Research Note

Research and Development in the Muslim Society

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Abstract: Despite clear-cut exhortation from the Qurʾān and Sunnah, Muslims are not showing much interest in R&D. Many Muslims are finding comfort in simply importing foreign goods and solutions to enrich their lives. Data analyses show that the Muslim world is far behind other countries in terms of research and development. There exists some misunderstanding in the Muslim mind on the meaning and role of research and development. There is a need for sustained research in all aspects of the society for it to develop as envisaged by Islam.

Research and Development or R&D is part and parcel of Islam. The Qurʾān and the Sunnah are emphatic about Muslims carrying out research and development for success in this world as an adjunct to salvation in the hereafter. This study discusses the Qurʾānic stand pertaining to R&D and evaluates the current condition of R&D prevailing in the Muslim world.

Defining Research and Development (R&D)

Research, according to the English Oxford Dictionary, means an "endeavor to discover facts by scientific study, or a course of critical investigation or a careful search after or for something."[1] The word "research" is derived from the French *rechercher* meaning "to search back."[2] Research is essentially "an investigation, a recording, and

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an analysis of evidence for the purpose of gaining knowledge. Thus, research involves, specifically, an investigation into a particular matter or problem."[3] The purpose of scientific research is to generate, test and validate knowledge.[4]

Research, as Brew rightly argues, is a complex phenomenon. It cannot be reduced to any kind of essential quality. Indeed, it is impossible to discuss research in general, for it has to be discussed in relation to its disciplinary contexts.[5] However, this notion is fast eroding as "the boundaries between disciplines are dissolving and giving way to a more open structure where varieties of knowledge and competence are combined and recombined in novel configurations."[6]

Research is meant for development. But then, what is development? And, what types of development ought man to pursue? The term "development" means "to bring or come from a latent state to visibility or activity or from a rudimentary state to greater elaboration or size or from an immature state to completeness or perfection."[7] Development means: [a] to come from a latent state to visibility or activity, [b] to bring a thing from its latent state to visibility or activity, [c] to come from a rudimentary state to greater elaboration or size, [d] to bring anything from a rudimentary state to greater elaboration or size, [e] to come from an immature state to completeness or perfection, and [f] to bring anything from an immature state to completeness or perfection.

Of the six meanings outlined above, [a], [c] and [e] will not fall under human development at all, because, they are purely divine work. The meanings stipulated under [b], [d], and [f] are applicable to human development. Here, even though Allāh (SWT) remains the real doer, man has a claim on these things by virtue of his "intention." Therefore, these are classified as human-centered development. Of these three, [f] is connected with man's development within himself as well as without. As for man's development within himself, it is none other than his perfection of himself in knowledge, skills, acquirement of virtues and attainment of perfection in moral qualities.

As for man's development of things outside himself, it cannot be envisaged except in terms of quality and quantity. Such development

is further enhanced if it is done free from faults and with minimum requirement and utilization of space, time and energy. This is what is generally considered as development.

Man is a multi-dimensional being. Therefore, his aims and aspirations also are multi-dimensional. And, therefore, his research and his development, too, are multi-dimensional. Man's aims and aspirations should of necessity be bound within the purpose of his creation. Any and every aim or aspiration going outside the purpose of his creation will lead him to transgress the Divine Will. Likewise, too, any and every research and development should not extend outside the purpose for which man is created. For in the Qurʾān, Allāh (SWT) clearly stipulates the purpose of man's creation as:

> I have only created Jinns and Men that they may serve Me.[8]

Therefore, man's research and development should be geared to serve the Lord and no other. And to serve the Lord is no other than to serve His creatures in line with His commands and prohibitions.

Therefore, any and every act of development undertaken by man should necessarily agree with the purpose for which he/she is created. The divine purpose of creating the entire cosmos is "Knowledge," i.e., the aspect of His being known. This has been established through a *ḥadīth qudsī* reading:

> I was a hidden treasure, I desired to be known, therefore,
> I created the creations in order that I be known.[9]

Therefore, according to Islam, the purpose of creation is "His being known." Since Allāh cannot be known except through His Signs, His Revelations and through the study and research on His creations, it is incumbent on man to study and research on His Signs, His Revelations and His creations in order to know His qualities and attributes and thereby serve the purpose he is created for.

