. New York: Holt, Rinehart and Winston, 1961.p-69

[2] Robert F. Rich,The Knowledge Cycle. Beverly Hills: Sage Publication, 1981. Rich in his research provided a clear analysis about knowledge. He viewed that knowledge need not always be certified or tested theories; it may be knowledge of statements and pronouncements. To support this view, Matchlup (1980) stated that 'the history of past errors in science is a highly important part of our knowledge'.

[3] F. Machlup, Knowledge and Knowledge Production. Princeton: Princeton University Press, 1980

perhaps continue to exist in future. So there is no point of arguing that our past knowledge sometimes showing largely erroneous views does no longer qualify as knowledge. We must realize that the main source of our present knowledge actually remained in the past. For that reason, argued that all the competing hypotheses are also part of our knowledge. And in providing an example of it, he argued that the cosmogonists and the earth scientists do not have any tested knowledge of the origin of the universe but, they have observation of what has been written about it and of the comparative merits of the competing hypotheses.[4] So our past knowledge therefore, should not be discarded rather it may be a pathway for our future investigations. However, the purpose of this paper is not to make any epistemological controversy in defining it, rather against this background, the paper addresses how knowledge and technology is disseminated among the people or beneficiaries for whom it is actually created. Taking into account a chronological development of it, we discuss very briefly in the following pages as to how knowledge is expanded in different stages of human society. And in this regard, in the later section of the paper we have identified some important approaches through which knowledge may be disseminated around the world especially to the Muslim communities. Based on our theoretical observation, the paper finally suggested for certain attitudinal change of the people and mobilizing them properly to accept and apply the modern technology throughout the Muslim world.

## A Brief Background of the Chronological Expansion of Knowledge

### In Different Stages of Human Civilization

When we speak of the chronological expansion of knowledge, we mean the technological and ideological development of human beings in different stages of human civilization. Anthropologists regarded it as the cultural development of a human being which he acquires as a member of the society. Many social scientists[5] have identified the technological

[4] op.cit. Rich, 1981, p.17

[5] Lewis Henry Morgan, Ancient Society. New York: Holt, 1877 p-37; Leslie White. (1959).The Evolution of Culture: the Development of Civilization to the Fall of Rome, McGraw-Hill, New York, 1959. P-58.

advancement as the principal indicator for development of knowledge. Among them, Lewis Henry Morgan (1877) maintained that all cultures and capabilities of human beings evolved basically through a same sequence of stages mainly due to the process of individual technological invention. He identified three such stages of cultural development through which man in the society acquired knowledge. According to him, the first stage is called the savagery which is marked by the acquisition of fire and the invention of bow and arrow. The subsistence economy that corresponded to this stage is the hunting and gathering way of life at that time which was mainly confined to produce bare necessities for survival. And people's food and nutrition at this stage was entirely depended upon the carrying capacity available to its environment and the technology available to exploit them was also quite simple for that reason. The second stage as Morgan postulated was the barbarism which began with the domestication of animal, the use of iron tools, the invention of pottery and the development of agriculture. And the third and final stage according to Morgan is the civilization which is marked by the use of phonetic alphabet.

Following a more or less similar evolutionary model, White (1959) viewed that the development of knowledge is closely associated with the acquisition of energy capturing system. White speculated that the technological development of human society was initially depended on the animal driven power and later there occurred some kind of cultural development of human beings when the energy of draft animals was replaced in the subsequent stages of steam and electricity. Social scientists including most sociologists and cultural anthropologists[6] contextually emphasized the role played by tools in cultural development of human society. In this perspective, cultural evolutionism of Leslie White (1959) and cultural materialism of Marvin Harris (1979) are quite significant who view that the technological development is the determining indicator for the development of knowledge. Some of the

[6] Marvin Harris, 1968, The Rise of the Anthropological Theory. New York: Crowell, 1986 p-649; Leslie White, The Evolution of Culture McGraw-Hill, New York, 1959; Lewis Mumford, The City in History, New York: Harcourt, Brace and World, 1961;Oswalt, An Anthropological Analysis of Food Getting Technology. New York: John Wiley. 1976.

neo-evolutionists[7] determined to prove that all human cultures and innovations emerged in different ecological and environmental setting. This idea was opposed by some of the social scientists who consistently argued that human culture and knowledge originated from a particular place and then it was diffused to other communities through cultural contact[8,9]. According to this school of thought, most aspects of civilization first developed in Egypt and then subsequently it was diffused to other parts of the world.

