

Economic System of Islam

8.1 Introduction

Host: Could you explain how this new series relates to the previous series of this program and what is the relevance of the subject?

Jamal Badawi:

In the first three series the emphasis was on the articles of faith in the fourth series the emphasis shifted to pure acts of worship (the other pillars of Islam) in the fifth series we dealt with moral teachings of Islam and in the seventh series we started dealing with some aspects of the application of Islam in day to day life. In the seventh series the focus was on the social system of Islam which was an extended series. We are moving on to other applications of Islam in day to day life, one of which is economics and in the future we hope to touch on the political system and so on.

Host: We have never heard of an economic system for Christianity or Buddhism; how does this topic relate to religion?

Jamal Badawi:

To start with from a broad perspective what is religion? It is a set of beliefs which organize or regulate the relationship between the individual and his Creator, God, and between the person and other human beings, between the person and the universe and between the person and himself. In that sense religion organizes human behavior. One aspect of human behavior is economic behavior. As economists put it in economics one is talking about human behavior in the area of production, distribution and consumption of goods and services.

When we discuss human behavior in economics or other areas their behavior is not value free or neutral in other-words the question of values and principles is part of that behavior and is connected with the ideological foundation of each faith. From an Islamic prospective, economics as a part of human behavior in religion has been mentioned to be part of the mission of all prophets and messengers of the past. In the Quran in (21:73) it mentions Abraham as well as other Israelite Prophets and social justice and the economic distribution of wealth (economics). In (7:85) it mentions Prophet Shuaib and how he was teaching his people not to deal in fraud and to be just and equitable in their financial dealings. In chapter 83 it condemns people who deal in fraud and those who do not give people their due right. Even though we find this to be a broad characteristics of the teachings of all prophets we find that the followers of those religions have interpreted these teachings in a variety of ways (going from one extreme or the other). Most people are familiar with some interpretations which view the enjoyment of life as something that should not be focused on and that a person who wants to achieve phallically and righteousness would do best by keeping away

from worldly affairs and that wealth in its self makes difficult for a person to enter Paradise. The Islamic economic system is not just a matter of broad appeal to voluntary charity which is not enforceable. Islam gives a more comprehensive approach of economic life in its ideology, teachings and tenants.

Host: Is the phrase economic system of Islam the same as economics viewed from and Islamic prospective?

Jamal Badawi:

Economics is a scientific field of study which focuses on the study of economic phenomena and tries to derive principles and laws which regulate the economy. For example the laws of supply and demand which are matters that cut across a variety of economic systems and a variety of ideologies because it is a basic law in economic life. The same applies to efficiency and production whether eastern or western economy is discussed one is still focusing on the same concept of being efficient while using a minimum amount of resources while maximizing the output. However when speak of an economic system there can be many varieties: we could have a communist economic system, a socialist economic system, a capitalist economic system and an Islamic economic system etc. A system is based on certain goals, principals and philosophies which are quite unique to each particular ideology. This economic system can extend beyond philosophical principles and goals into functions with processes and outcomes. It looks at how a given economic system with its philosophy and ideology determines consumption, investment and savings, the market's structure and how they attain a general equilibrium in the economy. There is a difference between general universal principles verses a system based on ideology.

Host: How early did Muslim scholars address the issue of economics and the economic system? Is it a new development in Islam?

Jamal Badawi:

This is not new. In fact, it is interesting to notice how some economists tend to think that the first systematic way of dealing with economics goes back to the 18th century and is connected to Adam Smith a Scottish economist who wrote a classic called "The Wealth of Nations." This notion which relates the study of economics to the 18th century is incorrect. There were many Muslim scholars who wrote about economics in a systematic way from an Islamic point of view whose writings goes back as far as the 8th century in the Christian era which is more than a thousand years before Adam Smith. Three examples of these writings are: first is a book called Alkharaj which deals mainly with what we now today as the macro economic system written by Abu Yusuf, in the tenth century a book with the same title was written by Yahya Bin Adam and there is also a book written in the 11th century by a famous writer Alkawirdi who wrote Al Ahkam Alsultaniah which again deals with the basic aspects of macro economics. In the 11th century another jurist Alfarak wrote a similar book. In the 11th a great writer Al-Ghazali addressed some aspects of economics. In

the 12th century a very famous Muslim philosopher and scholar Ibn Rushd who is known in the West as Averroes also addressed the subject. In the 13th century a scholar, Izz al-Din Ibn Abu-Salam also addressed the subject. In the 14th century Ibn Taymiyyah addressed the subject. There are several contributions in the 15th century by Al Maqrizi and another by Ibn Khaldun. Ibn Khaldun was described by the famous British historian Arnold Toynbee as the greatest sociologist who ever lived. He was a sociologist and economist because he dealt with aspects that pertain to economics in a systematic way. With these examples we can see that more than a thousand years before Adam Smith the subject economics was addressed in Islam.

In Islamic History numerous scholars wrote about certain aspects of economics viewed from an Islamic point of view. Of course these subjects were scattered amongst different books addressing Islamic jurisprudence. More recently we find that there are many scholars who started addressing the subject like Syed Qutb Maududi, Yusuf Qaradawi, Muhammad Baqir al-Sadr, Muhammad Al Mubarak Sibai, Suood, Isa Abdu, Muhammad Abu Zahra, Munthir That, Umar Chapra, Muhammad NajatuAllah Siddiqui and numerous individuals who belong to the traditional jurist stream as well as those who have studied economics in the modern sense. These people have given lots of contribution to the effort of reestablishing the economic system in Islam which would be very relevant to the Muslim as an individual and to Muslim nations and societies which have in recent years been trying to imitate imported system from the East and the West but who are unable to solve their problems. There is a call back to foundation of the heritage of Islamic economics in order to establish a system based on the basic guidance of Islam and in order to create an alternative to the present system. This task is not necessarily an easy one.

Host: Given that we have had sources about this subject for such a long time why is it that when we search this area it appears to be so difficult?

Jamal Badawi:

First of all, the way that previous scholars used to write is different from what we are used to today. For example we can find books now with the title of "Economics" or a straight forward aspect of economics, however the way Muslim jurists wrote in the past did not strictly separate economics from all the other subjects because they viewed Islam as a complete way of life and most of the discussions of economics were interspersed with the other subjects. In order to pick out the aspects dealing with economics one had to do a lot of digging. Most of these references (referring to the works from the 8th century) are all in Arabic. There have been some attempts to translate some of these works but they are not all available in other languages. The reason behind that is possibly that these works were written at a time when the Arabic language was that of civilization and culture the supreme and prominent language of the world just like English, French and German are the languages of learning.

In addition to this, an additional difficulty, is that any researcher in Islamic Economics today would have to make a clear distinction between the principles enunciated in the primary sources of Islam (Quran and Prophetic Tradition) and the various interpretations that have manifested in different points of history. The basic

principles of the system are binding for all times, but specific applications of those principles are not necessarily binding today. I am not talking about principles just specific details or applications. For that matter it would be important to sift through the literature in order to find out which applications are subject to adaptations and which applications need to be reconsidered without violating the basic roles of Islamic Law. Despite these difficulties we find that Islamic economics has its own general methodology and its own distinct ideological foundation and given enough time and effort reconstructing it will not be too difficult.

Host: What is meant by the general methodology of Islam?

Jamal Badawi:

The Islamic economic system has its own principles and philosophy. The only way to grip these principles and philosophies is to refer back to the primary sources which are the Quran, word of God, and the Prophetic Traditions which elaborates the application of those principles. This means that a contemporary scholar who tries to study Islamic economics would have to learn how to consult these sources directly which requires certain methodologies. There are certain methodologies for how to interpret and understand the different principles. The person would have to learn the basic methodology used in Islam for finding solutions to new problems which may come up. We must make sure that the solutions of contemporary economic problems doesn't contradict the text or the spirit of Shari'a or Islamic Law. It is very important in this kind of study is based on those principles and that there is consistency in their application. It should not however be that hard because aside from certain aspects of inheritance the rest of the rules are broad and applicable in a variety of situations.

Host: Can you outline the ideological basis of Islamic economics?

Jamal Badawi:

I can summarize it with six basic principles. The first one is the corner stone and whether we are dealing with the economic arena, any other aspect of life, any other system of Islam be it social, economic, political and so on everything has to start with the belief in Allah, God, as the soul Creator, Lord and Sovereign of the universe. This means that the belief is not just lip service but being prepared to submit to His will, accept his guidance with complete and unconditional servitude to God.

The human as an individual or at a collective level will be better off when God is taken as the source of belief, source of values and is obeyed in whatever He ordained and to avoid things that he forbade.

The second basic principal is that Islam does not accept the definition of religion as something that is confined or restricted to the spiritual aspect of human life or the moral ethical aspect but as a complete way of life. This is something that guides one's life in the moral, social, ethical, economic and political aspects which are all one in one basic confine that follows the guidance of God. This is why the Quran in (2:208) "O ye who believe! Enter into Islam whole-heartedly." Its not a question of accepting God's teachings in the matter of worship or Ill accept it in terms of broad

ethical or moral factors but as far as my social or economic life I know better. This is not the case. Everything has to be within the basic guidance of Islam.

The third principle is that God created the human being on earth as His trustee. All of us are created to fulfill certain jobs and responsibilities on this earth. God has entrusted us to establish a civilization which is based on the moral, ethical, spiritual values that He provided us but it also gives us ample opportunity for material progress. This combines moral, social, material progress in a harmonious connection. We discussed these points in details in Moral Teachings in Islam. This specific point is covered in the Quran in (2:30), (6:165), (42:52), (57:7) and other verses it is clearly laid out that we are not here for punishment but because God wants us to fulfill certain noble duties in our life here on earth.

The fourth principle is that in order for God to help humankind to fulfill this responsibility of trusteeship has made everything on earth subservient to the human. There is a moving verse in the Quran (45:12-13) "It is Allah Who has subjected the sea to you, that ships may sail through it by His command, that ye may seek of his Bounty, and that ye may be grateful. And He has subjected to you, as from Him, all that is in the heavens and on earth: Behold, in that are Signs indeed for those who reflect." This doesn't restrict the human from utilizing everything in nature. This is found in the Quran in (22:65), (31:20) and (67:15) which all urge humankind to harness the resources that God made available on this earth. It follows that enjoyment of the good things that God has created within the boundaries that God has given is not regarded as sin so long as it follows his path and doesn't deviate from his limits. This is found in the Quran in (7:31-33) "O Children of Adam! wear your beautiful apparel at every time and place of prayer: eat and drink: But waste not by excess, for Allah loveth not the wasters. Say: Who hath forbidden the beautiful (gifts) of Allah, which He hath produced for His servants, and the things, clean and pure, (which He hath provided) for sustenance? Say: They are, in the life of this world, for those who believe, (and) purely for them on the Day of Judgment. Thus do We explain the signs in detail for those who understand. Say: the things that my Lord hath indeed forbidden are: shameful deeds, whether open or secret; sins and trespasses against truth or reason; assigning of partners to Allah, for which He hath given no authority; and saying things about Allah of which ye have no knowledge." This is something that God has given to us provided that the person doesn't go to the extreme where his soul concern is getting the maximum enjoyment from this life. It is not an objective in itself but it is not condemned.

The fifth principle is that of accountability. There is life hereafter and as God has given us this trusteeship and resources He is also going to hold us accountable on the Day of Judgement for our behavior during our earthly life. This also includes our economic behavior, and how we behave when we try to satisfy our needs.

The sixth principle is that the variations in wealth do not give a person inferiority nor superiority. God does not look into our property or our faces but in our hearts. Wealth should not be a source of social distinction.

Host: How can these principles influence day to day activity?

Jamal Badawi:

Let us start with the first one; that God is the ultimate authority. This means for Muslims as individuals or collectively should not emulate any system that differs from their principals such as usury or interest.

Second, the implication of Islam as a complete way of life means that there is an organic connection between economic activities and social and political activities. We can not separate them and say business is business; we have to look at everything within the context of society and Islamic ethics as a whole.

Third, the implication of the trusteeship of human beings on earth means that God is the soul owner of this universe and that we are only trustees. This means there is a different concept of wealth and right of property all together. We do own certain things but the ultimate owner is God himself and we have to behave in a way that is consistent with his will.

The fourth principle that deals with the universe being subservient to us means again that poverty is not a virtue in Islam and that productivity so long as it is within the boundaries that God has ordained is praise worthy.

The fifth principle in terms of responsibility for behavior means that there is no total dependance on law enforcement because there is individual enforcement found within one's self which makes the conciseness a part of everything. This makes Islam unique to any other secular system.

In the sixth principle variations in wealth means that in a truly Islamic society it should not be tolerated that some people because of their wealth have more control over the affairs of the rest of the people. There should be some degree of equality. Everyone of these have more specific applications which we will deal with as move on to more specific subjects.

Summary 8.1 "Introduction"

The first program was basically and introductory program. We covered what the relevance of religion is in the matter of economics. We indicated that economic behavior is part of the overall behavior which is regulated by religion. This applies in the case of other religions but in the case of Islam it is clearer. Second, we made the distinction between economics as a field of study which concentrates on the study of economic phenomena and trying to regulate the laws supplying them like that of supply and demand and an economic system. We covered how different economic systems can be established with different philosophies, objectives and principles. In both of these aspects Muslim jurists made several contributions which preceded Adam Smith by nearly 1000 years. We find writings by Muslim jurists on the economic system in Islam that date back to the 8th century. We discussed briefly some of the problems faced in carrying through some of this research and implementing these principles on a contemporary seam. We also discussed some of the basic difficulties such as the compilation of sifting through information from a variety of sources and trying to go back to the main sources of Islam. In order to make distinctions between conclusive texts and interpretation they may have to be

revised by qualified scholars. Finally we looked briefly into some of the basic aspects of the methodology and principles in Islamic economics and how these principles (broad as they may be) have deep rooted and strong influence on how the system is structured and operates.

8.2 Property Rights

Host: Can you shed some light on the right to own property?

Jamal Badawi:

The right to own property is an instinctive matter. It is related to survival and self preservation. However throughout history one finds that the nature of that right and its limits have undergone certain changes. For example in certain periods of history the property right was owned by a tribe as a common property. Even in Canada today in some of the Western provinces like Manitoba and Alberta there is a particular Christian sect who believe that they own the land jointly and that everything is owned jointly by the whole group and they share everything. In some areas we find that this has been narrowed down to properties which are owned by one particular family. More development made the recognition of property as being owned by single individuals. The nature of property rights depends on the type of ideology that is followed in any particular society and time.

Host: What position does Islam take on the extent of property rights?

Jamal Badawi:

If we look at the Quran before we even get to the definition of it being my right or your right to property it puts it in the proper framework. In numerous verses in the Quran we find that it gives clear indication that everything is owned by Allah, God. For example a verse says Unto God belongs the domain of Heaven and Earth and everything in between. In (3:26) it says “O Allah. Lord of Power (And Rule).” There many similar references to this in the Quran which give us a clear indication that the right of ownership in the absolute sense belongs to God and to God alone. The admission to God as the owner of the universe doesn’t mean that we as human beings do not have the right to own property. It simply puts this right of ownership within the broader context.

As we indicated last time, ownership is part of our responsibility as trustees of God on earth. The clear evidence of this are numerous as found in (9:104) it says “receives their gifts of charity.” It uses the term “their” property which shows that there is no contradiction between the ownership in the absolute sense which is in the Hand of God and our human right to own within these boundaries and to dispose and use them within the restriction that God has provided. This is not only found within the Quran but we find that in the Prophetic Tradition, the practice of Prophet Muhammad and his companions shows clearly that property rights are to be acknowledged and respected. There are also different levels of property.

Host: What do you mean by types of property?

Jamal Badawi:

One jurists divided it by saying that there are certain things that are owned by God and no human being has had any access to it. For example Mars is created by God but no one has any access to it. Then there are certain property that are owned by the entire human race or is a common property of the human race. Oceans for example, no one can say they own the oceans but of course certain areas can be claimed but no one can claim ownership of the oceans. Within a given country or society there may be property owned jointly by the community which is sometimes called the Crown Land which is not owned by a particular individual or corporation. Then there is the type of property which is in the position of one individual or a number of individuals. This is again something which is owned within the duties and responsibilities which are imposed on this property and within the particular legal restrictions that Islamic Law provides.

Host: What are some legitimate restrictions on property rights?

Jamal Badawi:

These restrictions are all non-excessive, because under the term restrictions various systems go into great length trying to restrict this basic instinctive right, which is determined by Islamic Law and God’s revelation. The first restriction is that the acquisition of this property should be through legitimate means. Of course Islam recognizes the sanctity of property, the right to defend one’s property but this property should have been obtained through legitimate and lawful means. Second, when one uses their property they have to use it in a way that does not cause harm to other people. The concept of harm is interesting in Islam and has two angles. One basic rule established in a saying of the Prophet was that one should not harm himself or others. This means that if one has a piece of land in a residential area one can not say this property is theirs and they can do with it as they wish and build a factory on

it. As we know in many countries there are regulations that restrict zoning. In Islamic Law, a long time before these laws came into effect, during the days of the Prophet this principle was established. One can not say that because they own certain property that they have the right to monopolize the basic necessities of people by withholding basic needs like food or milk because they decided not to sell while letting people starve.