Man in order to serve the purpose he is created for has first to study and research on the creations of Allāh (SWT), besides studying the Signs of Allāh (SWT) and His Revelations, and thereby gathers knowledge of Allāh (SWT). Mere gathering of knowledge of Allāh (SWT) alone, will not serve perfectly the purpose of creation, which is "His being known," unless man begins to act upon the knowledge he has gathered of Allāh (SWT). This is because acts are a step

towards the crystallization of knowledge. All acts definitely produce results either in the doer himself or in his environment, immediate or otherwise, and actions are to be considered on the basis of intentions. The results are further crystallization, in other words, the tangible proofs, of the knowledge, i.e., "His being known." Therefore, developments, if they are based on research governed by the right intentions and due regard to Allāh (SWT)'s commands and prohibitions, are definitely the manifestations of the knowledge of Allāh (SWT) and the crystallization of man's serving the purpose of creation, i.e., "His being known."

The word "development" in Arabic is *taṭawwur*, which means "evolution" as well.[10] This implies that any development must be evolutionary in nature. As such this word as defined by Lucian Pye as "being a multi-dimensional process of social change" may be misleading, since social change, a central concept of development, applies to movement of a society from one condition to another which may require a drastic change or even total abandoning of previous condition to a new one.[11] This may go well with material development. But, if social change includes within its denotation a change from one's old beliefs, ideals and traditions to newer ones but are at variance with one's conviction, such a development may not be perceived as development in positive terms regardless of whether that development is of a higher status.

Research results in knowledge; knowledge is for action, and action results in development. Without research being transformed into knowledge and knowledge being translated into action, mere research alone cannot lead to or result in development. As such, the core of the problem is knowledge and action, and it is a known fact that research necessarily precedes knowledge and development necessarily follows action. Therefore, Islam has rightly emphasized the importance of knowledge and action,[12] because these two are the core of the problem, though of course, research is the start and development is the end of the process.

It is generally agreed that research ought to be for development and ought not to be otherwise. Of what benefit is a research if it is not for development? When one applies reasoning into the process of research transforming itself into development, one gets the following key illustrative statements:

> Research is for knowledge,
> knowledge is for action, and
> action is for development.

What the development ought to be depends on what the action ought to be and what the action ought to be depends on what the knowledge ought to be and what the knowledge ought to be depends on what the research or search ought to be for and what the research ought to be for depends on what the intention is. This is why the Noble Prophet (SAS) of Islam is said to have prayed:

> O, Allāh I seek Thy protection against a knowledge which does not benefit...and an action which is not elevated.... [13]

He is also reported to have said:

> The rewardability and punishability of (or the consideration of) actions are based on the intention and for every man is what he intends...[14]

Development is either internal or external. Internal is within oneself, external is without, that is, one's environment whether immediate or otherwise.

Therefore, research is bound to be either on oneself or on one's environment, immediate or otherwise. Since the field of research is invariably the fields of knowledge, and the fields of knowledge are either subjective (acquired) or objective (revealed), research should take place in both types of knowledge. The neglect of either type of knowledge will result in imperfect research and, therefore, lead man to imperfect developments.

Furthermore, every research or search and all that which leads to its development be they knowledge or action must be governed by the four core principles of [a] *ʿadl* or justice, [b] *amānah* or trust, [c] *maqāṣid* or intent, and [d] *maṣlaḥah* or interest, which are practical manifestations of faith (*īmān*), and the core elements that constitute intention (*niyyah*). These principles are inextricably intertwined that it is hard to separate one from the other. The presence and or recourse to these core principles are essential in the entire process of research reaching its stage of development. Exclusion of any one of these principles from the other will make the research and its subsequent development imperfect, which in turn reflects on the imperfection of faith in one who undertakes such research.

Qur'ān and R&D

Research includes within its connotation the various cognitive and intellectual functions such as analytical and synthetical studies of things, remembrance, understanding, thinking, considering, reasoning, pondering, taking admonitions, recollecting, learning wisdom, receiving moral lessons, and reflecting. The revealed book of Islam has a number of names of which the most prominent are al-Qur'ān and al-Furqān.