It can very well be understood from the above discussion that the technological achievement is one aspect of the development of knowledge but, there is a group of social scientists who assume that the development of ideas and intellectual ability is also another important dimension of knowledge. Among these theoreticians, August Comte, a prominent French sociologist postulated the view that man's intellectual development occur when it reaches to a final position known as positivism or scientific stage passing behind them the theological and metaphysical stages. In Comte's view[10], the law of three stages however, is much more important than a principle of governing the advancement of knowledge. He rather reiterated his view by arguing that the intellectual development of an individual also follows a similar pattern of consecutive improvement of human thinking. E.B. Tylor (1871) is another social scientist who argued that knowledge evolved through the development of human perception on religion. While focusing on the development of human knowledge, Tylor identified animism as the most primitive form of human faith and from there the human faith on religion reached to monotheism passing through an intermediary stage of polytheism. Thus it is clear from the above discussion that human

[7]Julian Steward, The Theory of Culture Change:The |Methodology of Multilinear Evolution.Urbana:Illionois University Press.1959.

[8] W.H. Rivers, Kinship and Social Organization. London: Constable Company, 1914.

[9]In simple, diffusion refers to the spread of a cultural innovation to other people in the society. The pioneer anthropologists in this field are: William James Perry and Elliot Smith. According to this school of thought, most aspects of civilization first developed in Egypt and then they were diffused to other parts of the world by successive waves of emigrants and traders (for details see Everett M.Rogers, Diffusion of Innovations. New York: The Free Press. pp41-42;;see Rossi Credit for the Poor: Poverty Alleviation and Wealth Creation in Rural Peninsular Malaysia. Seminar Paper on 1980).

[10] Auguste Comte,Course de Philosophie or The Positive Philosophy. Translated by Harriet Martineaus. London: Kegan Paul, 1893.p-6

knowledge certainly evolved chronologically through certain stages and it goes on progressing in every step. And one important assumption that emerged from this discussion is that there is a close relationship between human knowledge and the innovative technological development. And the other assumption that may be drawn here is that knowledge and technological development certainly has had evolved through some stages aiming towards progress and development.

## Agro-Economic Sector of Human Development and Some Empirical

### Evidences of Knowledge Creation

It has already been indicated that a particular knowledge in human society is initially created by some individuals and after that it is diffused among different peoples and cultures of the world. But there is no reason to believe that the acceptability of such knowledge is always very spontaneous and automatic. Rather, we have enormous evidences where people's initial reaction to this knowledge was very negative and they have not accepted them right away. But it is quite likely that if the people are mobilized properly, they will certainly accept such knowledge. In this section, we provide some empirical evidences from the agro-economic sector of the two-- Muslim communities where massive economic progresses have been initiated and later these were adopted as national and international models. The agrarian reforms brought by the Muda Irrigation Program in Malaysia and the Comilla Approach in Bangladesh are good examples of agrarian reforms in these two communities during the middle of 1960s.

Being one of the largest agricultural development projects of Malaysia, the Muda Irrigation Scheme[11] was initially designed to add about 27,500 acres of new paddy to introduce double cropping over a total area of 261,500 acres. The main target of this project was to increase paddy production from 229,100 tons of uncooked rice to 663,800 tons having a net increase of 285 per cent of production through

[11] The Muda Irrigation Scheme is one of the largest agricultural development projects in Malaysia. While the project was planned in the early 1960s, Malaysia of that time had to import a large amount of rice from outside but, the introduction of Muda brought so massive change in the farm structures and incomes of the peasants that the country started producing surplus of rice within a short time (for a detailed evaluation of the project see Beel et. al., 1982 p41; Ayob 1983 p.52).

mechanized irrigation.[12] Partly financed by the World Bank, the Muda scheme was undertaken between 1966 and 1970, when the Malaysian agriculture at that time was largely dependent on single-fed paddy farming and the country was in a serious strain to import a large amount of rice from abroad. But now Muda Irrigation Scheme had completed around 30 full-paddy cropping cycles and it is now well regarded that Muda Scheme has now been the largest double cropping area in the country. It has shown a remarkable success in the area showing an increase of the cropping intensity from about 95 per cent in the past to the level of 192 per cent at present. Through several experimentations from time to time, the program showed a tremendous progress in the region in terms of agricultural productivity.

The agro-economic history of Malaysia[13] indicate that before the introduction of mechanized irrigation, the Malay farmers in Kedah and other parts of the country were largely dependent on natural irrigation in their isolated and unstable cultivation. But due to the emergence of Muda, the traditional farming practices based on cattle driven plough have now been replaced by modern power tillers. The mechanized cultivation encouraged the farmers to adopt HYVs and chemical fertilizers. In promoting such changes, the Government at the beginning encouraged the farmers by granting subsidies for purchasing fertilizers and other equipment. It is reported that before the establishment of Muda, fertilizers and other farming chemicals were never used when paddy was cropped only once a year. But now the introduction of double cropping allowed the farmers to use modern agricultural inputs and as a result there is a tremendous increase of agricultural production. The villages now admit[14] that the introduction of double cropping has raised the level of farm income and as a consequence their livelihood has also become quite affluent. Data from the village level indicate that many villagers are now renovating their houses and durable consumer goods are now increasingly seen to substantiate the rise in their income.[15] Thus it is quite clear that the diffusion of agricultural innovation brought forth

[12] Tsutomu Ouchi et.al. Farmer and Village in West Malaysia. Tokyo: University of Tokyo, 1977p-42.