Another concept in avoiding harm is that Islam says that private harm could be tolerated if it is necessary to prevent a greater harm which would affect a larger number of people. For example if one has a house and it was decided that for the benefit of all a road had to be widened or a utility has to be established and there is no other way but to cut into one's property. In this case with fair compensation one should not be defensive about their property.

Another basic requirement is that a person can dispose of their property the way that he or she likes provided that the person is mentally capable of doing this. In other words if the person who owns the property is insane then for his own protection there must be a trustee appointed on him. One is entitled to their property rights provided that they fulfill their duties and obligations that emanate from one's position in regards to the property.

Host: Are these claims on property specified specifically in Islamic Law?

Jamal Badawi:

Yes, there are some things which are specified and can give us information about the nature of these obligations. One obligation which we covered in great length on the series on the Social System in Islam is to maintain one's family (spend on one's wife and children and in some cases relatives). Another important duty is the payment of Zakah on property. Zakah is roughly translated as charity but not in the common sense of it being voluntary. In Islam Zakah is compulsory as an act of worship and obedience to God which gives us the spiritual element in self control and the inner conscience being observant of his/her duty. But if people neglect to pay their Zakah it can be legally enforced.

The minimum Zakah is 2.5% of assets beyond the immediate needs of the individual which they have had for a year. It is not a direct income tax as we find in modern systems. Within this system we find that there are certain parts of one's property which are non Zakatable which include personal clothing, primary residential home, transportation means, tools (used for a particular profession) but beyond this if one

has extra means that they have had for a whole year then they have to pay Zakah on it. The minimum is 2.5%, there are other types of Zakah paid on agriculture which can go up to 5%, 7.5% and 10%. There are details which involve the nature of these Zakah payments. In other words the basic needs of an average family are exempt from the Zakah but beyond that one has to pay it. Islam allows for just rulers to impose additional taxes beyond the minimum Zakah if the amount of Zakah is not sufficient to meet the needs of society. In fact one of the sayings of Prophet Muhammad narrated in Al Tirmithi he says that in property there are claims beyond Zakah. If the country is in a state of war or famine and need the funds this additional amount can be imposed.

Host: How does Islamic Law define the legitimacy of the means property was acquired?

Jamal Badawi:

One of the legitimate means of property acquisition would be to own something as a result of your personal effort and labor. This may include salary, hunting, fishing, commercial operations etc. Second, one could own property based on rights that Islamic Law gives you. For example a wife is entitled by Islamic Law for full maintenance and this responsibility falls fully on the husband. Anything that he give to his wife is her own property. Another aspect is inheritance, according to the law of inheritance in Islam which have interesting elements and one can own property on the basis of inheritance. Third is if a person is unable, poor or disabled he can own whatever is given him by way of Zakah or charity. If someone receives a gift the item becomes their property. Exchange could be another source of property. An example could be a barter system.

There are also unlawful means of acquisition. This includes usurping the property of someone else without his or her consent which includes theft, extortion or embezzlement of public funds. Second, taking the property of others with their approval but through crooked means which are forbidden in Islam such as cheating, misleading contract, deception. Also, gambling in all its forms is illegitimate and any property gained in this manner is not lawful. To gain property through unlawful labor or work like sorcery or magic, prostitution, get paid for participating in a crime and bribery. Also, gaining property through an unlawful contract like usury or interest is also unlawful. The permissible and the forbidden are matters which are deeply ingrained and relate to the moral teachings of Islam and its ethical orientation for the protection to every member in society.

Host: Are there additional ethical directives relating to property rights?

Jamal Badawi:

Yes there are beyond what is enforceable even though in Islamic Law the legal and the ethical are interrelated. There is a discouragement from hoarding in Islam, we are not talking about saving for a rainy day, emergencies or future needs (one wants to buy a car without interest and one wants to save little by little they are able to buy) there is no problem with that. What Islam is against is hoarding wealth by keeping it away from circulation. For example in (9:34) "And there are those who bury gold and silver and spend it not in the way of Allah, announce unto them a most grievous penalty." This is not only a matter of ethical teachings but also has a deeper economic implication. When people withhold wealth, we are not saying a person has to spend all of their wealth in the way of charity, but they do not invest the access wealth even from the view of modern economics it is harmful to society because one is keeping wealth from circulation and as such one is not contributing to the enhancement of economic activities which may be needed to provide jobs and to harness the various natural resources available.

Islam prohibits excessive expenditures and spending but it also condemns miserliness. A beautiful verse in (17:29) "Make not thy hand tied (like a niggard's) to thy neck, nor stretch it forth to its utmost reach, so that thou become blameworthy and destitute." So it says not to have one's hand too close to one's neck which means to be miserly and don't over extend it which indicates being wasteful in spending. There should be some kind of moderation. In (7:31) "O Children of Adam! wear your beautiful apparel at every time and place of prayer: eat and drink: But waste not by excess, for Allah loveth not the wasters."

A third teaching that addresses property is the obligation not to leave key resources that are available to a community idle. In a saying by Prophet Muhammad (PBUH) he said that a person who reforms land (that was barren) has the right to own it, but if he doesn't make it productive and use it for three years then it will be taken away from him. If he uses it and then later on neglects it for three years it can be taken away from him so that someone else can make use of these resources. In other words we look at the basic notion of property as it relates to the ethical framework, principles or philosophy of Islam and we find that it stands in moderation between the right to own property without any qualification and having a totalitarian system where one owns very little and bureaucrats control the property for the sake of everyone. Islam has a moderate way of acknowledging the right of individual property while maintaining the interest of society while keeping the moral and ethical values in mind.

Summary of 8.2 "Property Rights"

The second program dealt with the right of property in Islam. Islam recognizes people's right to own property as an instinctive natural tendency among all people. However, there are various levels of property ownership. There are properties that are owned by one individual, family, tribe, by a nation or society at

large or jointly owned by the entire human race like oceans. Second, we discussed that the right to own in Islam is subject to legitimacy. Legitimacy pertains to acquiring the property, using the property and disposing of it. We gave specific examples as to what is regarded as legitimate in Islam such as obtaining property through one's own efforts such as hunting and labor. We also covered the other side and what means are considered to be unlawful such as theft, extortion etc. When one owns their own property by legitimate means they have obligations on the property such as Zakah (charity with a minimum percentage that is paid every year). On the whole this is not only within the boundaries of legal provisions but there are additional ethical or moral teachings that pertain to the acquisition of property, not to hold property away from circulation and to allow society to benefit from the available wealth.

8.3 Labor and Work Ethics

Host: Can you give some explanation of the Islamic concept of work and who is a worker from the Islamic perspective?

Jamal Badawi:

This topic follows nicely from the previous one because one of the main sources of legitimate rights to property in Islam is through labor or work. In Islamic understanding labor can be defined as any effort physical and/or mental that is exerted by the person. This would include the conventional manual labor but also includes mental efforts, clerical, professional, managerial would fall under this definition of labor. In Islam one can add to this the work of people who are appointed or entrusted with duties in public offices. A ruler in Islam can also be called a worker which may sound strange. There was an incident that happened during the days of Muawiyah the fifth ruler after Prophet Muhammad (PBUH). One time he was sitting and a very pious and courageous Muslim by the name of Abu Muslim entered his court and said to him "AlSalamu Alika auha al ajeer" ajeer in Arabic means worker. So he said Peace be upon you worker and the people around the ruler were offended said you don't mean ajeer as in worker you mean ameer which means ruler. He said no Peace be upon you ajeer which means worker. Later Muawiyah said let him be, he knows what he is saying. Then the courageous man said to him "Listen, you are a worker and God has appointed you and if you do your duty as a ruler God will give you abundant reward and if you don't do it right God will punish you." This was the conception that any kind of work, manual or mental, or activity that is beneficial to the rest of the community was regarded as work. It follows from this definition that all human beings are equal and all of them are workers and nobody is exempt from exerting efforts except in rare cases (people with disabilities). In Islam there is no concept of Islam or one group being above, superior or inferior to others. If we compare it with the contemporary scene that in an ideal Islamic society that Islam

teaches that there are no subdivisions. Everybody is a worker, maybe at different levels and doing different things but they are all the same.

Host: What is Islam's attitude towards work?

Jamal Badawi:

Islam carries work ethics a step farther than just having decency and fair play to the point of it being equated with worship. In the program dealing with the Moral System of Islam we indicated that the concept of worship in Islam is not confined to certain rituals or prayers. In the true Islamic understanding every activity that is beneficial to one's self, family, society or to humanity at large can be regarded as an act of worship provided there is good intention and as long as it is within the boundaries God established for us. Everything can be regarded as an act of worship including work. This means that when the person is taught basic work ethics work should be related as part of their duties towards God. God wanted humans to work. One verse in the Quran says "Say work." This means tell them to work, exert in everything including worship, work, good deeds, moral behavior and economic activities. So work so that the messenger, people and God will see the fruits of this work. It follows that Islam discourages the attitude of idleness, laziness or trying to live on the charity of others (unless the person is disabled and has no means). An able person is not encouraged to live at the expense of others.

An incident took place during the lifetime of Prophet Muhammad that was narrated in Al Tirmidhi and Al Nasa'i about a man who came to the Prophet asking for charity. The Prophet looked at him and asked him if he had any property the man said no. Then he repeated again do you have any property, think, the man said "I have nothing; except a mat that my wife and I sit on and cover ourself with the other half. We also have a pot from which we drink." The Prophet asked the man to bring these items. The man brought them and the Prophet asked the people around them who would like to buy them. So people bought them and he got two dirhams. The Prophet looked at the man and said take one of the dirhams and buy food for your family and take the other dirham and buy a metal axe. The man went bought food for his family and brought the metal axe to the Prophet. The Prophet brought a piece of wood and fixed it under the axe and told the man to go away for 15 days and to cut wood and sell it. The man came back after fifteen days and he was really wealthy compared to his previous state. He had ten dirhams. The Prophet asked him how he got it and he told him that he cut wood and God blessed his efforts. The Prophet told him that this was better for him than coming on the Day of Judgement with his face having the sign of begging! This is a very constructive lesson for someone to try their best even though they may be in bad shape to exert as much effort as possible in order to gain honorable employment.

The Prophet said in a more straight forward that it is better for one to take his robe go do the mountain cut wood and sell it than to beg people for money and wait to see if they are going to give or not.

Host: What is Islam's view towards manual labor (which most people look down upon)?

Jamal Badawi:

With the previous question we saw how the Prophet responded to the idea of working and how he considered it to be very honorable. This question is important because it asks what Islam says rather than what Muslims do. Muslims like everybody else have their own faults and there may be some Muslims who are guilty of harboring an attitude towards manual labor which is not what is taught by Islam. If we refer to the primary sources of Islam, the Quran and Prophetic Tradition, we find that manual labor is not only acceptable but is respectable but adored. In the famous story about Prophet Noah when he was building the arc the Quran says he was making an arc. Here is a great Prophet, a messenger of God (one of the five greatest Prophets) and he is cutting wood and making an arc. In one saying of the Prophet narrated in Bukhari he says that a person would not eat better food than that which is earned from the work of his hand. In similar sayings it says he who starts his evening with his hand tired from working he will spend his night with his sins and mistakes forgiven. One time the Prophet was asked what type of earning is best or most noble. He replied that the most noble earning was that which was earned by a man's hand and that which comes from honest commercial sales. One time a companion of the Prophet came to shake hands with him and the Prophet noticed that his hand was really rough and blistered and he asked what happened to the man's hands. The man replied that it was that way because of his effort to earn a living for himself and his children. The Prophet kissed that hand and said this is a hand which is loved by God and his Messenger. This attitude was not restricted to the lifetime of the Prophet but we find anytime when there are true Muslims, who are practicing, that the respect for labor is great.

After the Prophet, during the reign of the second Caliphate Omar, Omar passed by a group of people with their head down reciting prayers and he said who are those people. He was told that those people called themselves the Mutawakiloon (those who depend on God) and he said no they are not Mutawakiloon but Muta'akiiloon (those who are eating away at the property of others). He said should I tell you who the true Mutawakils are? They said yes and he said the true people who depend on God are those who plant the seed in the ground and then depend on God. What he was saying was that to depend on God one should not do nothing but try first, just like the farmer plant the seed. Yes one has to depend on God so the plant will grow but first one has to plant the seed, fertilize it and water it and then depend on God. Do something and depend on God. We all depend on God for our living.

Host: Some people argue that there are texts in the Quran and Prophetic sayings which appear to discourage certain kinds of work; how would you respond to this?

Jamal Badawi:

Usually when things are taken out of context and the frame of reference people will come up with this conclusion. For example some people refer to the Quran and how it refers to the life hereafter and how we will die and this life would be like nothing. There are also several prophetic sayings which say that our life on earth is like a traveler resting under a tree during a journey compared to eternal life. Again this does not mean we should not do anything to earn a living and to be comfortable while on earth. It simply means put your life in perspective and don't forget the life hereafter. It doesn't say that one should not enjoy life. There is one verse in the Quran that refers to putting everything aside at the time of the Jumua'ah prayer but that very same chapter also spreading on earth and seeking provisions. It doesn't discourage commercial dealings but it says for one not to forget other activities. In some sayings of the Prophet he speaks about merchants and that they will all be condemned except those who are God conscious, God fearing and those who are truthful. It does not discourage commercial dealing but it rather discourages cheating and improper negotiations.

There is a saying as narrated in Ahmad which may give the indication that Prophet discouraged people from working in agriculture. But the context of this saying was that people who stick close to their land as an allegory of people who avoid traveling or avoid struggling or fight for the sake of God when the need arises. So it doesn't condemn agriculture or else how would people survive? This is talking about people who stay stationary without defending themselves or doing something for the benefit of others. The restrictions that Islam speaks of with respect to labor are within the context of Islam and doesn't discourage activities or any sector of the economy.

Host: Are there certain types of work in Islam that are subject to restrictions?

Jamal Badawi:

Yes, and this emanates from the basic moral and ethical orientation of Islam. For example to work in the production and or distribution of alcoholic beverages, drugs (to get high) or intoxicants would be an unlawful type of work. A muslim should not work in a winery or beer making plant. It is not that work itself is forbidden but the output in itself is unlawful as far as Islam is concerned. There are also certain restrictions that are meant for the welfare of the public. This is what may be called health and safety regulations under Islamic Regulations. The ruler can impose

restrictions about zoning, putting factories in certain areas, implementing safety protection for workers. All of these do not restrict labor itself but rather how people are used for this labor and should protect them and their welfare.

Host: Within permissible work, are there any restrictions in regards to the choice of professions?

Jamal Badawi:

Within the permissible professions there is no restrictions on what kind of profession the person engages in. The basic rule is that a person is free to choose his profession. Under Islamic Law it is incumbent on the ruler or government to make opportunities for people so that they may pursue the field of work that they think they would do well in. There is no aristocracy in Islamic Law that certain professions are limited to a specific group, race or class in society. This recognizes that God created humans differently, some have physical aptitude, manual aptitude, intellectual aptitude and all kind of skills that are needed to keep life going. In the Quran in (6:165) it says that God created people and made some of them above others in degrees, not in terms of status but in terms of abilities, so they can use each-other. It is not necessary that the more powerful or more educated use those who are less educated as some might mistakenly understand it. It simply means that each person uses the other to fulfill their needs. For example the medical doctor uses a builder to build his home the builder uses the doctor to provide him with medicine. There is n restrictions regarding having a particular status which is attached t o a particular profession. In fact in the history of Islam we find examples of people who belonged to the lowest social status (in terms of power and wealth) who came to positions of great prominence in Islamic History. One of these is Osama the son of Zaid who's father was adopted (which at that time was considered to be a servant) who came to be the commander of a big army and some of his soldiers were among the most noble and powerful of the 'aristocratic' Koreishite Tribe. This simply reflects the ideology of how Islam equates people and makes a distinction between piety and productivity of the person and what he or she can contribute to the well being of the society at large.

Host: What basis is there in Islam regarding differentials in pay?

While Islam equates people regardless of their social status in their position before God it doesn't mean that each person has to be paid the same as every one else. Differential in pay could be legitimate in difference in the quality, quantity and scarcity of production. Islam does not object to fair differential in compensation

which is based on good reasons is to encourage people to benefit from their skills or ability. If everybody gets paid the same then people will only do the easier professions rather than ones that require harder work or longer training.

Host: What is Islam's view on the protection of the rights of workers?

Jamal Badawi:

There are several rules. Any worker should have a contractual agreement whether it is written or oral. In the fifth chapter of the Quran we find that it says that is an obligation on the Muslim to fulfill the condition of contracts. Even in contracts, which are permissible in Islam, we find that Islam requires that one should not cheat the person he is hiring. In one saying of the Prophet narrated in Bukhari he said that among three people who the Prophet would speak against on the Day of Judgement is a person who hires a worker to do work for him, takes all the work and effort and then does not pay him his due right. In one saying of the Prophet he says you should give the person you hired to do work his payment before his sweat dries. What he means is that one should not unduly delay the pay. Of course if the agreement is that one would get paid every week, every two weeks or every month that is fine but the idea is not to drag out the due right of people. In addition to this we find sayings of the Prophet that protect the weaker segment of society, people who are prone to exploitation, women and children. In some saying of the Prophet he indicates that one hires someone he should not over burden them with undue efforts without justification. Also, if one gives them work that is beyond their capacity one should give them a hand.