Al- Qur'ān means the book which synthesizes things. Al-Furqān means the book which analyses things. It employs the derivations of terms like *'ilm* (knowledge) *fahm-'aql* (understanding), *naẓr* (studying), *tadhakkur* (recollecting or remembering), *tadabbur* (thinking over the ultimate results of things) and *tafakkur* (reasoning), to invoke mankind to undertake research of all kinds, making use of the above terms which are only the different intellectual functions involved in research. The Qur'ān has also specifically enumerated the fields requiring research by making use of the appropriate terms. For instance, in verses 2:164 and 2:19 the Qur'ān encourages mankind to carry out research in astronomy with a view to find out in what ways these heavenly bodies are subjected to man and to study the phenomenon of the creation of the universe while not forgetting the Creator. Verses 3:65 and 191 require man to do research on the history of mankind and not to take conjecture as a basis for history. Verses 10:24 and 101 invoke man to carry out research on the gravitational balance of planets and heavenly bodies and the travel of the sun and moon and on the earth, mountains, rivers, fruits and the night and day. Certainly, the signs in subjecting all that in the heavens and on earth to man require research, in order that such signs are best understood.

In verses 7:84, 103 and 176 the Qur'ān requires man to do research in the fields of History, Anthropology etc., and to study the limitations of man's power and skills and to plan and steer his activities clear from mishaps. Chapter 16 has a number of verses emphasizing research on various disciplines. For example, verses 16:10–12 encourage man to undertake research and to know Astronomy and Agriculture. Verse 16:13 encourages mankind to carry out research on the structure of the heavens and the earth and the secret of the creations being created in pairs, while verses 16:66

to 16:69 urge man to do research in the fields of Geology, Zoology, Botany and Agriculture. The study of bees itself involves a great number of fields of knowledge including various branches of science. Thus, the Qur'ānic emphasis on research areas is limitless.[15]

These verses are not the only ones encouraging man to undertake research. Wherever in the Qur'ān a verse starts or ends with knowledge or its derivations. In all such places human beings in general, or believers in particular, are encouraged to research in those things stated in the respective places. There is no useful field of knowledge or branch of knowledge in which the Qur'ān does not encourage research.

The Position of R&D in Muslim Societies

Despite the encouragement Islam shows for R&D, the Muslim Ummah as a whole is lagging behind in this important aspect of human progress. The modest effort taken by countries like Malaysia, Indonesia, Pakistan, Iran and Turkey to spearhead indigenous research in various fields of R&D through foreign collaborations in the form of technological transfer is encouraging. However, the continued reliance on the findings of others has stifled the creative and enterprising spirit of Islam and Muslims.

There is no doubt that the Muslim world, stretching from Morocco to Indonesia, has the resources for greater research, development and progress. Yet, compared to the Organization for Economic Cooperation and Development (OECD) countries, the Organization of Islamic Conference (OIC) member countries are lagging behind greatly. Even access to daily newspapers and computer is limited in the Muslim world. To illustrate, out of 47 countries with a majority Muslim population, 17 are in the category of LDCs (least-developed countries) and 23 in the category of developing countries.[16] The combined gross domestic product (GDP) of the Muslim majority countries in 2003, with their collective population of 1.17 billion, was USD1.38 trillion or a fraction of the GDP of the European Union—which has a population of only 370 million and earnings of •8.83 trillion (USD10.11 trillion).[17] The overwhelming majority of Muslim countries depend on the export of a few commodities—hydrocarbons and other minerals and agricultural products—for the bulk of their foreign exchange. Very few Muslim countries, such as

Malaysia and Turkey, earn substantial foreign exchange from the export of industrial goods and from service industries such as tourism. Regarding the latter, Egypt and Tunisia also fare well.

Many, including middle-income countries, cannot survive without some form of bilateral or multilateral foreign aid. Indicators in terms of the Muslim world's scientific and technological advance and access to new electronic means of communication are equally disappointing. For example, the percentage of population with access to computers and the Internet is very low throughout the Muslim world. In the Arab world, there are less than 18 computers per 1,000 persons compared to the global average of 78.3, 53 newspapers per 1,000 persons versus 285 in developed countries, and only 109 telephone lines per 1,000 persons compared to 561 in developed countries. In its analysis of a decade of R&D investment, UIS Bulletin reports that "Both sub-Saharan African countries and the Arab states showed much lower levels of expenditure" in R&D.[18]

It is true that the Muslim world faces difficulties in carrying out R&D. Most of the Muslim countries like Tunisia, Mali and Mauritania are very small and hence are not in a position to be self-reliant and self-sufficient. Many countries like Saudi Arabia, Kuwait and Algeria, have excess capital but lack manpower and technological skills. In contrast to these, there are countries like Pakistan, Turkey and Egypt, which have excess manpower and certain amount of technological capability but poor in terms of capital. [19]