[13] Hj. Omar Affifuddin, Peasants, Institution and Development in Malaysia: The Political Economy of Development in the Muda Region. Unpublished Ph.D. Thesis. Cornell University, USA.,1978.p-37

[14] James Scott, Weapons of the Weak, New Haven: Yale University Press, 1985.p-63.

[15] Tsutomu Ouchi et.al., Farmer and Village in West Malaysia. Tokyo: University of Tokyo,1977. Opcit p-42.

an increase of agricultural production and a simultaneous improvement of livelihood of the villagers. Additionally, the expansion of the agrarian sector simultaneously created an employment opportunity in the paddy farms in Malaysia which allowed a large number of foreign workers to work in this country. The statistics indicate that a total of 125,356 legal foreign workers from Indonesia, Bangladesh, Thailand and the Philippines are now employed in the agrarian sector of the country[16].

A similar type of agricultural innovation also has had occurred in Bangladesh where modern technology based on high yielding variety seeds, fertilizers and irrigation was first introduced in the middle of 1960s. The modest beginning of agricultural transformation and multi-sectoral rural development in Bangladesh was the result of an experimentation of an integrated approach in the 107 square miles of the Comilla Kotwali Thana which is popularly known as "Comilla Approach".[17] The Comilla experiment received international attention in mid-1960s as a viable program to promote small farmer's interest, especially for its success in promoting agricultural growth through rural cooperatives. The pioneer leader of this program was Dr. Akhter Hamid Khan, who recognized that rural development should employ agrarian transformation through the introduction of mechanized cultivation.

The much mentioned Comilla cooperative program emerged through an extensive experimentation by the BARD (Bangladesh Academy for Rural Development) in its laboratory area of the Comilla Kotwali Thana during 1960s. BARD undertook experimental works to evolve a suitable model for agrarian development through implementation of various experiments and pilot programs.[18] The experiment of Comilla depended on the establishment of two-tier cooperatives. One consists of a small cooperatives run by the villagers; and the second, is the central cooperatives organized at the village level is known as KSS for Krishak Samabaya Samity, the Bengali for

[16] Moha. Asri Abdullah, Do we have to rely on foreign workers? Dewan Ekonomi, 1996, April, pp. 8-12.

[17] The Comilla Cooperative Approach is an experimental procedure for agricultural development in Bangladesh. It depends on the establishment of a two-tier cooperative. One consists of small village level cooperatives run by the villagers and the second, is a central cooperative at the Thana level.

[18] These programs included: (I) agriculture cooperatives (a new type of cooperative system of the German Reifessian type (II) Thana Training Development Center (TTDC) (III) Thana Irrigation Program or TIP and (IV) The Rural Works Program.

"agricultural cooperative society" and at the Thana level which is known as TCCA (Thana Central Cooperative Association). The KSSs are organized for the joint use of low lift pump (LLP) or deep tubewell (DTW) and it is through the KSS that the villages receive HYV seeds, fertilizers, irrigation technologies, government credits and other agricultural inputs.

The main objectives of this type of agrarian development are to organize villagers under local leadership. Thus, the institutional model designed by Comilla experiments was adopted as a national program in Bangladesh. After the liberation in 1971, Bangladesh began to implement the Comilla program under the leadership of IRDP (Integrated Rural Development Program) which later in 1982 was made the BRDB (Bangladesh Rural Development Board). By 1980, there had been a rapid expansion of the Comilla cooperatives to 267 out of 475 thanas of the country and day by day it is gaining in popularity among the rural poor in Bangladesh.

Our data from empirical evidences indicate that while the Comilla model was adopted initially in the countryside in Bangladesh, there was a mixed reaction to it from the villagers regarding its acceptability. When Comilla model was first tested in its Comilla laboratory area in early 1960s, enormous of government subsidies and resources in the form of agricultural inputs, irrigation technologies, and government loans were pumped in the Comilla villages which sharply attracted the younger people in the villages to be in the forefront of the cooperative movement. They readily accepted the change and started organizing cooperative societies on their own initiative in many villages[19]. But it has been observed that these cooperative societies organized by the young villagers were not often supported by the older villagers and in most cases, they started grumbling against it[20]. For example, in a research in the northern part of Bangladesh, Karim (1991)[21] observed that the young villagers organized two cooperatives in a village named

[19] A.H.M. Zehadul Karim , The Pattern of Rural Leadership in an Agrarian Society. New Delhi: Northern Book Center, 1990.pp149-160.

[20]Manjur-ul-Alam, Rural Power Structure and the Cooperatives with Relation to Modernization of Agriculture.. "M. Ameerul Huq (ed) Exploitation and the Rural Poor. Comilla. BARD, 1976.p-46.