8.4 Consumption

Host: Please explain the connection between today's topic and the last three topics?

Jamal Badawi:

In the first three we dealt with basic principles on which a proper ideal economy can be established. The first program covered the broader principles and conceptual foundation. In the second and third program we dealt with some of the fundamental principles and concepts which shape the nature of Islam. One is the attitude towards property rights and second was the attitude towards labor. These principles however, do not show us how the ideal Islamic economy should operate. In order to get into

that we have to find out what the attitude of Islam towards consumptions, productions, distribution, price determination and the role of government (how it can help the economy moving in the right direction).

Host: What is the common notion of consumption in the West?

Jamal Badawi:

Western economy is largely based on capitalism which is based on Protestant ethics. A good reference to that is Max Webber's Protestant Ethics and the Spirit of Capitalism published in 1958. This is a reference where the theory of capitalism and its relationship to Protestant ethics is articulated and explained. In this approach there are two different approaches to consumption theory. The first is called rationalism which means an individual in his own economic behavior tries his or her best to be very cautious and careful in calculating risks and benefits for the purpose of economic success. This implies that acquisition of wealth is the criterion for whether or not economic success is achieved. A second basic pillar of the capitalist economy is called utilitarianism which means that things are evaluated depending on their usefulness. For example if a book is useful then it has value. This goes beyond commodities and even moral principles are sometimes evaluated on this utilitarian basis. Honesty under the utilitarian theory is good so long as it is beneficial. So if one is an honest merchant and honesty helps you get credit from the bank and helps you get customers it is good. If the same moral principle of honesty works against your economic interests and success (the ultimate goal under the capitalist system) then you may discard it. It all depends on whether or not the given principle helps one out at a given time. These two principles seem to reflect a particular philosophy and as we indicated in previous programs we can not talk about economics without relating them to religious convictions. These ideas of rationalism and utilitarianism seem to both stem from the philosophy of the human. The human is, what economists call, an economic man or as some people call, in anthropology, homo economicus. This is a person who is working mainly to gain more and more wealth and more and more economic success which is the ultimate goal that the individual can hope to attain.

Host: How does the consumer decide what to buy or what services to acquire?

Jamal Badawi:

In the Capitalist theory of economics the use marginal analysis which was later modified using the equality between the marginal rate of substitution. Basically as a consumer when I decide to buy things I have to first consider the limits on my income (income constraints) and what is the maximum amount of income that I may have

available to buy these goods and services. Then each person has to think if it would be more beneficial to spend all that money buying one, two, three items, and how much they can vary the mix of goods and services in order to attain the maximum utility. The economic professors use the good old example of a combination between apples and oranges. If someone has a specific amount of money and it costs so much to buy an apple, an orange or a banana and the person has to figure out how to get maximum satisfaction by buying all apples, all bananas, or a mixture of all three within the restrictions of the total income. This, to put it in a simple way, is a marginal analysis to find out what can be attained by a particular mix of commodities and services.

Host: In contrast to that how does Islam differ or compare with the common approach to consumption?

Jamal Badawi:

In the Islamic Economy by Dr. Munzir Qah he summarizes five basic differences between Islamic economy and Capitalist Economy. One relates to the concept of success. Second, relates to the time when the person makes the decision to buy certain things. Third is the concept of wealth. Fourth is the concept of goods and what is the definition of goods. Fifth certain aspects pertaining to the ethics of consumption in Islam.

Host: What distinguishes the Islamic concept of success from the conventional economic concepts?

Jamal Badawi:

The capitalist approach is that success is mainly economic success. One is evaluated, one's value and success is basically measured by one's economic success. In Islam success is acknowledged but is not exclusively measures by mere acquisition of wealth. Success is not merely economic success as this would have too much bias from an Islam view. Ultimate success for a Muslim is to achieve the pleasure of God, to live virtuously, to live a harmonious life where there is complete harmony between the material, moral and social needs of the human. All of these are integrated together in a whole. So the moral values are a part of evaluating whether a person is successful not just the amount of money. This means that economic success (acquiring wealth) should not be regarded by a Muslim as ultimate success but rather a means to an end which is loftier, more noble and more important. This doesn't mean that Islam regards wealth as a vice or regards poverty as a virtue. There is nothing virtuous about poverty. The idea is to understand and have the awareness that life has many facets and one of them is economics. Man does not live with bread

alone but he doesn't live without bread also. One needs to be able to integrate and consider all the needs of a human. The idea is to have a balance in one's life within the limits of Islamic Law or Sharia'a and in a way which doesn't constitute deviation from the basic moral values of Islam.

Host: What does the time scale of consumption means in an Islamic concept?

Jamal Badawi:

This refers to the time horizon and the consequences of a decision in the next hour, day, week, year, 5 years. This refers to the time frame that influences one's decision as a consumer. This is different in the case of capitalism than in Islam. In capitalism a person thinks about what their worth is by the time they reach a certain age or when they retire. In the mind of a Muslim one thinks in a much broader time scale because one doesn't think about how things effect them in the next year or years but how it would effect them forever. One basic fundamental belief in Islam is in the life hereafter, Paradise and Hell, where each person will have to stand alone before God to give account of his or her life on earth and how no one can take responsibility for another's actions. This has an important motivational force because for every action or decision one takes one doesn't only think of the benefits they will have next year but they must think of the consequences of these actions even in the life hereafter in addition to this life.

Islam emphasizes its teachings throughout the Quran; the common bond between humanity is that a specific group of people or generation are not the only group of people on earth or who can claim achievement. Humans on this earth should be humble and realize that he or she is only one part of a caravan of creation as there are those who lived before and those who will live in the future. This means that when one decides to harness the various resources in the universe one not only thinking of the selfish needs of one generation because one's religious teachings teach one be considerate to other generations. This means that one has no rights to squander and abuse natural resources because by the time certain resources are exhausted it would take a few hundred years which would spare them and their children. In Islam one should care about other human beings and the future. The time horizon is much larger than the immediate dollars and cents of one particular generation or group of people. In other words it is a question of maximization of the overall wellbeing of the person in this life and in the hereafter of this generation and future generations.

Host: What is the attitude towards wealth and goods?

Jamal Badawi:

In the matter of wealth Islam sees an important need to integrate the various facets of human life such as material and spiritual. As we indicated before poverty is not regarded as a virtue at all but in fact Saidna Omar the second Calif after Prophet Muhammad (PBUH) was quoted as saying that if poverty was a man I would have killed him. The Prophet in his supplications and prayers used to say Oh Allah I seek refuge in you from disbelief and poverty. So poverty is considered to be as evil and as bad as disbelief because when people are starved and are in bad shape they are driven to acts that they would not go near if they did not need. So wealth is not regarded as a negative thing provided that it is acquired legitimately and all obligations and duties on this wealth have been fulfilled. In more than one program in the past we quoted the Quran in (28:77) "But seek, with the (wealth) which Allah has bestowed on thee, the Home of the Hereafter, nor forget thy portion in this world: but do thou good, as Allah has been good to thee, and seek not (occasions for) mischief in the land: for Allah loves not those who do mischief." This shows us that wealth is good so long as it falls within those limitations.

In regards to goods, in the strict economic sense any item is called good if it has benefit to someone somewhere. The item could be illegal but economically it has value. For example one can say that a pen has a utility and has economic good because it is useful for writing. But what about hash, opium, heroin and damaging alcoholic drinks? In a strict economic sense, aside from the legality where heroin for example is illegal, in the Western capitalistic economy that heroin has a utility because someone somewhere feels that it has a utility and economically speaking that is good. The Islamic view is quite different than that because of two related terms: *al-tybat* and *al-rizk*. *Al-tybat* is found in the Quran describing commodities can be translated to mean wholesome things, pure things, clean things, but not useful for any kind of usefulness. *Rizk* is used to mean a gift from God, something that was bestowed on humanity and provisions that God has given to humanity. In Islamic concepts an item which is harmful like heroin can not be viewed as an economic good and as such its production, distribution and consumption are all prohibited in Islam.

Host: Is there any ethical guideline to consumption?

Jamal Badawi:

There are a number of things that provide basic guidelines for an individual for his or her economic pursuit. First of all one should realize that God created all the humans and He is also the only and sole Creator of all the resources on this universe. The fact that some people for whatever reason are able to control a larger portion doesn't justify that they have no obligation and are not supposed to share these bounties of Allah with other human beings. This stems with the question of the trusteeship of mankind on earth and that we serve as the trustees and servants of God. The fact that you acquired more resources or wealth doesn't mean that it is illegitimate if it was acquired through legitimate means but it doesn't imply that one only has to care about

themselves. The basic rule foundation in Islam is that things are permissible unless otherwise specified as illegitimate. This means that enjoyment in itself is permissible; if something is not prohibited it is automatically permissible. The Quran puts it in a very nice way, not only to show us that it is permissible but also to show us that we have no right to make things forbidden that God has made permissible for no good reason in (7:32). It says "Say: Who hath forbidden the beautiful (gifts) of Allah, which He hath produced for His servants, and the things, clean and pure, (which He hath provided) for sustenance? Say: They are, in the life of this world, for those who believe, (and) purely for them on the Day of Judgment. Thus do We explain the signs in detail for those who understand." However we also find that the Quran also provides some ethical boundaries as to how to go about consuming the goods or services. Two basic extremes have to be avoided: first a person should not be too stingy if God has blessed him or her with provisions they should not hoard it and not benefit himself and his family from it. The other extreme, if one legitimately owns wealth, not be too wasteful. Waste depends on the circumstances of the time and the kind of customs and norms in a given society. But most people can understand what being extravagant and wasteful in the use of available resources is. Both of these extremes were mentioned in the Quran in (17:29) "Make not thy hand tied (like a niggard's) to thy neck, nor stretch it forth to its utmost reach, so that thou become blameworthy and destitute." Don't put your hand so close to your neck a symbol of being too stingy and overextend it which a symbol of wastefulness and extravagance. The other thing that pertains to some of the basic rules in Islamic Law in regards to the ethics of consumption that one's utilization of wealth should not harm one's self or harm others. These are some of the boundaries that determine how one should go about enjoying the different bounties of God on earth without falling into any of the prohibited actions which are not wholesome from an Islamic point of view.

Summary of 8.4 "Consumption"

In the previous program we started to apply the broad principles in Islamic economic foundation on specific topics. We started dealing with the question of consumption. In order to make it easy to understand we compared the Islamic view of economics compared to the Western way of looking at it. The comparison included five basic points. First, we addressed success and we indicated that in Islam success is not only economic success but has to do with success in this life and the hereafter. Second, we addressed the time horizon of decision making. We said that for a Muslim this involves short term, medium range as well as long term: this life and the hereafter, this generation and future generations. Third the idea of wealth is not viewed as all evil or all good but a means rather than ends. The fourth point is the notion of economic commodity or goods which is not simply what someone wants or something that can be consumed because in Islam an item is not regarded as good if it is contrary to moral laws like drugs or other vices. Finally, the fifth point was that in consumption there are certain ethics that the Quran establishes such as avoiding miserliness or excessiveness and keeping a reasonable balance.

8.5 Production: Qur'anic Foundation

Host: What in your opinion motivates a true Muslim to be productive?

Jamal Badawi:

Based on the fundamental principles, those covered in the first program of this series, the human being is created as the trustee of God. One of our duties as human beings is to establish a civilization which combines moral values as well as material values. We indicated that God created the universe and all the resources in the universe in order to help us fulfill this duty of trusteeship. It follows that exploration of the various resources and harnessing them is not permissible but is a duty, similar to the duty of worship or certain acts of prayer because worship in Islam involves all aspects of life. To specifically address motivation for productivity a Muslim shares with others one aspect of this motivation as people need to be productive in order to survive economically and improve their wellbeing. There is no dispute that a Muslim economist would look at it in the same way. Beyond that a true Muslim would have a strong motivation to be productive, not only to survive or improve but to obey God. The Quran exhorts the human to be active and to be productive and to benefit from the resources that God has provided for which they get reward not only in this life but in the here after. This expands the view of a person and keeps them motivated at a much higher and stronger level. One of the supplications that Prophet Muhammad (PBUH) used to say is "Oh God I seek refuge in you from worry and grief and from helplessness and laziness." So he considered helplessness and laziness as something that is negative and we should seek refuge from it and try to avoid it.

Host: This seems to be the opposite of what the media in the West which portrays Islam to be opposed to progress?

Jamal Badawi:

This notion which is common nowadays is a myth. This is incorrect conceptually and untrue historically. There is not a single verse in the entire Quran that can be construed as giving a negative attitude or approach towards legitimate progress and improvement of the human lot. The contrary is true as the Quran is full of verses and directives for one to benefit from the universe and to benefit humanity at large.

Host: What are some of the examples that are found in the Quran?

Jamal Badawi:

Some things that were quite crucial in any age but throughout history we looked at agricultural resources, water resources, fisheries and animal resources. In regards to agriculture in the Quran in (13:4) it says “And in the earth are tracts (diverse though) neighboring, and gardens of vines and fields sown with corn, and palm trees - growing out of single roots or otherwise: watered with the same water, yet some of them We make more excellent than others to eat. Behold, verily in these things there are signs for those who understand!” There is reference there as to how to benefit from agricultural resources and regard it as a bounty or blessing from God. Water resources as it relates to agriculture is found in the Quran in (22:5) “Thou seest the earth barren and lifeless, but when We pour down rain on it, it is stirred (to life), it swells, and it puts forth every kind of beautiful growth (in pairs).” There is frequent reference in the Quran to rainfall long before scientists could make the clear connection between rainfall and springs and water that is soaked up into the earth. In (39:21) “Seest thou not that Allah sends down rain from the sky, and leads it through springs in the earth? Then He causes to grow, therewith, produce of various colors: then it withers; thou wilt see it grow yellow; then He makes it dry up and crumble away. Truly, in this, is a Message of remembrance to men of understanding.” In addition to the benefit of water for agricultural purposes the Quran encourages using the seas for sea faring purposes. In (45:12) “ It is Allah Who has subjected the sea to you, that ships may sail through it by His command, that ye may seek of his Bounty, and that ye may be grateful.” Seeking the Bounty of God in this case does not only refer to sea fairing but is a reference to all kinds of resources that could be harnessed. We mentioned that the third example is in the area of fishing and again in the Quran refers to this in more than one place.

In (16:14) the Quran says “It is He Who has made the sea subject, that ye may eat thereof flesh that is fresh and tender, and that ye may extract therefrom ornaments to wear; and thou seest the ships therein that plough the waves, that ye may seek (thus) of the bounty of Allah and that ye may be grateful.” We hear about the recent “Laws of the Sea” and the various conferences which deal with the various utilizations that can be made out of the oceans whether we are referring to tidal powers or minerals, while the Quran opens the door wide for exploring all these resources and benefiting from it. The fourth example I suggested was animal wealth as we find in the Quran in (16:5) which is a reference not only to animals as a source of food but to the variety of uses and industries that may grow as a result. This verse says “And cattle He has created for you (men): from them ye derive warmth, and numerous benefits, and of their (meat) ye eat.” Warmth refers to leather industries and hides, it also refers to numerous benefits which refers to the various resources they provide and the meat ye eat refers to the various meat industries. Then it continues in (16:6-7) “And ye have a sense of pride and beauty in them as ye drive them home in the evening, and as ye lead them forth to pasture in the morning. And they carry your heavy loads to lands that ye could not (otherwise) reach except with souls distressed: for your Lord is indeed Most Kind, Most Merciful.” This is perhaps an early mention of the trucking industry; it talks about animals carrying our loads and if God has given us the resources in order to replace animals with trucks or cars this is a reference to the area of transportation. These are only a few examples among many others found in the

Quran. In fact it can all be summarized in one verse which is found in the (2:29) “It is He Who hath created for you all things that are on earth.” All created everything on earth available to us so where is the contradiction to progress and creativity in the basic moral teachings of Islam?

Host: Is it permissible to explore things in out of space and derive benefit from it?

Jamal Badawi:

In several verses in the Quran when God talks about making everything on earth subservient to humans many of them also say ‘and in the heavens.’ An example of this is found in (45:13) “And He has subjected to you, as from Him, all that is in the heavens and on earth: Behold, in that are Signs indeed for those who reflect.” This shows that it is not only permissible to use these forces if one wants to discover and benefit from things that are in Mars or the Moon. This contrasts some ideas that proceeded Islam or even succeeded Islam where the exploration of space or learning about the stars was regarded heretical or an encroachment on the domain of God. The Quran doesn’t look at it this way, it says that the God created it for us and if we have the ability, technology and science to explore and benefit from space then we should go ahead. This not only includes harnessing possible resources that might exist in space but also trying to understand the laws that God created in nature.

Host: We can infer that the study of natural laws and phenomena is encouraged by the Quran?