However, taken together, the Muslim world has abundant resources to carry out R&D. Despite these god-given gifts, the cause of Muslims' lack of interests and means to undertake R&D programs pose serious questions on their attitudes towards knowledge itself. Many have unwittingly classified knowledge as *dunyawī* (worldly) and *ukhrawī* (pertaining to hereafter). This classification, even though done with good intention, has miserably failed the Ummah from pursuing knowledge for the sake of knowing the truth. As such, Muslims consider R&D as not that important. One major problem facing Muslims in accepting R&D is that they view this as a Western concept. As Sardar argues:

> Development *per se* is a Western concept: it cannot be applied
> to Muslim societies, no matter how the coy academic redefines
> it to placate his own susceptibilities, without placing them in a

linear teleology *vis-ā-vis* the industrialized countries of the occident. [20]

To Sardar, issues like per capita income, ability to produce capital goods, energy consumption, literacy rates, productivity, general consumptions, and defense capabilities are the barometers to measure development. These are no doubt essential milestones in the development or the transformation of a society. But to say that development itself is confined to these material limitations is to narrow the concept of development and render it inapplicable to other than those in the West.

As Lucian Pye rightly maintains, development is "a multi-dimensional process of social change."[21] It means moving from "one state of organization, one system of ideas, beliefs and traditions and one stock of equipment to another."[22] It does not necessarily mean that one has to move *away* from one's cherished beliefs, principles and values. Development should not be considered as a synonym to the term transformation. The two terms are related directly or indirectly to improvement. However, improvement in the sense of development does not refer to a total change. Yet, some argue that since the concept of development will always be wholly identified with Western capitalists, economics and profit-motivated technology, any attempt to rescue it from the clutches of this preordained framework is doomed to fail. Thus, it is self-defeating to devise Islamic strategies for development even if the term is hedged with Islamic vocabulary. This line of argument is fallacious. It is like arguing that since "history" is an English word it should be taken as an English concept. Just as there is Islamic history, there is also Islamic development.

The growth through *tazkiyah* (purification) as the Islamic alternative to development as proposed by Kurshid Ahmad, stems from his rejection of development as a Western concept. Even though it is a dynamic concept that motivates individual and societies to grow by a constant process of purification, it does not adequately address the material side of development of man and his surroundings. There is need to widen the application of this purification to cover the multi-dimensional avocations of man, by considering it as an evolutionary concept that expands and progresses with the progress of man. In other words, development must be

viewed as an evolutionary concept of perfection through purification covering all dimensions of man. If any one dimension is ignored in the development of man and his society, then any development without that ignored dimension is considered as an imperfect development, in fact even as no development at all.

While focusing development in exclusively material terms the spiritual aspect of development of man and his society need not be sacrificed. It is in this snare many Muslim societies are caught in the confusion of determining the exact purpose of development. Many of them simply import ideas of development from the West and apply them to their societies. Thus, they focus on the infrastructural and economic development of their respective countries and consider them as the means to attain the status of progressive societies. What they have missed is the social and spiritual development of their people so that they can responsibly utilize these infrastructural facilities to their optimum benefit.

Conclusion

Islam has particularly emphasized research for the continued development of man in knowing his Creator. Despite such clear exhortation in the Qur'ān, the present-day Muslim society as a whole has failed so far to realize the full import of R&D. The Muslim Ummah needs to take the necessary steps toward that direction which will encourage responsible research in the field of human development. The present lack of such constructive role by the Muslim society has given those in the field of R&D a free-hand in shaping the world according to their own values, which are increasingly proving to be detrimental to the general welfare of man. Muslims must play a responsible role in the field of R&D by integrating the material and spiritual dimensions of development. To achieve this goal the Muslim society has to overhaul its educational system to accommodate elements of R&D. This is neither difficult to achieve nor alien to Islam.

Notes

1. William Little, et al., *The Shorter Oxford English Dictionary* (Oxford: Clarendon Press, 1972), 1712.

2. Robert Ross, *Research: An Introduction* (London: Barnes and Nobles Books, 1974), 4.

3. Ibid., 3.

4. Angela Brew, *The Nature of Research: Inquiry in Academic Contexts* (London/New York: Routledge Falmer, 2001), 21.

5. Ibid., 22.

6. M. Gibbons, et al., *The New Production of Knowledge: The Dynamics of Science and Research in Contemporary Societies* (London: Sage, 1994), 48-49.