[21] A.H.M. Zehadul Karim , The Comilla Cooperative Approach: Its Problems and Prospects for a Comprehensive Agrarian Development in Bangladesh. Asian Profile. Vol. 19, No. 5. October, 1991, pp. 447-457.

Dhononjoypara in 1978 and prior to their registration; they had to seek permission from their factional chiefs and had to convince them about the cooperatives in the village. The situation, however, was changed later when it involved various groups of farmers directly in the benefits of their needs and priorities for agrarian development. Despite its important deficiencies however, the Comilla Program has now been adopted as a national program and by now it has become well known to many Bangladeshi farmers who consider it as an easily accessible organization where they could seek agro-economic assistance. A large part of the economic activities in Bangladesh villages is now channeled through the Comilla cooperatives. It was documented there that the farmers who belonged to the cooperatives were the first to adopt HYVs and fertilizers, the non-members also however, did not lag behind and eventually matched up the rate of adoption.

The Grameen Bank of Bangladesh is another gallant example where a program originated from a very grass root level was later diffused among the people in different communities. Professor Yunus, a renowned social scientist from Chittagong University in Bangladesh first came up with an idea to deal with the rural poverty by distributing short term loans for income generating activities among the rural poor. The World Bank and the IFAD were sufficiently impressed at the success of the Grameen Bank in Bangladesh and tried to replicate this program among the poor nations of the world. Let us provide here a very brief history as to how Grameen Bank emerged as a rural credit institution and the sort of initial problems it had encountered in bringing the rural poor within its viable banking network and it further analyzed as to how the program as such was popularized among the villagers in Bangladesh.

Professor Yunus, the Nobel laureate, who emerged initially from Chittagong University in Bangladesh was the great pioneer of the Grameen Bank Model and he in his statement reiterated the view that 'credit for self employment' is a fundamental right of the poor, and based on this idea, Dr. Yunus hypothesized that if credit is provided to the poor for generating their income which would eventually eliminate their poverty through stages. There is a short story as to how Professor Yunus conceptualized the Grameen Bank Approach (GBA) in Bangladesh to deal with the rural poverty. While walking in the village sides near Chittagong University, Dr. Yunus was very much disenchanted to see the poverty situation of the people around him in the rural areas. And once on his way to the village, he saw an old woman making a lovely bamboo stool and he discovered soon that the lady was

earning only two pennies a day. The reason that she explained for such a low income was that she did not have enough money to buy bamboo or cane needed to make the stool, so she had to borrow from the trader who handled her wares. Being emotionally moved and excited, Professor Yunus arranged some loans for some of the poor villagers there in Chittagong from a commercial bank and he himself became the guarantor for those poor who took the loan. Then he started developing an institutional model for helping the poor. He personally selected a village named 'Jobra' in Chittagong as his own experimental area and with an economic assistance from the Krishi Bank of Bangladesh and he opened a sub-office there in the title of 'Experimental Grameen Bank' in the year 1976. The bank under his direct supervision went on operation in March 1978 and he was quite successful in disbursing loans to the rural poor with a system of regular repayment. With this success of the program at Jobra, Dr. Yunus started another project in Tangail in June 1979. This project had also shown a tremendous success with a loan recovery of 98 to 99 per cent[22]. Later on with a funding from the IFAD, the bank further reduced its operation cost and simultaneously opened branches in Dhaka, Rangpur, Patuakhali and Chittagong. And it is interesting to note that at the end of 1986, Grameen Bank numbered 295 branches throughout the country and distributed a credit worth 1.5 billion taka among 230,000 borrowers of more than 5000 villages. Now, Grameen has over two million members and it has 1,045 branches in the country.[23] However, what we are trying to focus here is that at the time of establishing this project, Professor Yunus had to face enormous administrative complicacies from various groups of people in Bangladesh as he expressed his entire dissatisfaction that it is very easy to get frustrated with the way things happen in Bangladesh. Finally however, he was able to convince everyone in a proper way of implementing the program throughout the country. Moreover, the Grameen had to overcome many challenges at the field level especially in its project in Tangail District during 1979 and 1982. Recent evaluation studies[24] have shown that Grameen borrowers are now the

[22] Muhammad Yunus, "Experiences in Organizing Grass-Root Initiatives and Mobilising People's Participation: The Case of Grameen Bank Project". A paper presented at SID World Conference in Baltimore, 1982.pp-1-12.

[23] Shahidur R.Khandaker et. Al.,,Gremeen Bank: Performance and Sustainability. Washington: The World Bank, 1995.pp-3-5

[24] Dharma Gai, An Evaluation of the Impact of the Gremeen Bank Project Dhaka: Grameen Bank, 1984pp-1-74.

poorest of the poor and most of them have been benefited considerably from their Grameen loans. In the following pages, we shall bring some examples to describe as to how the knowledge and experiences of the Grameen Bank has later been replicated throughout the world as a poverty alleviation model.