Jamal Badawi:

It is not only urged but we find numerous references in the Quran trying to open our eyes to these laws that God has created. For example the alteration of day and night as it relates to many other phenomena which relates to economic prosperity. We find in the Quran in (24:44) “It is Allah Who alternates the Night and the Day: verily in these things is an instructive example for those who have vision.” In a very moving passage in the Quran which opened the door wide for exploration of the various phenomena in the universe (3:190-191) “Behold! in the creation of the heavens and the earth, and the alternation of night and day,- there are indeed Signs for men of understanding,-Men who celebrate the praises of Allah, standing, sitting, and lying down on their sides, and contemplate the (wonders of) creation in the heavens and the earth, (With the thought): “Our Lord! not for naught Hast Thou created (all) this! Glory to Thee! Give us salvation from the penalty of the Fire.” This is a spiritual verse that deals with the worship of God, supplication, with the knowledge and proof of the existence and the hand of God in the creation of this universe. That spiritual part is inseparable from the part of the verse that says “and contemplate” which is encouragement to study the wonders that God has placed in the universe.

The study of rain is directly related to economic aspects. I will leave it to scientists to judge how in the 7th century a person revealed this kind of revelation. In the Quran in (24:43) it says “Seest thou not that Allah makes the clouds move gently, then joins them together, then makes them into a heap? - then wilt thou see rain issue forth from their midst. And He sends down from the sky mountain masses (of clouds) wherein is hail: He strikes therewith whom He pleases and He turns it away from whom He pleases, the vivid flash of His lightning well-nigh blinds the sight.” Again this questions whether or not humans have not thought, studied this phenomena in nature. In the Quran in (36:36-40) we find an interesting reference to a number of phenomenas in nature which again encourages us to study them “And a Sign for them is the Night: We withdraw therefrom the Day, and behold they are plunged in darkness; And the sun runs his course for a period determined for him: that is the decree of (Him), the Exalted in Might, the All-Knowing. And the Moon,- We have measured for her mansions (to traverse) till she returns like the old (and withered) lower part of a date-stalk. It is not permitted to the Sun to catch up the Moon, nor can the Night outstrip the Day: Each (just) swims along in (its own) orbit (according to Law).” Not only does the Quran endorse humanity to search, understand and learn the various phenomena that God has created but it even blames or criticizes those who do not use this capability. There are many verses in the Quran that emphasizes if they have not contemplated the domain of heavens and earth and what God created therein?

Host: What is the attitude of Islam regarding learning science?

Jamal Badawi:

Islam does not considers knowledge and science to be the antithesis of faith. Faith in Islam doesn't mean the acceptance of dogmatic assertions or acceptance of things which are totally incoherent and logically impossible. We are not saying that Islam says that reason is a god to be worshiped and there are certain things that are beyond the ability human intelligence but this is different from saying that a human being is required to accept something that is totally contradictory to the logical stand point. In fact it suffices to say that the very first word, no even verse, revealed in the Quran was Iqra' which means recite or read. The very few verses that were revealed to Prophet Muhammad (PBUH) when he was contemplating in the cave of Hirra outside of Mecca included teaching with the pen. This shows use of the possible tools of learning. We also find that the Quran, in numerous verses, praises learning regardless of the field (science, humanities etc) including the mandatory requirements of his or her faith. All these types of learning are highly praised. In fact the Quran indicates that through learning God will raise people in degrees those who are believers and those who are given knowledge. The Quran makes it clear that we can not equate knowledge with the lack of it. In the Quran (39:39) it says “Say: "Are those equal, those who know and those who do not know? It is those who are endued with understanding that receive admonition.”

In fact the Quran in there is a verse that makes a connection between science and fear of God and that those are really given knowledge are those who heed God. The same kind of attitude towards science and learning. For example in Al-Bihaqui it says seeking knowledge is mandatory on every Muslim. He said seek knowledge even in China (he was talking to people in Arabia) which means even if one has to travel far distances one has to seek knowledge. In a saying narrated in Abu Dawood and al-Tirmidhi the Prophet says that any person who takes a path towards knowledge, God will facilitate a road for him towards the Heavens; the angels would lower their wings to the person in satisfaction; a person who who is knowledgeable has everyone in the heavens and earth seeking forgiveness for him (even the fish will ask for forgiveness for him). The advantage of a person who is learned over one who is worshipping without knowledge is like the advantage of the moon over other stars. The scientists or people who are given true knowledge are the hairs of the prophets (who have never left money behind) who left knowledge. It is so highly praise worthy that it is equated with jihad. In al-Tirmidhi the Prophet says he who goes out in the pursuit of knowledge is actually struggling in the path of God.

Summary of 8.5 "Production: Qur'anic Foundation"

Instead of looking at curves and theory we started from the ideological foundation of production and productivity in Islam. We indicated that the basis for productivity in Islam is not merely economic survival but also seeking the pleasure of God by responding to his directives in the Quran to explore the universe and benefit from it. We quoted quite extensively from the Quran that exploitation of various resources is something commendable. We discussed varieties of agricultural resources, water resources and fishing resources that were mentioned. The Quran goes beyond this by encouraging people to explore and benefit from the various laws created by God in nature and by trying to understand the various phenomena.

8.6 Production: Learning and Experimentation

Host: How does Islam view science in particular?

Jamal Badawi:

Science is basically the knowledge of natural phenomena and rational explanation of existence on the basis of observation which can be confirmed by experimentation and criticism. The basic elements of science are observation and experimentation. The senses and reason are used in order to understand and connect observation. As far as the senses are concerned in the Quran there are frequent exhortation on the use of senses. Many times we read in the Quran “don’t they look,” “don’t they see,” “don’t they hear,” which are down to earth: seeing, hearing and watching. The Quran even describes people who are turn away from truth as deaf and blind. Among the worst

people in the sight of God are those who are deaf and blind (not physically) but people who do not use their natural faculties. In the Quran it threatens that in the Hell fire there will be lots of people with ears with which they do not hear and eyes with which they don't see (again not physically) as they refused to use these capabilities. The Quran describes the believers it says that those who are reminded of the signs (observing, watching and seeing what is in the universe) of God they do not just fall deaf and blind. In all of these examples are easily found in the Quran which show how using the senses and trying to understand the universe are so important.

Experimentation in its nature presumes that one has observations. Observations stimulate one to experiment. We find that in the Quran there are many hints which can easily be construed to refer to the use of experimentation to understand things around us. For example in (16:69) it speaks about honey and it says "wherein is healing for men" which is a clear reference that there are certain medicine values in honey. In order for the audience who received this message from the Quran to make sense of this he or she would have to study chemistry in order to find out what the ingredients in honey are that provide medicinal value. In (57:25) it talks about iron "We sent down Iron, in which is (material for) mighty war, as well as many benefits for mankind." This is an inducement to study the properties of iron so that we can derive the various benefits and uses from it. This does not only pertain to iron but is an example. This takes us into physics and chemistry. We frequently get references to the creation of the human and that the biggest sign of the existence of God and His compassion is in ourselves. This is clear reference to the study of biology and anatomy which would help one find out about the marvelous being that God has created. One can refer to areas that hints the study of anthropology. In some verses in the Quran it says "don't they walk on the earth and find out the destiny of nations before them." This goes into anthropology, exploration and trying to find out what happened to previous nations. In chapter 2 when it refers to the creation of humankind, Adam, it says that God taught him al-asma'a kulaha. Al-asma'a literally means names but many interpreters of the Quran explain it to mean that God taught Adam the nature of all things which is something extra and Angels themselves did not have access to. Knowledge of the nature of things or knowledge of creation is a clear stimulus for the study and understanding of the property of those aspects. Islam herald new spirit, which replaced the spirit of speculation that was predominant in the past with something that is based on firm knowledge which is provable and subject to experimentation. In a Quranic verse it says that conjecture is no good substitute for truth or something that is based on firm knowledge. To conclude among the greatest contribution of Islam to humanity is the idea of experimental approach.

Host: When most think of the experimental approach they think of it originating with Roger Bacon, who would we respond to this?

Jamal Badawi:

Roger Bacon was born in 1214 which is the 13th century. Islam and the revelations that we cited were revealed in the 6th century. We are talking about 600 year before

Roger Bacon was born when all these concepts were ingrained in the minds of many Muslim scientists. It is not a theory but during those centuries there were valuable contributions made by Muslim scientists from all over the world to this experimental approach. This is why we find that some of the fair historians and writers clearly disagree with giving credit of the experimental approach to Roger Bacon. Robert Briffault in his book *The Making of Humanity* strongly rejected the notion of giving credit to Bacon for the introduction of the scientific method. In fact he says that Bacon was simply one of the apostles of Muslim science that was transferred to Christian Europe. In fact, one issue of *Encyclopedia Britannica* says: "It is beyond all doubt that Roger Bacon was profoundly versed in Arabian learning (it should be Muslim learning) and derived from it many of the gems of his philosophy." This is not an opinion given by Muslims. We find many western scholars who come to the same conclusion that Roger Bacon was really a student of Islamic Science and the new experimental methodology introduced by Islamic civilization.

Host: What practical effects do these teachings have and when was this effect felt?

Jamal Badawi:

The scientific progress and the introduction of this scientific method started from the Quran itself which generated this new spirit of research and sort of rebellion against the old approach of rigidity, dogmatism and imitation rather than finding the information out for one's self. This type of progress seems to have manifested itself quite early under the Umayyad Dynasty. Aside from whatever deviations the Umayyad Dynasty committed in terms of the system of government it is fair to say that during the Dynasty there were lots of poets and scientists. In the entry of the Caliph's court there were lots of scientists which included Muslims, Christians and Jews. In fact, during the reign of the Umayyads we find that lots of physical evidence was left to show the great progress that was achieved. For example during the Caliphate of Abdul Malik's the Mosque of Omar, in Jerusalem, was ordered to be built. During the reign of his son Ibn Al-Walid two signs were left in the Al Amawi (mosque in Damascus) and Al Madina Mosque. The Golden Age of Islamic scientific progress was during the Abbasid Dynasty which ranged between the 8th till the 13th century (750-1258CE). Parallel to that was the Umayyad Dynasty in Spain which survived from the 8th till the 15th century (755-1492CE). For five centuries as a French writer Jack Risler put it "Islam with its strength, learning and superior civilization dominated the world for at least five centuries." Many people think about the super powers and their influence on the world which has been for the last century or so. We are talking about five continuous centuries of Muslims carrying their banner throughout the world.

Host: What are other centers of learning and research which sustained the progress you had just described?

Jamal Badawi:

From the very beginning the place of worship was much more than just that. The concept of Mosque was much more than a place of worship as it was a center of learning on a local level. Many historians also report that when the Muslim civilization was flourishing almost every city had a public library. Many historians report endowments made to colleges, of scholarships established for students and about the respectable position given to anyone with knowledge. Among the strong centers of learning in addition to the local city centers was Bait Alhikmah or House of Learning which was established in Bagdad as early as the 9th century under the Caliphite of Al-Mamoon. This was a complex that held so many activities. It was an academy, central library and a translation center which was a major step towards central learning and scientific approach. Bait Alhikmah was responsible for the famous Bagdad school whose influence I should say continued till the 15th century; so we are talking about 600 years of scientific activities. This basically covers the eastern portion of the Western world. In the West the most important place was in Spain known as Toledo which was a very important translation center in which many of the works of Muslims was translated from Arabic into Latin in order which introduced it to the Western world which was responsible for the Renaissance. In this center in Toledo all kinds of centers were studied: astronomy, mathematics, medical science, chemistry, botany and philosophy. The first French Pope who adopted the name of Sylvester the Second who spent three years in Toledo learning from Muslim scholars and scientists.

Host: What is the connection of the Islamic civilization and the European Renaissance? What was Europe like when the Islamic civilization began to take root?

Jamal Badawi:

It suffices to use the term that is usually used by historians and scholars to refer to this period: Medieval Times or Middle Ages (which is objectionable because they seem to imply that the history of the world is the history of Europe) which is followed Renaissance. The history of the world is not that of Europe alone there is no question about it. Another name that used (which is a misnomer if we generalize it for the rest of the world) was the Dark Ages. It was the Dark Ages for Europe but elsewhere that was not the case. There was a flourishing civilization side by side this state of decay at this particular period. The Dark Ages of the European continent extended between the 5th or 10th (almost 500 years). To describe the state of this time it is better to refer to European and non-Muslim historians. In Singer's book Science and Civilization he details the "highly savage state in which the people in Europe lived." He speaks of the lack of personal cleanliness, of the poverty, the way people dressed and lived in terms of accommodation at a time when life was much more civilized and advanced elsewhere in the Muslim world. An interesting reference and quite extensive study called The History of Intellectual Development in Europe (two volumes) by John Draper where he discusses science and how Spain contrasted quite

clearly with what was going on in Europe. He said that in Europe, suppression of science was quite normal, the study of material phenomena was attributed to the will of spirits. If a person had an accident or got a fever he ran to the nearest Saint's shrine hoping that he will be cured by a miracle. At that time in the Muslim world physicians were busy discovering many medicinal cures dealing with various ailments. In fact like the Singer, Draper also used the term barbaric to describe the kind of life in which Europe has sunk into. As we indicated earlier this is quite a contrast between what was going on and "Dark Ages" is an overly generalized statement.

Host: Many people claim that the restoration of science in Europe was simply a restoration of Greek heritage?

Jamal Badawi:

This is a statement that is made but which is not correct. For example, in the famous volumes *Then Outline of History* by the late H.G. Wells who said that the Greek did not really have much knowledge about the past of mankind and that the knowledge of geography was restricted to the Mediterranean area as well as the frontiers of Persia and that the state of knowledge was based on rudimentary speculations and were very poor in experimental apparatus. The same assessment was given by A.N. Whitehead in his book *Science and the Modern World* in which he agrees with Wells when he said that the Greek were overly theoretical, the science was an offshoot of philosophy. The same kind of state applied to the Romans. We are not saying that there was no contribution from either the Greek or Roman civilizations which would be rather unfair but in terms of scientific development and methodology it was very poor and not based on experimentation which is the foundation of modern science. So it may have been good for its time but it was not the foundation of modern science. It is quite erroneous to claim that the European Renaissance was based simply on the restoration of the Greek-Roman heritage. It was based very strongly as many historians admitted on the flourishing Islamic civilization with its new approach and outlook.

Host: Are there specific historical indicators that show this influence?

Jamal Badawi:

First of all, the historical fact that is quite readily admitted is that for several centuries the language of the Quran was the international vehicle for scientific development. Just like today where most of the advanced work in technology and science is in English, French or German. At that time anyone who wanted to learn anything about science would have had to be versed in the Arabic language. This

shows that the scientific works were in Arabic. A person who wanted to learn anything about science would have to be versed in the Arabic language. Many historians say that a person who wanted to learn things about the sciences (physics, chemistry, medicine, astronomy, mathematics) could not do it in Europe because of the atmosphere and they reported that the only place left was for them to go to Muslim universities in Muslim Spain. Many of the people who tried to popularize Muslim science in Europe were given the term Muhammedans simply because they wanted to absorb the new scientific approach that Muslim scientists introduced. In fact Roger Bacon, himself, was accused of being a Muhammedan because he followed the path of scientific approach and for that he spent 14 years in prison. If we really look at it there is ample evidence that students from all over the European continent flocked to Muslim universities (particularly those in Spain) to learn through Muslim science and scientists brought. They brought back the knowledge with them which was the spark that later resulted in the European Renaissance.

Summary of 8.6 "Production: Learning and Experimentation"

The major part of our discussion was on the position of Islam towards science and how it encouraged the use of senses, reason and experimentation. We indicated that the experimental approach was not introduced to the West by Roger Bacon but that it was known to Muslims centuries before him when they used it effectively. The scientific progress that was achieved started with the revelation of the Quran, during the first four Caliphs after Muhammad (PBUH) and continued through the Umayyad Dynasty and had its Golden Age during the Abbasid Dynasty and the Umayyad Dynasty in Spain. There were thinkers in education and science who belong to different areas such as schools, mosques, city libraries and big academies (example: famous House of Learning established in Bagdad in the 9th century). The main problem here is that the European Renaissance was not based as some believed on the revival of the Greek but it was very much influenced by Muslim science.

8.7 Muslim Contribution to Astronomy and Chemistry

Host: Could you expand on the influence of Muslim science on the European Renaissance?

Jamal Badawi:

In fact one of the astounding and useful references on this subject is a book by George Sarton called The Introduction to the History of Science, a very comprehensive work composed of several volumes. In it he indicates that one of the main reasons universities sprung in Europe was that there were so many sciences coming from the

Muslim world that the mass of this information required some type of systematic study. This is why universities were established in Europe. It says that this goes back as far as the 12th century so the contact and immersion took place before that time also. Robert Briffault in his book *The Making of Humanity* says that "it is highly probable that but for the Arabs (he means the Muslims) modern European civilization would never have risen at all" He also says "there is no single aspect of European growth in which decisive influence of Islamic culture is not traceable." Also, "what we call science arose in Europe as a result of a new spurt of inquiry, a new method of investigation of the methods of experimentation, observation, measurement, of the development of mathematics in a form unknown to the Greeks. That spirit and both methods were introduced into the European world by the Arabs." It is not quite correct to interpret the term "Arab" from an ethnic sense at all. Many writers refer to the term Arab synonymously with the term Muslim which is not a very accurate term unless we take it in the spirit expressed by Prophet Muhammad (PBUH) that any person who speaks Arabic is an Arab (not just ethnicity). In the epoch of Muslim civilization every Muslim regardless of his or her mother tongue also knew Arabic it being the language of civilization, the language of scripture, the language of science.