7. Ibid., 495.

8. Al-Qurʾān (51:56).

9. There is a few versions of this *ḥadīth*. Commenting on this *ḥadīth*, al-ʿAjlūnī says that Ibn Taymiyyah does not consider this as the speech of the Prophet and it is not known to have any valid or weak chain. This is the stand of scholars like al-Zarkashī, Ibn Ḥajar and al-Suyūṭī. However, according to [Mullā ʿAlī] al-Qārī, the import of the *ḥadīth* is valid and is derived from the Divine saying "I have only created Jinns and Men that they may serve Me" (Ibid.) that is "they know Me", just as it had been explained by Ibn ʿAbbās….This is mainly present in *ṣūfī* statements. For details see, Al-Jarāḥī, Ismāʿīl b Muḥammad al-ʿAjlūnī, *Kashf al-Khafāʾ wa-Muzīl al-Ilbās ʿAmmā Ishtahara min al-Aḥādīth ʿalā Alsinat al-Nās*, vol. 2 (Beirūt: Dār Iḥyāʾ al-Turāth al-ʿArabī, 1352h.), 132.

10. Hans Wehr, *A Dictionary of Modern Written Arabic*, edited by J. Milton Cowan, 3rd Print, (Beirut: Librairie Du Liban / London: Macdonald & Evans Ltd., 1980), 572.

11. L.W. Pye, et al., *Aspects of Political Development* (Boston: Little Brown, 1966), 44.

12. It is rightly said that "Knowledge is that which is acted upon."

13. Al-Suyūṭī, Jalāl al-Dīn Abū al-Faḍl ʿAbd al-Raḥmān b Abū Bakr, *Al-Jāmiʿ al-Ṣaghīr min Ḥadīth al-Bashīr al-Nadhīr*, Ḥamdī al-Damardāsh Muḥammad (ed.), vol. 1 (Riyāḍ: Maktabah Nizār Muṣṭafā al-Bāz, 2000), 309.

14. This is a famous *ḥadīth*, which has been cited in the Muwaṭṭaʾ of Mālik and the Ṣaḥīḥ of al-Bukhārī. It is said that about seventeen companions of the Prophet have narrated this hadith, but none of them are considered valid, except that of ʿUmar b al-Khaṭṭāb, which is a lone narration (*farḍ*) and rare (*gharīb*) in respect of the beginning and the end of the chain. Nevertheless, it is considered a valid *ḥadīth*, and one of the four important *ḥadīth* on which the *dīn* revolves. This has been versified by Imām al-Shāfiʾī, thus: [the pillars of

the religion with us are four words from the speech of the best of creation (i.e.: the Prophet): (a) beware of doubtful things, (b) be pious, (c) stay away from that which does not concern you, and (d) act according to the intention]. For details see, ʿAjlūnī, *Kashf al-Khafāʾ wa-Muzīl al-Ilbās ʿAmmā Ishtahara min al-Aḥādīth ʿalā Alsinat al-Nās*, vol. 2, 111-112.

15. Verses 3:118, 12:2 and 109, 13:2-4, 21:10, 22:46, 29:19-20, 30:8, 21, 24, and 42, 36:68, 37:133 and 138, 39:42, 43:3, 45:3, 5 and 13, 51:47 and 49, 80:24, 86:5-6 and 88:17 and 20 contain sufficient references to the various fields of human knowledge wherein God urges the believers to undertake serious research.

16. United Nations, "List of Least Developed Countries (as of December 2003)," [On line] available from <http://www.un.org/special-rep/ohrlls/ldc/list.htm>. Asli Guveli and Serdar Kilickaplan, "A Ranking of Islamic Countries in Terms of Their Levels of Socio-Economic Development," *Journal of Economic Cooperation* 21, no. 1 (2000), 97–114, Annex 3: Socio-Economic Development List.

17. European Commission, *A Community of Fifteen: Key Figures* , 2000 ed. (Brussels: European Commission, 1999), 10, [Online] available from <http://europa.eu.int/comm/publications/booklets/eu_glance/14/index_en.htm>.

18. www.uis.unesco.org/templates/pdf/S&T/BulletinNo1EN.pdf, p. 3.

19. Ziauddin Sardar, *Islamic Futures: The Shape of Ideas to Come* (London/Newyork: Mansell Publishing Limited, 1985), 275.

20. Ibid., 271.

21. Pye, *Aspects of Political Development*, 44.

22. Sardar, *Islamic Futures: The Shape of Ideas to Come*, 272.