Banking with the rural poor has proven to be an effective mechanism for reducing rural poverty in Asia as a whole and in parts of other continents. The Grameen Bank was very successful in diffusing its philosophy that meaningful credit is a powerful weapon in reducing poverty among the rural poor and accordingly the model was tested right away by giving birth to Amanah Ikhtiar or Malaysia, the Project Nirdhan of Nepal and India, Savecred of Sri Lanka, Karya Usha Mandiri of Indonesia, Project Ushamaju of Sabah, Tau You May of Vietnam, TSPI, ASHI, Project Dungganon all in the Philippines in reaching over two million poor households in different parts of Asia. Let us now describe briefly how the Grameen Bank Approach has been disseminated among the participants of Amanah Ikhtiar in Malaysia.

Malaysia however, is not a desperately poor country like Bangladesh rather; it is a middle-income developing country having $ 2160 per capita GNP.[25] But yet is suffers from a sharp unequal distribution of the resources where some 40 to 50 per cent of the agricultural households in the country live in below poverty level.[26] The Amanah Ikhtira or Malaysia (AIM) was therefore tested in the country from January 1986 through June 1988 initially in the Selangor area to eradicate poverty among the rural poor. The project at that time was sponsored by the Center for Policy Research at the University Science Malaysia, the Selangor State Government, the Asian Pacific Development Center in Malaysia and the Malaysian Islamic Economic Development Foundation. The main idea of Ikhtiar is to allow the poor rural households in Malaysia to uplift them out of poverty through various income generating activities. The recent research works[27] suggested that if reasonable credit is provided to the rural poor through the AIM, it could bring a dramatic change in the significant reduction of

[25] World Bank, World Development Report 1991. Washington DC: World Bank,1991.
[26] Gibbons & David E & Sukor Kasim, Reducing Extreme Rural Poverty Through Benevolent Loans. Unpublished Research Report. Penang: Centre for Policy Research (USM), 1989.p-23.
[27] Hj. Othman Mansor, Kajian Impat: Satu Kajian Prestasi AIM Penang: Centre for Policy Research, University Science Malaysia. Unpublished Draft Report, 1996. P-10.

rural poverty in Malaysia. Professor David S. Gibbons and Professor Sukor Kasim of the Center for Policy Research at the University Science Malaysia are the principal theoreticians who diffused the AIM program gradually at the field level in different parts of Malaysia. The AIM was later sponsored by the Islamic Bank and one significant differentiation that it has with the Grameen is that the AIM members are allowed to obtain loan without any collateral security and also the specialty of the loan is that it is free from interest.

The benevolent loan of the Islamic Bank was sponsored through AIM and it has been quite successful in reducing poverty among a large group of Muslims in rural Malaysia. It is learned that by the end of July 1993, the extension of the Ikhtiar Trust has reached more than 22,000 poor households in 41 districts spreading over 8 states in mostly northern areas of the country[28]. The internal impact evaluation on Ikhtiar beneficiaries reveals that 42.03 per cent of the borrowers somehow managed to increase their household income above the poverty line and this percentage has increased gradually with the successive number of loans where 85 per cent of the borrowers have been able to overcome their poverty situation. What is however, remarkable here is that the ideas of the Grameen Bank have been disseminated through AIM has formulated their own policies and played a significant role in eradicating rural poverty in certain areas in Malaysia. The success of the program has also been followed up in a recent study of 16 AIM branches of the four districts in Malaysia[29].

While the AIM was started initially in Malaysia, it had encountered enormous problems at the beginning and, the implementors of the program very honestly admitted that they had committed many mistakes initially in understanding the program. Just like the Grameen Bank earlier, Ikhtiar also faced many challenges and initiators of the program had to solve them very tactfully indifferent phases of its implementation.While started motivating the qualified potential borrowers, the initial result became quite fruitless as not a single borrower came to for registering their names for the AIM. One of the main architect of the AIM program, Dr. Sukor Kasim reported to us that initially they could not even convince the people that they could obtain

[28] Sukor Kasim, Ummah in Poverty: The Continuing Issue. Paper presented at the ASEAN Islamic Economic Seminar, University Science Malaysia, 1993.p.10

[29] Hj. Othman Mansor, Kajian Impat: Satu Kajian Prestasi AIM Penang: Centre for Policy Research, University Science Malaysia. Unpublished Draft Report, 1996.p.7

some loans for their economic activities from the AIM sources. One of the reasons for this was that the idea of forming a group to obtain Ikhtiar loans were entirely unknown to the Malay villagers and for that reason, the implementers found it difficult. But this issue was dealt with very carefully by the implementers of the program and the problems were solved by employing some learning process approach at the field level.