Host: Did the Crusades play a role in European Renaissance?

Jamal Badawi:

The tragic part of the Crusades is well known for the kind of devastation it brought to the Muslim world. It still appears that there were side effects from the Crusades just like with any war and that it contributed a great deal in providing an opportunity for getting the Muslim sciences and knowledge to the West. Dr. Dudley B. Stevenson a historian who wrote a chapter in Volume 4 of *The Universal History of the World* said "learning an art and science of the East (Muslim World), its public services and method of government, its highly developed industries and the superior luxury and comfort of the domestic life in its upper classes exerted a powerful and far reaching influence up Europe in the Crusading period." Another historian Henry Barns in discussing the consequences of the Crusades in Volume 1 of *The History of Western Civilization* says that "Westerners learned many Muslim and oriental ways developed a taste for the luxuries of the region. All of this promoted a demand for Eastern goods and accelerated the growth of commerce. The Italians who had acted as transporting agents for the Crusaders took full advantage of their opportunities to build up trading relations with the East." In another place he adds "the science and culture of the Muslims were brought back to Europe and helped to create a remarkable intellectual revival of the twelfth and thirteenth century. George Sarton said in *The Introduction to the History of Science* "one of the results of the Crusades was the reintroduction of public bathing places in Europe" and he discusses steel bath which was introduced by Muslims and brought to Europe with the Crusaders. It would be useful to remember that the period of the Crusades was not all two centuries of fighting in battle fields. There were periods of truce, of relative peace, periods of intermingling and mixing between Muslims and Christians (even between the invaders and conquerors) and there were incidents where human relations could have been established between them. In fact many historians refer to places like Sicily in Syria where there were a great deal of person to person intermingling between Muslim scientists and learned

scholars and the invading Crusaders. In fact in Spain intermingling included Muslims, Christians and Jews as some historians described to be unrestricted unrestrained contact. The result was a great deal of information exchange, but mostly adaptation of Muslim sciences and bringing it to the West. In the case of Spain the result was untold prosperity which was never presented before nor surpassed ever since.

Host: Could you give us examples or illustrate the point that Spain was the most prosperous it had ever been?

Jamal Badawi:

In "The Falcon of Spain" written by a Canadian Muslim Dr. Thomas Irving and in "The Story of the Moors in Spain" by Stanley Lane Poole in which we find many fascinating things that it is difficult to believe that at one point in time these things really took place. Poole says in his book that "for nearly eight centuries under her Muhammedan (it should be Muslim but this is what he used) rulers Spain set to all of Europe a shining example of a civilized and enlightened state. Her fertile provinces rendered doubly prolific by the industry and engineering skill of her conquerors, bore fruit a hundred fold." In another part he says "art, literature and science prospered as they prospered no where else in Europe. Students flocked from parents in Germany and England to drink from the fountain of learning which flowed only in the cities of the Moors. The surgeons and doctors of Andalusia were in the vein of science. Women were encouraged to devote themselves to serious studying and the lady doctor was not unknown among the people of Cordoba. Mathematics, astronomy, botany, history, philosophy and jurisprudence were to be mastered in Spain and Spain alone." In another place he says "whatsoever makes a kingdom great and prosperous, whatsoever refinement in civilization was found in Muslim Spain." Finally he mentions the sorry and sad end of all of this civilization "in 1492 the last bulwark of the moors gave way before the Crusade of Ferdinand and Isabelle and with Granada fell all of Spain's greatness." The very fascinating aspect of this is a description by John William Draper in The History of the Intellectual Development of Europe in the second volume on pages 30-31 "Cordoba under their administration (Muslim administration) at its highest point of prosperity boasted of more than 200,000 houses and more than a million inhabitants. After sunset a man might walk through it in a straight line for ten miles by the light of the public lamps. Seven hundred years after this time there was not so much as one public lamp in London. Its streets were sordidly paved, in Paris centuries subsequently whoever stepped over his threshold on a rainy day stepped up to his ankle in mud." He indicates that it was not just one exceptional city that was so prosperous like Cordoba he indicates that there were so many other cities in Spain like Granada, Seville and Toledo which considered themselves as rivals to Cordoba. The development and prosperity of Cordoba is just unbelievable. Some historians add to the figures the one million inhabitants and the nearly 260,000 buildings, homes and shops: 3,300 markets, 700 public places, 500 mosques (it was customary to attach a school to the mosque) 28 suburb (we think that suburbs that is something new but it was not in the

case of Cordoba). In addition to this they had “countless libraries” (both public and private) in the words of one historian. So the story of Islamic civilization and prosperity in Spain is beyond description. We are talking now the population of Cordoba is not even 1/20th of the population that it at one time was with all that progress.

Host: What are some specific contributions in various fields? and specifically astronomy?

Jamal Badawi:

Astronomy was one of the earliest fields in which Muslims took interest and contributed a great deal. Some of the most prominent scholars are people like Abu Al-Wafa, Al-Battani, Al-Biruni and Ulighage. Muslim astronomers were the first to discover the sun's apogee which is the point farthest from the earth in the orbit of the moon. They made catalogs and maps of the stars and they gave them Arabic which are still used today. They corrected the sun and moon tables and fixed the length of the year. In fact as early as the 11th century Omar Khayyam known in the West as Khayyam, and who is connected mainly with poetry but who was also a prominent astronomer. Khayyam made a calendar which many historians regard to be more accurate than the Gregorian calendar. Muslim astronomers were the first to use the pendulum in measuring time. Some of those who traveled to the Muslim world came back with a great deal of fascination why they described how clocks worked using the pendulum. The sun dial was invented by Muslim astrologers. As Draper puts it “the most valuable of all chronometric improvements were made by Muslim Astronomers.” As early as the 8th century during the Caliphate of Al-Mansur we find that interest was shown in astronomy in different parts of the Muslim world, which was quite vast at that time. We find that many observatories were built. Muslim astronomers were able to use their knowledge to predict or forecast the sun spots, eclipses and the appearance of comets in the sky. One of the great names I mention earlier was Abu Alwafa who discovered the third lunar inequality which deals with the concept of the irregularity of the moon's highest latitude. This very important discovery was attributed by mistake 1000 years later to a Danish scholar by the name of Tycho Brahe. I also mentioned Al-Battani who's name in English is quite adulterated and written Albategnius which is difficult to detect and relate. Al-Battani was regarded as one of the 20 most important astronomers in the world. Al-Biruni acted as a link between the astronomy school in Bagdad which is now in Iraq and in India and lived in the court of Mahmoud Ghaznawi towards the end of the 10th century and the beginning of the 11th century. He compiled a table showing the longitude and latitude of the principle cities in the world. Ulighage work was published in the early 15th century and in it he provided a very comprehensive survey of the state of knowledge of Astronomy in his time and that was 100 years before Kepler tried to relate the knowledge of astronomy of the past to his time.

In Muslim Spain as we mentioned earlier prosperity went hand in hand with scientific development. Two bright example are Ibn Khaldun and Ibn Al-Rushd but

unfortunately many of their works were lost in the period of reconquest and the ensuing religious persecution.

Host: Can we move onto the field of Chemistry and what role did Muslim scientists play in this particular science?

Jamal Badawi:

As John William Draper clarified that the Muslims should be regarded as the originators of scientific Chemistry. He said that they discovered the most important reagents in Chemistry like Sulfuric Acid, Nitric Acid and Alcohol and they were the first to publish pharmacopeia. One of the great figures in Chemistry goes back to the 8th century, known as Jabr, who lived at a time where the strongest acid known was concentrated vinegar. It was during his time and through his effort that he discovered Nitric Acid. Muslim Chemists were able to describe and understand the operation of distillation, sublimation, filtration, coagulation, crystallization things that are thought to be more modern but were already known quite early to Muslim Chemists. Another great name in Chemistry is Abu Bakr Al-Razi which is written Rhazes in English who used to be the physician and chief of the hospital in Bagdad in the 9th century. He was said to be the first to describe the properties of Sulfuric Acid. The contribution in his time by Muslims to the study of Chemistry was described by William Draper as “as important in magnitude as those of Lavoisier and Priestly.” In addition to this we find that Muslims were first to use gun powder in as early as 1342 which is quite a period of time before Roger Bacon. Another Muslim Chemist who lived towards the end of the eighth century, Abu Musa Al Kuhl, wrote so many works in Chemistry some of which were translated into Latin. One important work of his “The Sum of Perfection” was translated into French in 1672 (almost 800 years after his death). These contributions reflect the practical state of inquiry that Muslims have learned through the motivation provided in the Quran. They understood theoretical Chemistry and were quite prominent in applied Chemistry. It suffices to say that in those early times they knew of distilled water, plasters and syrups (pharmacists and doctors can appreciate the important role of syrups in the preparation of countless drugs). They were able to use ointments for the cure of certain diseases. They knew about dying clothes and textiles, tempering steel, curing leather which are definitely aspects of applied chemistry. Many of the terms in English or other European languages of many chemical material substances names originate in Arabic. For example “camphor” which is cafor which is the same thing. Alcohol was as we indicated earlier a Muslim invention which is an Arabic word. Elixir in Arabic is elixir in English. Alkaloid comes from khaloi in Arabic. These are only a few examples of numerous chemical substances that were discovered and prepared by Muslim Chemists.

Summary of 8.7 "Muslim Contribution to Astronomy & Chemistry"

Last weeks program was a continuation of the effect of progress in Islamic sciences in the Middle Ages and its effect on the Renaissance in Europe. We tried to look into

some of the basic routes through which Muslim learning and sciences penetrated into Europe including Europeans studying at Muslim universities as well as the Crusades. We started with specific examples of historical manifestation and of the attitude the Quran teaches towards science and learning. We discussed more particularly the area of Astronomy and chemistry. We gave various examples of Chemicals that still hold their names which come from Arabic words. For example alcohol.

8.8 Muslim Contribution to Mathematics and Physics

Host: How did the numerals that we use come to be called Arabic numerals?

Jamal Badawi:

The Arabic Numerals that we use at the present time were originally used in India. However to Muslims goes the credit of popularizing the use of these numerals and bringing them to Europe and introducing them to the world at large. Along with spreading their use but the development of Muslims in the field of mathematics also helped to make them be known as Arabic numerals. In addition to numerals one of the great mathematicians by the name of Muhammad Bin Ahmad during the 10th century actually invented the concept of zero. The Arabic word for zero is sifr which means void. This is related, in the opinion of some scholars to the term that came to be known as cipher and decipher. The discovery of the zero was not a simple thing and according to many science historians it revolutionized the discipline of mathematics. It made it possible to express all numbers using ten characters, giving them absolute value and a value by position. In fact without this the whole later development of mathematics would have been stifled. The zero as a concept came to be known in Europe only about 300 years after Muslims used it in the 13th century.

Host: It is claimed that the term Algebra comes from Arabic and is connected to the Islamic civilization, is this correct?

Jamal Badawi:

Algebra is a means of universal arithmetic. It is the use of numbers, letter and symbols used to analyze and express relationships between concept of quantity in terms of formulas and equations. In a simpler way Algebra is calculation using symbols. The term is of Arabic origin. The arabic term is Algebr which means to unite or to put pieces together. Algebr was initiated by a Muslim mathematician Muḥammad ibn Mūsā al-Khwārizmī who lived in the 9th century and was connected with the House of Wisdom (that was established in Bagdad). His book on the subject

called “Hisab Aljebr Walmukabala” which means calculation by symbols. This became a classic that for hundred of years was used as the basic in mathematics. The interesting thing is that the name al-Khwarismi is similar to algorithm and actually the algorithm was named after Al-Khwarismi. This is the study of the decimal system of counting which was introduced by him. In fact one of the major historians in the history and development of science, George Sarton, says that Al-Khwarismi “is one of the founders of analysis or Algebra as distinct from Geometry.” This made Algebra a distinct discipline. In addition to this we find so many other mathematicians who contributed to the field of Algebra like Abu Al Wafa who lived in the first part of the tenth century. He contributed a great deal of study which perfected the work of Al-Khwarismi and he also worked on quadratic equations. In fact many according to Sarton many of the works of the Muslim passed on to Europe through translation from Arabic to Latin by such people as Robert of Chester, Adler of Bathe and John of Civil.

Host: Did Muslim mathematicians contribute to Geometry as well?

Jamal Badawi:

Yes, in fact without the contribution of Muslim mathematicians in Geometry many of the golden treasures of the past could have been totally lost. Take for example the work of Euclid; without Muslims being keen about learning and preserving that heritage it would have been totally lost to history. In fact the first translation of Euclid’s work to Arabic was done in the first half of the 9th century. From this Arabic translation that heritage was passed on to Europe. It was later translated from Arabic to Latin. It is not really a matter of preserving the teachings of the past but there were lots of additions and commentaries added to it from as early as the 9th century. One of the most important commentaries on Euclid’s work came in the 13th century by Naṣīr al-Dīn al-Ṭūsī. His commentary and critique of Euclid provided the impetus for the study of non Euclidian Geometry. This influenced people in the 18th century who were the forerunners of the so-called non-Euclidian Geometry which emerged in the 19th century. In addition to this we find that according to George Sarton makes tremendous reference to that as it is one of the most tremendous works in science. He indicates that in the 13th century the leading books in Geometry were in Arabic and Latin (which were translated from Arabic). In fact attention was not only given to the theoretical aspects but Muslims were practically oriented too which lead to the sub area of Trigonometry.

Host: Could you shed some light on the field of Trigonometry?

Jamal Badawi:

Trigonometry is a very important field in mathematics as it has a variety of application in surveying, navigation and engineering. According to John Draper Muslims were the first to develop Trigonometry in its modern form. The Greeks of course had some knowledge of Trigonometry but Muslims developed it into its modern form and in fact they were the first to use the sine and cosine. Al-Battani is credited for sine and cosine functions. This would probably be related to the deep interest in astronomy. Trigonometry has lots of application in astronomy. It is interesting that some of the work done by Muslim Trigonometry specialists on Tangents was not known in Europe until 500 years later. Some areas passed on to Europe faster but this is one area that took much longer. They also have works on Spheric Trigonometry which might be related to Astronomy. George Sarton in his Introduction to History of Science to say in Volume 2.1 page 12 he says the development of Trigonometry was entirely due to Muslim efforts during the Middle Ages. He also says: "This outline of Trigonometry in the twelfth and thirteenth century can not but give the reader a very high idea of Muslim science. All the progressive work to the very end of this period was published in Arabic. Latin Trigonometry was but a pale reflection of the Arabic and it was already a little behind the times when it was new for the Arabic efforts did not stop but continued with increased efficiency." This is really a fascinating area where a great deal of contributions were made by Muslim mathematicians and really provided the impetus and inspiration for later mathematicians to continue.

Host: Are there additional examples of contributions to field of mathematics that you may be able to share?

Jamal Badawi:

If we go back to the 10th century (particularly the second half) we find a Muslim mathematician Abu Al-Wafa who was regarded by historians to be the first one to show the generality of the sine theorem relative to spherical triangles. He also gave a new method for constructing the sign tables. In the 11th century very famous mathematicians, Alberoni and Ibn Sina (known in the West as Avicenna) contributed work at a very high level and full of originality. In Egypt a great astronomer and mathematician lived in the 11th century who contributed a great deal was Ibn Yunus. One of the fascinating contributions came in the second part of the 11th century by a man who is known for being a poet than a scientist, Omar Al-Khayyam (Omar Khayyam in English). Al-Khayyam was so bright in mathematics that according to Sarton he conceived a very remarkable classification of equations. It is said that he recognized 13 different forms of cubic equations which is rather complex for that time. He tried to solve all of them and even gave partial geometric solutions to some of them the equations. In addition to this we find other people who contributed to the different branches of mathematics. For example in the first half of the 11th century we find a Muslim Mathematician, Ibn Al-Samh who contributed to the field of Calculus. Others also contributed to Commercial Arithmetic which is called Almuamalat in Arabic.

Host: What was the simple most important Muslim contribution to the field of physics?