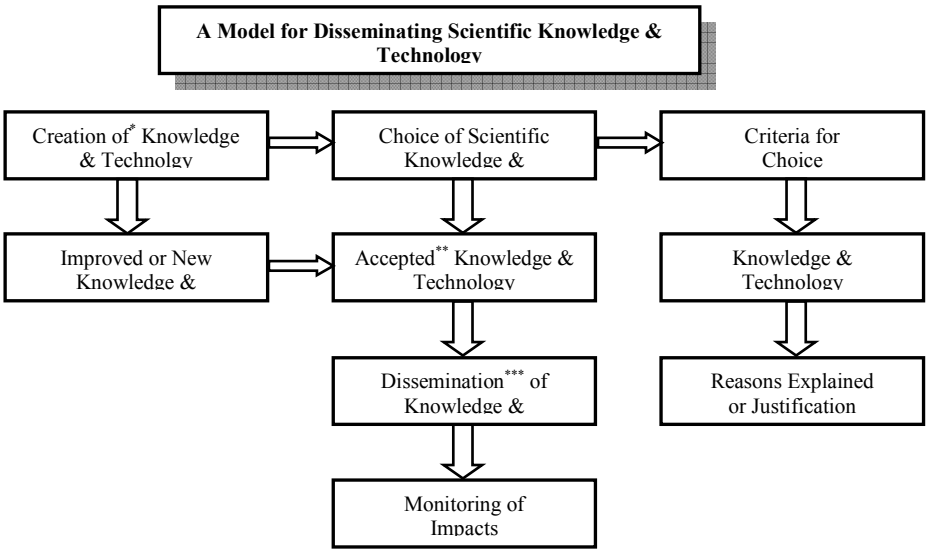
## The Appropriate Approaches for Disseminating Scientific Knowledge

### Among the Beneficiaries

In the foregoing pages, we have described very briefly about the creation of knowledge with some empirical evidences pertinent to agricultural development in Bangladesh and Malaysia. It is indicative from that discussion that knowledge created in the society should also be disseminated properly among the people or the beneficiaries for whom this knowledge is created. There are certain approaches through which knowledge is usually disseminated in the society. In the following pages, we shall discuss at a considerable length about the different approaches in technology diffusion and knowledge dissemination. The most traditional approach in disseminating an innovation is to diffuse it through certain channels among the members of the society[30]. Diffusion is a special type of communication where there occurs a two-way convergence, rather than as a one way initiative, in which one individual seeks to transfer a message to another[31] It is such a kind of communication where the diffused message concern mostly with a new idea of knowledge which may bring some kind of social change or alteration in the structure and function of the social system. It may so happen that an individual having knowledge about a particular innovation. In such a situation, a communication channel connects the two units building up an information-exchange relationship between them. The most effective communication occurs between two homophilous agents. It is quite likely that a change agent is technically more competent that his clients because of many reasons. In responding to such changes, the receptive individual or the society must show some positive attitude to accept the innovative knowledge; although, in many

[30] Everett M. Rogers, Diffusion of Innovations. New York: The Free Press, 1983.
[31] Everett M. Rogers & D. Lawrence Kincaid, Communication Networks: Toward a New Paradigm for Research. New York: The Free Press, 1981.pp.59-61

cases it may be rejected as well.[32], one of the forefathers and a French sociologist observed certain generalizations about the diffusion of innovation and confirmed that ten out of hundreds of the innovations will spread abroad while the remaining ninety will be forgotten. Tarde formulated the idea that the diffusion of innovation is the basic and fundamental indicator for changing human behavior.




* The creation of knowledge is possible either through individual effort or through group initiatives.

** The knowledge which is accepted by the socio-religious norms of the society.

*** The dissemination of knowledge is possible through diffusion, social mobilization and motivation

Many technologists[33] think that the useful innovation will be accepted very swiftly than that of the non-useful innovation and accordingly, a particular society must have some criteria to judge as to which knowledge or technology is suitable for them. The International Rice Research Institute (IRRI) of the Philippines successfully conducted research on all aspects of rice production in early sixties and also introduced several kinds of improved high yielding variety seeds for cultivation. These agronomical innovations played a crucial role in modernizing the farming practices of many agrarian countries around the

[32] Gabriel Tarde, The Laws of Imitation. New York: Holt, 1903.
[33]Frederick Mosteller, "Innovation and Evaluation". Science 211, 1981 pp. 881-886.

world. And consequently, the IRRI model was later adopted to boost up agricultural production in the countries like Bangladesh and Malaysia.

It is also quite likely that a technologically less developing society having traditional attitude may often be resistant to changes. In such cases, changes often are to be imposed on them and of course, it poses a question as to how it can be attempted. The social scientists for obvious reason, will suggest for increasing social awareness among the people in the community. And in promoting social awareness on specific innovation or ideas of issues, a strategy of social mobilization[34] is often used by the developmental scientists. It tries to create social movement for a particular program or innovation. It is intended to promote certain desired changes in the social structure of a particular society and calls for planned strategies to be pursued using effective means of communication appropriate for related clientele. As recently as in the beginning of 1990s, the Unicef introduced certain social mobilization programs for accelerating the compulsory primary education program in the countryside in Bangladesh. These programmes performed so well that there has been a sharp reduction of the drop-out among the school-aged children and there has been a considerable progress in the enrollment of primary school students in many parts of the country.[35]

Another important theoretical approach for disseminating knowledge is the motivation[36] which essentially requires a process of learning by bringing an attitudinal change in the individual(s) to behave in a certain way to adjust with the new innovation. We may recall to our discussion in the foregoing pages on how important is the role of changing the attitude of an individual through proper orientation. Motivation is a process which minimizes preconceived individual differences on certain aspects of knowledge. We predict that proper motivation will work if we could reduce economic inequality and poverty among the nations specially among the Muslim societies. For

[34] Neil Mckee (1992) has given a more or less acceptable definition of social mobilization. According to him, "Social mobilization is the process of bringing together all feasible and practical inter-sectoral allies to raise people's awareness of and demand for particular development programs." Social Mobilization Programs. Unicef.p-5

[35] A.H.M. Zehadul Karim , The Social Mobilization Impact of the Mother's Rallies on CPE in Bangladesh. Paper Presented at the Fourth ENBS Workshop held at the Center for Asian Studies in Amsterdam, The Netherlands, August 24-26,1994

[36] The concept of motivation has been altogether a very controversial subject in social psychology and avoiding this controversy we defined it here as in important strategy to bring changes in attitudes of the people through social orientation.

example, if a hungry man is confronted with the choice between a 'plate of food' and 'some ideas', it is quite simple for him to decide on his appropriate course of action. The second important requirement for motivation is perhaps the education, through which the individuals in the society can make proper judgment on a certain issue. We can cite an example here from Bangladesh, where the enrollment in primary education especially among the girls was extremely low. The major constraint to girl's education is apparently apathy from the parents and guardians. The traditional parental attitude has been that girls are destined for marriage and therefore need no schooling. But in one research conducted in the rural area of Bangladesh, it was found that due to an impact of motivation there was an attitudinal change of the mothers of school going children and eventually a 9 per cent increase in the enrollment was possible, quite obviously it worked much better among the educated mothers.[37]

## Concluding Discussion

From the foregoing discussion, it is fairly clear that the production and dissemination of knowledge is an important indicator for the advancement of human society. There are a number of social scientists[38] who identified technological achievement as the most important indicator for the development of knowledge while by contrast, the other group of social scientists[39] view that the development of ideas and intellectual development are also equally important for developing knowledge. Whatever may be the differences of opinion, it may however, be admitted that human knowledge certainly evolved through a chronology of phases and it finally reaches to a stage of progress and advancement.

The scientists and the researchers also recognized that the most important aspect of knowledge is that it must be disseminated properly

[37] Op.Cit, A.H.M. Zehadul Karim, 1994.
[38] Lewis Henry Morgan, Ancient Society. New York: Holt, 1877; Leslie White. (1959).The Evolution of Culture: the Development of Civilization to the Fall of Rome, McGraw-Hill, New York, 1959.
[39] Auguste Comte,Course de Philosophie or The Positive Philosophy. Translated by Harriet Martineaus. London: Kegan Paul, 1893.

among the beneficiaries for whom it is actually created. And accordingly, they have suggested a number of approaches for disseminating knowledge. The foregoing analytical discussion and the examples cited in the case studies indicate that knowledge created by human beings have long been diffused among the people around the world. Based on the case studies from Bangladesh and Malaysia, the paper explained very clearly as to how knowledge is created for and disseminated among the beneficiaries. We have cited examples as to how an impact of green revolution brought a massive transformation in the agrarian structure in the peasant societies in Bangladesh and Malaysia during 1960s and 1970s. The Grameen Bank is another example that was created with a philosophy to emancipate poverty in the rural areas in Bangladesh and later it was replicated in many Asian countries including Malaysia. Malaysia has modified and adopted this model to deal with the poverty in some regions of the country.

The most traditional approach in disseminating knowledge is the diffusionism through which certain innovative messages are channeled among the members of the society. It is such a kind of communication where the diffused message concerns mostly with a new idea of knowledge that may bring some kind of social change or alteration in the structure and function of the social system. Many technologists think that the most useful innovation will be accepted very rapidly while that of the non-useful innovation may be rejected by the majority of people in the society. And it is quite likely that a particular society must have some criteria to judge as to which knowledge or technology is suitable for them. The Muslim countries around the world may follow their own principles and guidance for this type of judgment but we should not however, have any prejudice to accept knowledge from anywhere if it is not against Islam. We have cited specific examples how the experience of the International Rice Research Institute in the Philippines has been diffused to the benefit of the rice growers in Bangladesh and Malaysia.

It is quite likely that a traditional society due to several reasons may often be resistant to the innovative changes as they cannot visualize the inner significance of knowledge in human society. The social scientists therefore suggest for increasing awareness among the people through social mobilization effort which is intended to promote certain desired changes in the social structure of a particular society and it calls for planned strategies to be pursued using effective means of

communication for related clientele. Another important approach to mobilize such people is to motivate them through a continuous process. We have cited specific examples as to how motivation worked for popularizing primary education in rural Bangladesh.