Jamal Badawi:

It is agreed that the most important single contribution of Muslim physicists was the science of optics. In fact we can speak of optics without mentioning the name of Abu-Al Hassan Ibn-Al Haytham, the adulterated Latinized name is Alhazen. He lived in the first half of the 11th century and he was described by George Sarton as “the greatest Muslim physicist and one of the greatest students of optics of all times.” Alhazen according to Sarton exerted a great deal of influence on Western science. Furthermore, he showed great progress in the experimental method and which was the forerunner of Bacon and Kepler. As a result of his work we find that the development and use of the microscopes and telescopes developed at a later time. One of the main reasons for this contribution is basically a classic that he wrote called Kitab Almanathir or Optics. Indeed this work is regarded by historians as the beginning of the modern science of optics. I will give examples on some of his bright discoveries which were made in the first part of the 11th century. First of all, there was a common misconception in Greek science about how the person sees. In Greek science they used to believe that a ray of light proceeds from the eye to the object. He corrected this and he indicated that the ray of light actually illuminates from the object to the eye. For that time this created a major shift in the science of optics. In addition to this he showed a great deal of understanding of light refraction and light reflection which are both very important phenomena in physics. In fact he made a very important discover of the curvilinear path of the ray of light threw the atmosphere. This discovery led him to explain the concept of twilight: which is the reason why we can see the sun and the moon before they rise and after they set. At the early age of scientific development during the 11th century he was able to determine that the retina is the seat of vision and that the impressions that are made by light upon the retina is conveyed along the optic nerve to the brain. He was also able to explain why we are able to see one vision even though we use two eyes. His explanation was that this was due to the formation of the visual images on the symmetrical portions of both retinas. No wonder that we find that many of his works and particularly the ones focused on optics were translated and used over and over again for several centuries in Europe. Alhazen was definitely the most outstanding physicist in the area of optics but in fact he was not the only one. There are some other Muslim physicists who introduced additional notable improvements such as Nasir Al Din Al Tusi, Qutb Al Din Al Shirazi and Kamal Al Din Al Farisi.

Host: What other contributions to physics did Muslims contribute to?

Jamal Badawi:

For example one of the most important things that revolutionized trade and resulted in the improvement of navigation is the compass. It is true that the Greek knew something about the properties of the magnet. It is also true that the Chinese

understood some of the basic directive properties of the magnet. According to historians like George Sarton these nations were not able to put their knowledge and information into practical application. It is believed that it was the Muslims who adopted these ideas and put them into use. They were the first to use the magnetic needle for the purpose of navigation.

Another interesting aspect was their investigation into the field of hydrostatics which started as early as the 9th century. One of the interesting books *Mezan Alhikmah* (means the Book of Balance of Wisdom) on the subject of hydrostatics was written by Abu al-Rahman al-Khāzini. George Sarton said "standard work on this subject was written by al-Khāzini and it is one of the main physical treatises of the Middle Ages." He also says that he worked on tables of specific gravities of certain liquids and solids and he talked about a variety of physical facts and theories. Another aspect that may be of interest to physicists and engineers is the area of hydraulics. The idea of a water wheel was known in past history and there are some archeological evidence to this effect. According to Sarton the Muslim physicist introduced a great deal of improvement on the use of water wheels. He said "they made very remarkable use of them." This in fact might explain the great deal of prosperity in agriculture. It contributed a great deal to various methods of agriculture and improvement in the production of this particular area. In fact historians narrate that evidence shows that (particularly in Syria) waterwheels were used quite frequently and efficiently. In the city of Hama in the 13th century there were as many as 32 efficient water wheels that were in use (this is the same city that was attacked by the Army of Hafez al-Assad in Syria in which 20-30 thousand people were slaughtered). It is so overwhelming to see the strides that were made in this particular field and all others which we discussed before. We are not saying that all the contributions were made in science. We will see later that there were contributions to geography, history, law and other fields that were just as remarkable. We started with the contribution to science because that stands clearly in the face of some of the erroneous arguments that might be predominant in the West that Islam stands against progress and is only befitting for nomadic people who ride camels and live a simple life in the desert. Forgotten are the great contributions to the development of sciences which manifested over several hundreds of years which paved the way for what we know today as modern scientific progress.

Summary of 8.8 "Muslim Contribution to Mathematics and Physics"

The eighth program focused on Muslim contributions to the fields of mathematics and physics. In mathematics we spoke of the introduction of Arabic numerals and the concept of zero which led to a revolution in mathematics. We examined some particular fields such as Algebra which was initiated by al-Khwarismi and from whose name came the term logarithm. We looked at their contributions to areas such as geometry and trigonometry. The Muslims were the first to use sine and cosine and they had contributions in the field of Calculus and commercial arithmetic.

In the area of physics we spoke of Ibn-Alhaitham or Alhezen's work in optics which was the basis for research done in this area for several centuries and had far reaching influence on Bacon and Kepler. Finally, we briefly discussed the invention of the compass and briefly we covered their contribution to hydrostatics and hydraulics.

8.9 Muslim Contribution to Medicine

Host: In what way are the contributions to the field of medicine may be related to Islamic teachings?

Jamal Badawi:

The interest of Muslims in the field of medicine is related to Islamic teachings in more than one way. First of all, it is related to the ethics of Islam and that the human body is regarded as a trust in our hands given by God so that we can fulfill our trusteeship on earth. As such and in accordance with Islamic ethics we have no right to destroy the body (suicide is forbidden in Islam) and we have no right to abuse the body (thus the prohibition of drinking and pork). Not only this but there are some preventative measures that Islam taught which have some bearing on medicine. For example it encourages people to seek a cure when they are sick as is narrated in Bukhari, Ahmad, Tirmidhi and Abu Dawood. There is a saying of the Prophet that says that if the plague spreads in one place that the people should not leave it and others should not enter it. This is like the modern concept of a quarantine. Also the recommendation the Prophet made to give attention to the body when he said that the body has a claim on you. Even in the simple rituals (prayers for examples) we find that it is connected with personal hygiene, cleanliness, ablution, frequent bathing, encouragement of exercise and fasting which also has beneficial health benefits. In more than one respect medicine is tied with the overall outlook of Islam towards the human body and healthcare and protection.

Host: When did the contribution to the field of medicine first begin?

Jamal Badawi:

Ever since the days of Prophet Muhammad (PBUH) there have been increasing interest in health (immediate and preventative). There was a doctor during that time Al-Harith Bin-Kilda and the Prophet used to recommend that when people get sick that they seek a cure. This was when people elsewhere believed in miracle cures. Even in the 8th century we find beginnings of scientific interests in medicine began to emerge and many of the old works in medicine were translated. A

prominent translator was Ibn Almuqafa'a. In the 9th century we witnessed a great deal of development in medicine and perhaps the most prominent name of that time was Fakhr Al-Din Al-Razi who is known in English as Rhazes. He was the chief physician in the main hospital in Bagdad and as historians describe him, he was perhaps the greatest historian of the Middle Ages. He wrote a voluminous encyclopedia which was described by John Draper as "an immense medical encyclopedia which remained for 600 hundred years as one of the main and primary sources of knowledge about medicine in Europe. According to Draper Al Rhazes book on measles and smallpox was regarded as one of the most authoritative writings in its field and remained in use in Europe for nearly 800 years. Surprisingly until the 18th century (in 1745) his book was still being translated and used as a basis for understanding these types of diseases. Al-Rhazes was inspired by the saying of Prophet Muhammad (PBUH) narrated in Bukhari and Muslim where the Prophet recommended the use of cold water to deal with persistent fever which he used quite effectively. He introduced the use of mild purgatives and cupping. According to George Sarton says that "many contributions to gynecology, obstetrics and ophthalmic surgery can be traced back to him." In the tenth century we find that these contributions continued by other Muslim physicians. One of the famous names is Areeb Bin-Saad who was the first to write in a systematic way on the subject of pediatrics in addition to gynecology and obstetrics. Some of his works were later translated into Hebrew and Latin. In the same period during the 10th century Al-Mardini, a famous physician, was particularly known for his ability to prepare medicines. George Sarton says (Volume 1. Pg. 699) "that he compiled a dispensary which was immensely popular in dealing with Medieval Europe. For centuries it remained the standard work on the subject."

Host: Many historians mention Avicenna as a legend in the history of medicine; can you tell us about him and how he acquired his fame?

Jamal Badawi:

Avicenna is the English name but in Arabic it is Ibn Sina who is a legend. He was a scientist, philosopher and physician. I am not evaluating him as a philosopher and in fact many Muslims may have some reservations about his philosophical ideas but looking at his contribution as a scientist and physician it really helps us to understand the kind of atmosphere that existed in the Glorious Muslim days where scientific investigation was encouraged and where freedom of thought was highly valued. Ibn Sina lived in the 11th century of the Christian era. Among his most important works in medicine was called Qanoon fi Altib which is Canon in Medicine which was composed of five volumes covering subjects such as: physiology, hygiene, pathology and therapeutics. According to George Sarton "for six hundred years this Canon in Medicine by Ibn Sina remained as the supreme authority in medicine." And "it was the basis of all medical studies in all French and Italian universities. In fact it is surprising to notice that some of the works of ibn-Sina in medicine were translated and used in European universities as late as the 18th century and according to some historians as late as the early 19th century. This is almost 800 years after his

death. He also wrote a pharmacopeia which included 760 drugs and how they can be prepared which reflected the excellence that Muslim scientists achieved in Chemistry and its application in Pharmacology.

Host: When did Muslims get involved in surgery?

Jamal Badawi:

They got involved in surgery as early as the 11th century. They may have had earlier involvement but this is the time when they have historical accounts of surgery to extract cataract by extracting the crystalline lens. They were also able to treat hemorrhages and they were particularly skillful in the use of cauterization. Among the most famous surgeons in the entire Middle Ages is Abu al-Qasim Khalaf Ibn al-Abbas whose name is adulterated in English to Abulcasis. He lived in Cordoba in Muslim Spain under Muslim rule towards the end of the 11th century and early 12th century. Abulcasis Sarton in his first volume (pg. 699) says that "he exerted a very deep influence upon the development of European surgery down to the Renaissance." John Draper says that "the surgical works by Abulcasis continued to be used in Europe as late as 1497." This is the very end of the 15th century. Abu al-Qasim also wrote a medical encyclopedia composed of thirty sections covering a wide variety of problems but he was particularly known for his surgical treatment of eyes, ears and teeth. At the time they did not have separation between dental and general medicine. In the writings of Averroes (a doctor and philosopher) during the 12th century he gives illustrations of sections of the brain and eyes. He also shows the nerves in the eyes and some of the surgical instruments used by some of the Muslim surgeons.

Host: Most people believe that anesthetics are relatively new in the field of medicine yet you are mentioning surgeries in those early times; what did physicians use to render their patients unconscious?

Jamal Badawi:

There is clear evidence that they were able to do this because one can not go through some of these surgeries without some form of anesthesia. According to John Draper Muslim physicians knew about anesthesia and they used a kind of plant Darnel which they administered gradually until the patient became totally unconscious.

Host: Are there any other notable contributions?

Jamal Badawi:

My best recommendation would be to refer to the excellent work by George Sarton in *The Introduction to the History of Sciences* where there are loads of names and their contributions.

In Muslim Spain one of the notable physicians was Ibn Zuhr with the Latinized name of Avenzoar who was the first to write about Bronchotomy and he was outstanding in the treatment of skin diseases (dermatology), dislocations and fractures.

A famous Muslim physician by the name of Ibn Al-Nafis lived in Syria and wrote a great deal about hygiene and diet. Some people regard to be a relatively new field but it really is not. He wrote about diet and health and he demonstrated the circulatory system which was in the 13th century. This was three hundred years before the Portuguese physician Servetus (also Miguel Servet) was able to demonstrate it as many people think he discovered it when in fact he did not!

Muslim physicians showed interest and competence in Psychopathology. They were successful in the treatment of psychological issues for some of their patients.

Host: When was the first hospital built by Muslims?

Jamal Badawi:

When we deal with hospitals we should make a distinction between the two types: mobile hospital and permanent ones. If we take the mobile hospitals we can say that Muslims used this from as early as the 7th century, during the lifetime of Prophet Muhammad (PBUH). For example in the famous battle of The Trench (Alkhandaque) when Muslims were in Madina and the Pagans were going to attack them and the Prophet ordered that they dig a trench around the city in order to defend it. In preparation for the battle he ordered that a big tent was set up so that casualties and the injured could be taken care of in it.

During the time of peace the concept of mobile hospitals was used effectively. As a side note recently many viewers in this area were impressed by a recent TV program that followed a medical doctor who took his mobile home and toured remote areas that did not have access to doctors and stayed there for some time and treated the people. This is a very admirable, humanitarian gesture. It is not however the product of the 20th century. In fact Muslims extensively used mobile hospitals to look after the needs of people in rural areas. In fact in the first half of the tenth century (1000 years ago). We find that there is historical narrative about a minister, Isa bin-Jarrah, who wrote a letter to the chief physician in Bagdad, Sufyan bin-Thabit, that there were many people in the area who did not have access to health care and that he should send them a mobile hospital, medicines and physicians. It is stated that there were quite a few of the mobile hospitals touring different places. Historians describe them as “well equipped hospitals.” Even though these hospitals were carried on camels they were the best that they could provide since they did not have the mobile homes we have today. The mobile hospitals included everything from food, drugs, surgical instruments as well as physicians who accompanied the mobile hospital. In fact one historian says that during the time of the Siljuk rulers this mobile hospital was so big that one of them required 40 camels to carry its equipments, medicines and other things that they needed. In addition to this in many of the mosques they used to have a small pharmacy and during the day there would be an attendant so that if someone was passing by during the day who needed medicine one could go and get them. On Friday, during the congregational prayer when lots of people came to the Mosque, a doctor would come and after the prayer would examine anyone who needed medical attention. This was the case with the Mosque of Ibn-Tulun in Cairo.

Host: Can you give a description of the permanent hospitals?

Jamal Badawi:

The permanent hospitals did not take long to be known amongst Muslims. It is believed that the first one was built in Bagdad during the Caliphate of Walid Ibn-Abd al-Malik during the first half of the 8th century. Muslim hospitals used to have two wings: one for females and one for males. In every wings sections which were assigned to a particular disease. The hospital administration each wing had a chief physician, support staff, nurses, people who cleaned and prepared food. It was said that many times the Caliph himself would visit spontaneously in order to make sure that people were treated humanely and were looked after properly. They had the same system we have today with the resident physicians taking shifts and being available all the time in case of an emergency. The interesting thing is that the hospital was viewed as we view many hospitals today, as a research institute. Historians say that in Muslim hospitals after doctors finished their rounds they would meet in big lecture halls where the chief physician, other physicians and medical students would have open discussions of cases and how diseases were diagnosed. These were a very stimulating discussion. Permanent hospitals spread in Muslim lands and it is said that in Cordoba, Spain alone there were as many as 50 hospitals. Remember we said that there were nearly one million inhabitants in Cordoba during the glory of its rule.

In many of these hospitals there used to be a small farm attached to it where fresh vegetables, fruits were planted so that people could eat fresh food directly from the hospital land. Some hospitals had artificial lakes. This shows that hospitals were not institutions used to process people but as a very comfortable place, with its furnishing, aesthetic beauty and layout. These hospitals used to have humorous skits played in order to cheer up the sick. Mustafa al-Sibai wrote that he heard about a special trust in Tripoli of Greater Syria which is now in Lebanon. This trust supplied funds to hire two people whose duty was to go around and visit hospitals and talk to each other about the patients and how well they were doing which takes into account the physiological aspect of treatment.

Host: How were hospitals paid?

Jamal Badawi:

Treatment for patients was free in all of these hospitals. This included strangers, travelers and passers by. When a person entered the hospital was examined in an outside hall if his case was simple and then was directed to the pharmacy where he could get medicine and go home. Otherwise he would be admitted. Historians say that even in "The Middle Ages" a person's name was recorded and had to bathe before he was admitted and his clothes are taken and locked up and he would be given special clean hospital clothing. Then he would stay there get medical care, food and people would look after his clothes. If a person starts to heal he is removed to another place which is designated for convalescent patients. Some historians said that the sign that he was cured was when he would be able to eat a whole loaf of bread and a whole chicken. When the person was discharged from the hospital, if he was poor he would be given new clothes and in some cases some money which would help him till he fully recovered and was able to earn his own living again. If the patient happens to die then he is washed, his coffin is prepared for burial. Another interesting feature was that those who preferred to get their treatment at home were allowed and medicine was sent to them and if they were poor food was sent to them. In fact, one visitor came in the 12th century to the hospital in Bagdad and wanted to test the treatment and care so he pretended to be sick, was admitted, the doctor measured his pulse. After about three days of him staying there being fed and taken care of they wrote him a note that "we host people only for three days" which is the Arab custom. This let him know that they knew he was not sick but it was clear indication of the kind of care given to patients.

Summary of 8.9 "Muslim Contribution to Medicine"

We talked about the contribution of Muslims to medicine. First, we tried to show the relationship between Islamic teachings and the interest in medicine and how they are intertwined. We actually viewed the major contribution of major physicians to medicine all the way from the 8th century to the 13th century. We indicated how the works of many famous names such as Avicenna, Rhazes and Abulcasis became and continued to be very crucial and important references for medicine that extended in

some cases to as late as the 18th century. We also discussed hospitals, how they were run, how the care and hygienic conditions were comparable to what one may consider as the standard of today. In addition to that we can also add that they used to have very rigorous standards for who practices medicine. In fact it is said that in the beginning of the 11th century a patient died in Bagdad (now in Iraq) as a result of a mistake by a physician and the Caliph ordered that all physicians be reexamined. It is narrated that as many as 360 medical doctors were reexamined and since then it became a tradition in Bagdad, Cairo and other places to have very rigorous examinations for doctors before they practice medicine. In fact even within Islamic Law they developed a whole body of literature dealing with the responsibility of the doctor in case he made a mistake, dealing with the responsibility of the doctor to practice medicine if he is the only one available which actually becomes a sacred duty on him to look after people who are sick. The fact that a person should be qualified goes back to the days of the Prophet. Prophetic tradition says that a person who treats others without being capable is responsible for his deeds. This also depends on whether the doctor intended to hurt and whether he followed the standard practices in medicine. Even law of medicine was also part of the study of medicine.

8.10 Muslim Contribution to Other Fields I

Host: How are contributions to Geography related to the teachings of Islam?

Jamal Badawi:

Similar to the development of medicine, astronomy and mathematics we find that geography is related to Islamic teaching. A Muslim has to pray 5 times a day while facing the Kabba (the first house of worship built by Prophet Abraham) which is in Arabia. This requires the ability to find directions which in turn requires mathematics as much as geography. Every Muslim is required to go to Mecca for pilgrimage once in a lifetime if he/she is able to and this requires the knowledge of astronomy (to know when events take place) and geography so they would not get lost on the way. Islamic teaching in a way provided the impatience in order for one to understand these fields.

Islam by its nature is directed towards all of mankind as it is a universal faith. Muslims have the duty to carry the message of Islam to other parts of the world. Many Muslims felt this sense of duty acted both as merchants and inviters to Islam when they visited the different parts of the world. Some historians say that the first to write about China were Muslim geographers in as early as the 9th century. We narrated in a previous program how Prophet Muhammad (PBUH) encouraged people to learn and how he said to seek knowledge even if they have to travel to China. The Quran encourages people to walk in the expanse of the earth and try to learn and

explore. This of course was encouragement to try and explore the world around them. It is not an exaggeration to say that at least Muslims contributed a great deal to what lead to the discovery of the New World or the Americas if not preceding Columbus.

Host: Can you elaborate on the topic of the Americas and elaborate on it?

Jamal Badawi:

Ernest Renan a French author wrote in his book about Averroes in a book called Averroes and Averroisme where he mentions a letter written by Christopher Columbus in Haiti which dated October 1498. In this letter Columbus admits that one of the sources that lead him to theorize that the new world was the writing of Averroes. He considered this to be the impetus that encouraged him to seek this knowledge. Some authors however claim that it is quite possible that Muslims discovered the Americas before Columbus. In fact some tribes in Mexico had many Arabic words in their daily vocabulary and some believed that there were tribes in Mexico who spoke Arabic-which goes back to a Muslim background. Columbus himself admits that it was Muslim writing that lead him to the New World if not actually Muslims coming to the Americas before him. The least we can say is that the Muslims knew the earth was a sphere or round and that was quite crucial to how Columbus made his trip to the Americas.

Host: Is there any evidence that Muslims had been to America before Columbus? How far back did Muslims make the discovery that the earth is a sphere?

Jamal Badawi:

It appears that this took place before the 9th century. There are quotations in the Quran that imply that the earth is round. In the Quran (79:30) it talks about the earth and says “And the earth, moreover, hath He extended (to a wide expanse).” If we refer to the Arabic/English Lexicon by Edward W. Lane he indicates that daha (which is translated in the verse as extended) means threw, impelled or propelled. This is an interesting and might be a hint that the earth was part of a heavenly body that separated. When we talk about something like a stone that is propelled like a stone one can not be talking about something that is flat but would be talking about something that is more round.

In several verses the Quran says maddadnaha which is usually translated to spread. This is found (13:3), (15:19) and (50:7). All of these the term maddadnaha or madd is used. As Sheikh Metwali Sharawi indicates that these verses are clear

evidence that the earth is round because whether one goes to the North Pole, South Pole or Equator the earth will spread out before us. If the earth was a square or triangle or any other shape one would walk reach an edge and would fall but the fact that the Quran says that the earth spreads before us regardless of where we go means it is round or spheric. In the Quran in (36:37) "And a Sign for them is the Night: We withdraw therefrom the Day, and behold they are plunged in darkness." Uqawir is the word used in the Quran to describe the the withdraw of night from day and this word in Arabic means to wrap something around a ball. It also says that neither day nor night proceeds the other, which hints that day and night exist simultaneously. All of these are clear hints that the earth's base is round. Where these teachings were interpreted as such or influenced the thinking of Muslim scientists it suffices to say that in as early as the 9th century during the Caliph Al-Mamoon made a geodesic measurement (using astronomical principles) of the earth and he gave its circumference (notice the term circumference) at 24 thousand miles. First, he talks about the circumference and second the measurement he gave is very close and is just about a couple hundred miles off. We find according to Draper at the time when Europe was insisting that the world was flat, Muslims were already teaching their students geography using globes. The same conclusion was found by George Sarton (second volume, part one) he says "needless to say that all the Arabic (he means muslim) geographers believed in the sphericity of the earth." More explicitly we find in the writing of a great geographer by the name of Al Idrisi who lived in the 12th century who said "earth is round like a sphere and water adheres to it through a natural equilibrium which suffers no variations." This is amazing because it not only describes the earth as a sphere but he seemed to have an idea about gravity. Some Western historians say that it may not necessarily be Newton's

Host: Are there other notable contributions to Geography other than the discovery that the earth was round?

Jamal Badawi:

Yes, for example Al Mammon who also measured the circumference of the earth ordered the drawing of a very large map of the world. Al-Khwarismi a great mathematician from the ninth century wrote Surat Al-Ard or The Face of the Earth which contained several maps. In the 9th century a very important work was published under the name of Al Mamalik wa Al Masalik which means Roads and Provinces; according to George Sarton is an important source of historical topography. This book was translated till as late as the 19th century into French. Similarly is a book by Al Yaqoub in the 9th century which he called Kitab Al-Buldan which means The Book of Countries which according to Sarton was full of topographic and economic details. In the tenth century there were many other famous geographers and Sarton mentions nearly ten of them. The most famous of them was Al Masudi who is considered by Sarton to be the most famous geographer of all time. Sarton says that his work in geography can be regarded as an encyclopedia which is arranged in geographical order. For a long time afterwards the prominence of Muslim geographers was quite clear. Abd al Latif of the 12th century wrote a great

deal about topography. Al Idrisi who lived in the 12th century whom we mentioned before lived in Muslim Sicily and was good at cartography (drawing of maps). Al Yaquobi who wrote Kitab Al-Buldan which according to Sarton was an immense compilation of geographical facts listed in alphabetical order which includes works on physical geography, archeology and geography. Muslims also tapped into fields that some regard as relatively more advanced like mathematical geography. We find that in the 13th century a great Muslim geographer Abu Al Hasan Al Marrakushi wrote a book called Jami' al-mabadi' wa'l-ghayat which included among other things coordinates of 130 different places in the world. This shows an understanding of both mathematics and geography. To conclude George Sarton (in his second volume: part one) says that "no Medieval writer has taken equal pains to explain the scientific methods and instruments.

Host: What was the impact of Muslims on the field of Agriculture?

Jamal Badawi:

We find that Muslims were able to describe many different plants. An author, Ibn Al Awam, in the end of the 12th century was able to describe 585 different plants, to explain the cultivation of different plants (particularly fruits). Many people believe that the gardens of Spain and fruit trees of today owe a lot to Muslim civilization. As we mentioned before Islamic teachings were connected to this. For example Muslim scientists on their way to the Pilgrimage to Mecca studied a lot on the way. One of them was Abu Al Abbas Al Nabati. Nabati means botanist. He used to go around the coast of Africa and the Red Sea while on his way to Pilgrimage and collect valuable information about many different kinds of plants. They were able to apply this in a practical way in the area of irrigation. They excelled in the use of organic fertilizers and in fact they improved on the breed of cattle, they introduced the silk worm. According to John Draper many of the valuable fruits that we have in the West were introduced by Muslims who used to travel around and would take things from one place to the other. He mentioned that among those were peaches. Apricot was introduced to some places. Sicily was introduced to the sugar cane and rice. The introduction of bananas and flowers like Lilac, Jasmine, Tulips, Morning Glory and Roses were all introduced by Muslim to many different places. In fact in Spain during the Moorish Empire Muslims were able to make artificial lakes to raise fish for food. Agriculture is one of the greatest areas of contribution which not only benefited Muslims but also benefited various countries where they rule or settled for some time.

Host: What about progress in Industry?

Jamal Badawi:

Of course if there is development in all the above fields (Chemistry, Agriculture etc) one would expect parallel progress in industry too. Among the most important things were the manufacturing of fabrics. More particularly fabrics like silk, cotton, and leather. They were quite good in mining, metal work, glass manufacturing (in Syria)

and manufacturing steel (Damascus and Toledo). Many people remember Toledo Blades which were part of the Muslim effort. Because of their knowledge in Chemistry they were not only able to apply it to medicine but also to the extractions of inscents and he perfume of roses. Because of their great interest in learning they devoted lots of attention to the production of paper. Of course one would not expect to have great libraries and volumes without a local paper industry to go with it. It is narrated that the first factory to produce paper (paper mill) was established in Bagdad towards the end of the eighth century (794). Many historians also say ream (ream of paper) comes from the Spanish resma which is base of off the Arabic term rizma which means bundle. Rom Landau in his book Arab Contribution to Civilization gives an interesting story about how Muslims learned about printing and he says that during the conquest of Samarkand in 707 some of the war prisoners knew about printing so Muslims learned that from their war captives and started spreading the art of printing and paper manufacturing.

Host: What was the evolvement of the Muslim community in trade?

Jamal Badawi:

The invention of the mariner campus definitely reflected a great deal of interest in trade. Many of the terms that we use in commerce today come from Arabic terms. Tariff come s from tarifa. Makhazin is an Arabic word that means warehouses and in French it is magazine. Some historians say that in one occasion there were as many as 850 commercial Muslim vessels docked in the port of Canton in China at one time. This shows the huge commercial movement that was taking place at the time. Progress in trade and commerce covered a wide area all the way from the shores of India and China to Madagascar and the African coast, from the Black Sea to interior of Asia. There is no wonder that some books were written as early as the 10th century by Abu al-Qasim about the principles of trade and commerce.

As evidence of economic freedom we find that many people migrated from France to Muslim Spain because they would have more freedom under Muslim rule. Many people migrated from Italy to Muslim Sicily which was close by. One contemporary economist by the name of Camille Castorina wrote a paper which she presented in the sixth annual conference on the history of economics in the history of Illinois in Champaign in May of 1979. She mentions there that the subject has not been explored enough and there is evidence of Muslim strides in this area.

Host: Can you share with us what she found out?

Jamal Badawi:

She says that there was clear evidence that were quite advanced and that they had a very good system of banking. She mentioned coins that were found all the way from Scandinavia to Silone. She noted that one of the Kings of Merita (inner part of Britain) who had Gold coins that had the Muslim testimony (I bear witness that there is no God but Allah and Muhammad is the messenger of Allah) and on the other side it had his name Offa Rex. Banking among Muslims under their regime reached a level that was not attained in the West for several years afterwards. The term “check” comes from the term saak. She mentioned that there were cases of Muslims in the past who used very elaborate banking systems including letters of credit instead of carrying cash from one place to the other.

Summary of 8.10 "Muslim Contribution to Other Fields I"

In the tenth program we briefly looked into the contribution of Muslims in Geography and how that was encouraged by the various teachings of Islam like prayers, Pilgrimage and fasting which necessitated this. Even if Muslims did not come to the Americas before Columbus they at least contributed the use of the compass. We talked about the Muslim’s discovery of the earth being a sphere or round from as early as the 9th century. And that they very accurately measured the circumference of the earth which is very close to what we have today. We mentioned that their works and maps remained for many years the primary resources on the subject both in Europe and other parts of the world. We also looked briefly into other areas and the way Muslims introduced a variety of fruits and other plants to many different areas, the improvement of irrigation methods. In manufacturing we discussed the brilliance in various areas including textiles, leather as well as paper manufacturing which was related to the spread of science and learning. Finally, they developed trade and had very sophisticated banking system early on in history before the West knew about these various techniques.

8.11 Muslim Contribution to Other Fields II

Host: What are some of Muslim’s contribution to the areas of Political Science and Sociology?

Jamal Badawi:

In the field of Political Science we find that as early as the first part of the 10th century a famous writer by the name of Al Farabi wrote a book about the ideal city. As Haydar Bayat in Muslim Contribution to Civilization summarizes the book “he perceived a perfectly organized state as one which assures all its citizens of a perfect government and happiness after death.” On a more practical level a famous book, Al Akam Al Sultania, was written by Al Mawardi who lived in the late part of the 10th century and early 11th century. The title of his book roughly translates to The Book of Rules of Power in which Al Mawardi did not only concern himself with the

theory of Caliph and the system of government in Islam but he went beyond that to discuss the variety of political, social and legal institutions in that state and how they should operate in a correctly applied Islamic State.

In sociology perhaps the most famous sociologist is perhaps Ibn Khaldun who lived in the later part of the 14th century. Jack Risler in his book Arab Civilization which was written in French considers Ibn Khaldun to be one of the greatest historians of all time. His book was a sort of representation of the first time somebody wrote not only about history but philosophy of history. This combined comprehensiveness and philosophical reflections on history. For a long time before modern sociology developed we find that Ibn Khaldun made a careful study of human society, how it evolved and what explanations there are for the progress of history. In his book Al Muqaddimah one can find deep reflections on history, some examination of civilization, how the different types of living (nomadic or city life) effected the thinking and attitudes of people, how it effected the industries and learning that might be more prominent in a given civilization. Many writers refer to him as the father of economics too because in the area of economics long before Adam Smith he said that the State should act as a trader. This means that whatever revenue the government gets by way of taxation should be put back in circulation as soon as possible. He also advocated the lowering of taxes and making it reasonable and moderate in order to encourage the individual incentive for productivity, to encourage entrepreneurial activities. He also discussed different monopolies and what the role of government which sounds like modern economics. One of his interesting remarks is that the wealth of the nation is really basically human resources. The modern term is management of human resources. He was really amazing in terms of the philosophical reflections that he made which would relate both to philosophy of history and to the question of sociology. It is no wonder that I recollect reading a statement by the famous British Historian, Arnold Toynbee, that perhaps Ibn Khaldun is the greatest historian that ever lived.

Host: Can you expand more to the contributions that were made by Muslims towards the field of History?

Jamal Badawi:

Contribution does not begin with Ibn Khaldun, I just mentioned him because of his philosophy of history type of influence. In the early 8th century we find many historians who excel like Urwah Ibn Zubair, Wahb Ibn Munabbih and the famous historian Ibn Ishaq who wrote about the life of Prophet Muhammad (PBUH). Many of these historians seemed to be more interested in the preservation and recording of facts and events without the application of too much interpretation or judgement an attitude that emerged later on among Western Historians. However this is too much of a generalization because many of the Muslim Historians also showed a great deal of critical judgement in their approach. Among the most famous Historians in Islamic Literature are people like Al Tabari who lived in the later part of the 9th century and who wrote a universal chronicle which is regarded as a most brilliant work. Al

Masudi (also during the 9th century) who was both a geographer and a historian and wrote a vast work Akhbar al Zaman which means History of the World which was composed of 20 large volumes which were unfortunately lost and ruined. Ibn Miskawayh who lived in the later part of the 10th century brought about The Experience of Nations and his attention was directed to the political, philosophical and economic problems of people. Among the most famous also works which is still available is that of Ibn Al Atheer who lived in the first half of the 13th century. He wrote a universal chronicle of the world, covering from the beginning of creation till the his own time. According to George Sarton Ibn Al Atheer one of the best historians of the Middle Ages. He describes him to be far ahead of his contemporaries. Al Makary who died in the 17th century wrote extensively about Muslims in Muslim Spain and the intense intellectual activities and day to day life during this period. These are only a few examples of the magnitude of the contributions to this field. The science of biography was introduced by Muslims through their meticulous research and verification of the sayings of the Prophet (PBUH).

Host: Could you comment on the contributions in the area of Architecture?

Jamal Badawi:

In the area of art and architecture there is a combination of diversity and unity. With the vastness of the Muslim world and the variety of Muslim countries with all the backgrounds and cultures one will see diversity. This shows that Muslims did not go to destroy preexisting cultures but rather to cause a kind of fusion and to purify them from things that are contrary to the teachings of Islam. However it is also important to notice there is a unity in art and architecture where ever one goes which is definitely influenced by Islam. Unfortunately, many of these monuments have been totally destroyed. For example in Bagdad which is now in Iraq after the Mongolian invasion many of these monuments were totally destroyed in 1258. In Spain the city of Al Zahra was completely whipped out and there is no trace of it. We can see the reflection of great progress in architecture in Alhambra Spain and Alcazar Seville. Architecture moved to Europe through a variety of ways. It went through Spain, through Sicily to Italy and it penetrated France through Septimania because Muslims reached France and ruled for quite some time. We can still find remains of the Mosaic from the Islamic pattern which is found in many Churches in Airon a Provence in mid France. The effect of the design of the Mosque of Cordoba in Spain seems to have had a great influence on the Notre Dame Du Puy and the various architectural arches such as the trefoil arch and horseshoe arches which are all analogous to the design that is found in Cordoba Mosque. It is said that on one of the doors of the Cathedral of Puy there are Arabic inscription that say Masha Allah which means it is the will of God.

Even in the British Museum there is an Irish Cross that dates back to the 9th century and ironically in the middle of it it says Bismi Allah (in the name of Allah). It is

interesting that even in religious objects the influence of Islamic art and architecture manifests itself.