Although the Muslim nations in the past have promoted the scientific investigations and discoveries around the world and contributed much to the advancement of science and technology but, it is very much unfortunate to note here that the Muslim nations are now simply borrowing knowledge from the Western world. Instead of creating any new knowledge, they have now become only the receptor of it. But what we feel is that the Muslim nations around the world should concentrate much on creating new knowledge and disseminate them for human development. They have plenty of natural resources and enormous of wealth in their hands. It is known to every one that there are handful Muslim countries around the world whose per capita G.N.P. is highest in the world. But what is however, disappointing is that even being resourceful and wealthy, their scientific backwardness today made them totally dependent on the Western world for seeking knowledge. They are not at all striving to regain their past heritage by providing facilities for their own people to create knowledge. However, in any strategy these weaknesses have to be overcome. And for that purpose we urge the resourceful Muslim nations of the world to come forward in contributing in the field of advancement of knowledge and scientific development and thus promote an effective transfer of knowledge to poor nations on liberal and reasonable terms and conditions. The technological interaction among these countries may result from the movement of skilled personnel from one country to another. At present, there are a number of poor Muslim countries having surplus skilled man power resources and on the other hand, there are quite a good number of rich Muslim nations who have acute shortage of such skill in their economy. The rich Muslim nations therefore should devise an effective mechanism to employ these skills and knowledgeable to work in their industrial plants which would eventually benefit the rich nations as well.

In the 6$^{th}$ World Islamic Economic Forum which was held in Malaysia (18-20$^{th}$ May,2010), a few Muslim nations of the world assembled to discuss and find out the strategies to strengthen their efforts in human resource development, specially in education and training, which are still remaining far behind in these countries. In the meeting, Malaysia has proposed the establishment of a clean "Energy

Development Bank" to accelerate the development of clean energy-related industries for the developing countries of the Organization of the Islamic Conference. These are undoubtedly good initiatives in the field of scientific investigation.

Considering the above discussion, we may suggest the following few recommendations which the policy planners of the Muslim countries may consider for their future strategies:

(1) A mutual exchange of the scientists and the researchers of different Muslim nations may be initiated who can collaborate on various issues related to science and technology. In creating knowledge, the rich Muslim nations may offer financial assistance for the scientists and researchers of poor Muslim nations. Many of them may also assist the poor Muslim countries in establishing higher learning institutes and universities to help creating knowledge.

(2) The Muslim countries are required to have their respective separate Ministries to deal with science and technology and we suggest that these Ministries should be headed by the professional scientists and researchers of the country who have profound knowledge in this field. The Ministers and the top ranking officials in these Ministries should be recruited from the educated and knowledgeable persons of the country who clearly understand various technicalities of scientific research. Similarly, the Ministry of Education in these countries should also be headed by the renowned educationists and professionals of the country.

(3) The rich Muslim nations may introduce scholarships for the students of poor Muslim nations who cannot afford the expenses for their higher studies. We understand that if the meritorious students of these countries are offered financial assistance they will be able to contribute much in the field of scientific knowledge. Although not specifically for the Muslim countries as such, but it is quite appreciating that the Malaysian Government has recently introduced a special kind of MTCP[40] scholarships which allowed many students from outside to

[40] MTCP or the Malaysian Technical Cooperation Program has recently been introduced to provide scholarships for the students of Bangladesh, Indonesia, Iraq, Jordan, Myanmar and Nigeria. The Jabatan Perkhidmatan Awan (JPA) of the Malaysian Government usually takes decision on these scholarships and they invite applications for such scholarships through the Ministry of Foreign Affairs of the Malaysia Government. It is advisable that the selection of candidates for such scholarship should always be done by an expert committee of the donor countries. If this responsibility is given to the recipient country, it is suspected that this selection

prosecute their studies here in Malaysia. The number of such scholarships may however, be increased specially for the poor students of the Muslim countries. Similarly, we also urge the other rich Muslim nations to follow Malaysian framework to introduce such scholarships for helping the students from poor Muslim nations of the world.

(4) A central secretariat and its branches may be established in many Muslim countries to carry out scientific research on different fields and current issues. This may be initiated under the technical assistance program where all the Muslim nations may cooperate with each other for their scientific innovation and improvement.

(5) And finally, we feel that there should be no dogmatic attitude in seeking knowledge as Islam clearly prescribed for searching knowledge from anywhere of the world, and to utilize it for the betterment of the Ummah and humanity at large. We understand the progressive knowledge created by the Muslim scientists and the resources available to the rich Muslim nations can also be used to eradicate poverty from the Third World countries.

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may often be unfair due to the bureaucratic and official manipulation and favoritism in the recipient countries. And it may be mentioned here that it was finally accepted by the Malaysian Government, as we suggested in our paper.