Host: It is sometimes claimed that when Muslims conquered Egypt they were responsible for burning the famous library in Alexandria, is there any truth to this?

Jamal Badawi:

No not really, this is an old story that many historians feel doesn't have much credibility neither from historical grounds nor from logical grounds. For example George Sarton in his Introduction to the History of Science says (Volume 1 Pg.466) "this story is entirely unproved. The first mention of it occurs only after an interval of six centuries after the alleged burning. In the account of Egypt written by Abd Al Latif, in the first half of the 13th century, moreover to prove that Muslims destroyed that library it would be necessary first to prove that it still existed in the 7th century and this is very doubtful. It is very probable that a good part of it had been destroyed by the Christians many centuries before." There are lots of additional evidence that historically this is not correct but what gives credence to the doubt is that logically speaking why would Muslims do that when we have seen immense interest in learning that took place over hundreds of years. There was much respect accorded to science, learning and scientists which included as is found in many references written by non-Muslims the kind of tolerance that was shown to scientists from all walks of life and from all religious backgrounds by the Muslims. They found refuge and protection under Islamic rule and in fact the library was where the jewels of Islamic Civilization was benefited from.

Host: Can you give us a description of those libraries?

Jamal Badawi:

They had two types of libraries: private and public. The private libraries were common and widespread. Many historians said that there was hardly any famous scientist or scholar who did not have his own personal library. Some of them had thousands of volumes in their libraries. Public libraries were mostly attached to mosques or big schools. If we look at the descriptions it is actually very difficult to distinguish between them and today's library. They actually had something extra that we do not find even in today's libraries. They had different rooms or halls which were each allocated for one subject. They had shelves on the wall where the books were placed. They had special rooms for reading, rooms for copying (full time people would be there making more copies of the references). They had rooms allocated for food and places for sleeping especially for scholars who traveled from far away places in

order to use the library. Charities were paid to these institutions in order to sustain them and to help students of learning who may not be able to afford food and accommodations. This is something that we do not find today. Many historians say that in many of these libraries there were free supplies of ink, paper and pens. Some of these libraries were so huge that even by today's criteria, where printing has become so popular and wide spread, they were still quite huge. In Dar al-Hikmah Library in Cairo during the days of Al Hakim bi Amr Allah in the early part of the 11th century it is said that it had 1.6 million volumes. In Bait Al Hikmah in Baghdad there was also a huge library as well. In the library of Al Hakam in Andalusia or Muslim Spain there was something like .4 million volumes. In the Bani Ammar Library in Tripoli which is now in Lebanon had as many as 1 million volumes and 180 copyists.

Host: What has happened to these massive volumes of books?

Jamal Badawi:

Well unfortunately most of these treasures were either lost or ruined. Sometimes we hear about great works only by their titles as they are referred to in other secondary references. There may be a few cases where some of the reasons for partial losses might have been because of internal problems within the Muslim community itself. By far the greatest and most major losses of these treasures came because of external forces. Just to give a few examples of this when Hulagu and the Mongols attacked Baghdad which was a most savage attack. They threw enough books in the Tigris river that made the river overflow over a bridge where nights used to ride over. Historians say that for quite a long time the Tigris river was blackened by the amount of ink that were in the books that were dumped in the river. Similarly during the crusades in Syria it is estimated that no less than 3 million volumes were destroyed by the crusaders. In Andalusia or Muslim Spain after the defeat of the Muslims in Granada it is said that nearly one million volumes were burned in one day by some religious fanatics who could not appreciate the sciences and knowledge that they could have benefited from. There are also some narratives that in Sicily a Cardinal by the name of Simons (15th century) in one day burned 80,000 volumes in a public square of Francavilla. Ironically like Castorina mentions in her paper this was about the same time when Columbus set to discover the Americas using Muslim Calculations and the Muslim Compass. Unfortunately, a great deal has been lost but we still have quite a few that remain.

Host: The evidence we discussed in the last two programs shows an remarkable contributions that Muslims have made to science. Why isn't more of this information not more widely known? Why are inventions and discoveries that have been made by Muslims been attributed to others?

Jamal Badawi:

There could be all kinds of reasons. I am not going to address deliberate attempts to falsify facts of history, the cases where propaganda and media try to represent Islam as a nomadic religion which is only fit for people of the desert and that following

Islam means one has to back track to the Middle Ages and live like the Europeans did in those times. The motives vary as some were Colonial, some were missionary and some were atheistic.

Sarton mentions that when the West matured enough to begin the Renaissance and to seek more knowledge they followed three steps: one to acquire Muslim knowledge, second to translate it from Arabic (the language of science and civilization) to other European languages and in this stage sometimes concealment took place and sometimes the works of Muslims were attributed to the translator, third the knowledge was incorporated into European resources. Many times the person who translated the information was dealt with as if he were the author of these works. This is where things may have happened deliberately or simply because of mistakes in the transmission. John Draper mentions in the History of the Intellectual Development of Europe that sometimes fanaticism might be responsible for this concealment. A quote (Volume 2:Page 42) "I have to deplore the systematic manner in which the literature of Europe has contrived to put out of site our scientific obligations to the Muhammadans (Muslims). Surely they can not be much longer hidden. Injustice founded on religious ranker, and national conceit can not be perpetuated forever." I can not say that all writers were bias as Sarton mentioned that for three hundred and fifty years whenever he deals with one half century (seven periods) he says this is the time of whichever scientist was most prominent and he mentioned Muslims names. So for six hundred and fifty years there was either exclusive prominence or shared prominence.

Host: What are the implications of this review of contributions?

Jamal Badawi:

Muslims should not boast this, or have the attitude that their ancestors contributed so they don't have to make any contributions now. I think the main point is to show in a factual way how the teaching of the Quran really did provide the impetus and inducement for progress in all areas and to show that the decline of Muslims in later centuries which is just beginning to change gradually now is not because of Islam but because Muslims were not truly faithful. For non-Muslims it may help to provide some appreciation and mutual respect to rise above all of this phantasms and perhaps develop a world where both sides can live together, benefit each other and contribute to a more humane civilization.

8.12 Prohibitions of Riba (Interest) I

Host: Are there specific measures that can be used to help maintain productivity?

Jamal Badawi:

Islam's respect for the right of private ownership is part of inducing production and productivity as it responds to people's instinctive need to possess something and try to invest in things and to make them grow. The inducement that Islam provides for one to work teaches against laziness, its respect for all types of honorable labor manual or otherwise which is one aspect of inducing productivity. The ideological or orientation of a Muslim of being productive is in fulfillment of his responsibility before God above all in addition to the responsibility to humanity and their welfare in general. In addition we find that Islam has taken more specific measures in the area of production, productivity to make sure that resources are properly utilized which includes teachings that pertain to land use, prohibition of interest and the system of Zakah (charity) are all factors that seem to work in harmony with the previous measures that we discussed before.

Host: How does Islam deal with land use?

Jamal Badawi:

It gives the government the right to dispose of "Crown Land" which is owned by the government and to give it to individuals who are going to make better use of it. This again encourages proper use of the land. Second is on the authority of the teachings of Prophet Muhammad (PBUH) as narrated in Abu Dawood is to induce people to reform land which is barren in order to reform it and work on it. The Prophet (PBUH) says that if a person comes upon a piece of land, which is not useable and makes it usable then the land is his. Of course the conditions are that this land should not already be owned by someone else, in doing so the principle of equal opportunity for all should be open so that one person doesn't take the entire country and reforms it but others must be given that chance as well. Of course a third condition is that if a person in Islamic Law reformed this land but doesn't use for three years he may lose the right to it. So the person in this case has up to three years to use the land and to make it productive if they don't then it can be given to someone else which can prevent resources from being idle. Third, in land which is not reformed, Prophet Muhammad (PBUH) said that if one of you has any piece of land he should either cultivate it or if he is not able to he should give it to someone who is able to cultivate it. Again this is not a matter of charity but is an overall benefit to society. Fourth, even a person doesn't do it for purely charitable basis one can do Muzara'a which is a type of partnership where if one is not able to use the land or lacks the skill one can agree with someone else to work on the land while you contribute to the cost of cultivation while agreeing to some kind of crop sharing after the harvest. These are

all measures to keep the land in proper use which be thought of as a very advanced or modern measures but in fact 1400 years ago these we inshrined in Islamic teachings.

Host: The prohibition of interest in Islam is not contrary to productivity, the common notion in the West is that it is impossible to conduct any type of meaning full economic life without the use of interest?

Jamal Badawi:

This statement is very common but to my humble understanding it is a common myth. We have seen in previous programs unequivocal evidence as to how Islamic civilization and progress has flourished in different parts of the world under different cultures and different circumstances for hundreds of years. We have seen great advancement not only in science but in agriculture, industry, trade and commerce which were all based on non-interest situations. It is interesting to note that during the Caliphate of Omar bin Abdul Aziz about 90 years after Prophet Muhammad (PBUH) that when they collected the charity from North Africa they did not find enough poor people who were in need of that charity. In a previous program we said that the command of the Caliph was to use this money to buy slaves and set them free. Where do we find this in the 20th century? Is there any advanced country in the world with such a prosperous and affluent economy that it can not find enough people in need of charity or are in need? In fact the contrary is true as we find problems with the available funds for social security and the inability to meet the needs of those in need. This is irrefutable evidence that one can have a flourishing economy without resorting to interest. Is there any reason why we should not have a partnership, participation in profit and loss on equal grounds without interest? That is the question, why is interest an absolute necessity. From the Islamic standpoint interest is not an acceptable alternative to establishing a flourishing economy.

Host: It is not only Islam that is against Interest or are there other religions that are against Interest?

Jamal Badawi:

Yes, in fact for most people who are familiar with the Bible in the book of Deuteronomy 23:20-21 we find that the Israelite is not supposed to collect interest on loans to another Jew. The principle is there even though it seems to imply that one can take interest from a Gentile but in the case of Islam the prohibition applies to both Muslim and non-Muslim. In the book of Matthew 21:12-13 we are told about when Prophet Jesus (PBUH) went to Jerusalem, entered the temple he turned over the tables of the money changers and he accused them of turning the temple of God into a "den of thieves." During the Reformation Movement we find that Luther called upon

Christians to go back to the original teaching of the Bible and to prohibit interest. He wrote a booklet on the subject and he considered it unlawful and contrary to the Will of God and contrary to reason to deal in interest. In some philosophies people like Aristotle for example remarked that “unlike animals, animals can beget animals, but money can not beget money.” In other words money should only be regarded as a measure of value but money is not a commodity itself. Notice that some of these views preceded Islam and some came after it. The idea of the prohibition of interest is not unique. It is a basic moral or ethical law that is found throughout history.

Host: What is the authority for the prohibition of interest in Islam?

Jamal Badawi:

It is based on the Quran, Prophetic Traditions and the consensus of learned jurists throughout Islamic history. First, the prohibition here is not just between Muslims but applies to everybody because whatever is regarded as inequitable and unjust is applicable to Muslims and non-Muslims from an Islamic standpoint. The Quran in (4:161) indicates that one of the inequities of the Israelites is that they took usury and where they were forbidden from taking it. This is a kind of warning to Muslims not to follow the same kind of violation. In the Quran (30:39) which is a Makki chapter which was revealed before an Islamic State was established in Madinah which prohibits of usury which would not be accepted by God or rewarded by Him. In (3:130-131) it makes an analogy between avoiding usury and avoiding hell fire. Perhaps one of the most traumatic verses in the Quran about usury is (2:279) “O ye who believe! Fear Allah, and give up what remains of your demand for usury, if ye are indeed believers. If ye do it not, Take notice of war from Allah and His Messenger. But if ye turn back, ye shall have your capital sums: Deal not unjustly, and ye shall not be dealt with unjustly.” This makes it clear that usury is great evil and that one should keep away from it. Unfortunately, in our day and age the wide spread of usury makes it easy for us to look at it lightly and to take it as something acceptable. The same kind of principles were echoed in Prophetic Traditions and are narrated in Muslim, Ahmad, Abu Dawood and Al Tirmithi in which the Prophet says that the curse of God would be on usury the people who take it, people who give it, the people who write usury contract or witness this kind of contract. This shows that any participation in promoting interest is forbidden for the Muslim. The same picture were mentioned by Prophet as the scenes that he saw on the Night of Ascension and how those people received terrible punishment. Perhaps one of the things that relates to us being so accustomed to usury is a Prophetic tradition narrated in Ahmad where he says that there will come a time when people will deal in usury. So the companions asked the Prophet if everybody would deal with it and he said even those who are not directly dealing with usury will still be touched by it. This is where we are at today, and usury is so widespread even though it is neither necessary or right from the point of view Islamic Law.

Host: Some people justify interest why do they do this? What is the difference between usury and interest? Some people say that usury is different from interest.

Jamal Badawi:

Some one who goes to the translation of the meaning of the Quran in English, goes to the dictionary and finds the meaning of the word and treats the meaning as if it were the original revelation. As we know the Quran is revealed in Arabic. It is true that if we check the English dictionary we find that the term usury means excessive interest and this means modest interest is different. This is however the translation in English and the Quran was not revealed in English. The Arabic term is Riba which does not mean excessive usury. Riba in Arabic simply means anything in excess. This means anything in excess of the principle or capital whether it is a small, unfair it is still Riba and interest. From the Arabic standpoint and the language from which the Quran was revealed this distinction is not valid. From the practical point of view it does not make much of a difference because based on the Arabic definition whether the increment is small or big it is still regarded as Riba. In Islam interest is forbidden regardless of magnitude. In fact Prophet Muhammad (PBUH) did warn Muslims that towards later days people would do the things which are unlawful but give it different names. This is found in interest as we find indecency and lack of proper cover and nudity is called art, intoxicants that destroy the person's mind and health is sometimes called Spirits as if it is spiritual to drink or take drugs, and thus usury which is regarded to be wrong from an ethical point of view is given a different name "interest" which really has no difference.

Host: One verse in the Quran speaks only of excessive interest, does this imply that reasonable interest is satisfactory?

Jamal Badawi:

First we have to refer to this verse. The verse that is usually cited to support this view is in (3:130) "O ye who believe! Devour not usury, doubled and multiplied; but fear Allah, that ye may (really) prosper." So people say that this means doubled and multiplied is unlawful and that if it is reasonable that it is not unlawful. What they forget here is that if they refer to the terminology used in the Quran it says do not devour usury it doesn't say do not devour the principle. And usury can easily be multiplied twice, thrice and multiple times. If one is paying 7% interest and one has a loan for five years and one is not making any payments till the end of the five years the interest is multiplied five times because one is paying 7% a year. So if one looks only at the additional amount it is multiplied many times. Furthermore if it is monthly it may sound modest if one looks at it as a percent per month but then next month it will double and by the end of the year it will be 12 times as much. This meets the criteria that it is multiplied so many times. In terms of long term investment when

people buy homes at 8% or 10% interest rate one can figure out how much they would be paying for it by the end of the loan which would be at least two to three times the original value of the house. In this case the principle value is multiplied. Basically, when the Quran uses the terms doubled and multiplied it is not a condition for what is forbidden but a description of a bad state of affairs. If someone says brutal murder is wrong it doesn't mean that if the murder was not brutal that it is not wrong. It is simply that one is making murder look terrible but other types of murder which are not too brutal are allowed. In addition why would one pick out this specific verse and interpret it to mean something that it doesn't mean while leaving all the other conclusive texts in the Quran and the Prophetic Tradition which do not make a distinction between the amount of interest?

Host: What about those who claim that interest dealings are a form of business just like any other kind of commercial dealing and as such should not be subject to any prohibition?

Jamal Badawi:

In fact the Quran deals with this in (2:275) "Those who devour usury will not stand except as stand one whom the Evil one by his touch hath driven to madness. That is because they say: "Trade is like usury," but Allah hath permitted trade and forbidden usury. Those who after receiving direction from their Lord, desist, shall be pardoned for the past; their case is for Allah (to judge); but those who repeat (The offense) are companions of the Fire: They will abide therein (for ever)." This kind of analogy was made in the past. In addition to the response in terms of the text of the Quran, economically speaking there seems to be a mix between money and capital and some people use the term money and capital interchangeably which is not true. Money can be used to buy so many things (services, goods or equipment); so to say that money and capital are synonymous is wrong. As we indicated earlier money is not a commodity but a measure of value. If that money is converted to the form machinery, assets or other equipment then one deserves to receive income. This income varies and is not fixed depending on the type of contribution that one's assets add to the profitability of any particular enterprise. The two are not necessarily synonymous.

Host: Some claim that Islam only prohibits the charging of interest on consumption loans, is there any basis to this claim?

Jamal Badawi:

There is no basis for this either. There are a number of reasons for this statement. First, the meaning of the word Riba means increment whether this applies to consumption loans or production loans. Those who say that claim that the Arabs

before Islam (even though it was not only revealed for them) was that people should not charge interest to people who borrow because they are needy and because they want to eat. What they seem to forget is that the life of the Arabs before Islam was a very simple life. An Arab at that time did not borrow to buy the latest car model or a colored T.V. or a video recorder or anything of that sort but they lived simply, ate dates and bread (which was luxury item) and they drank milk from their goats. It is very difficult to say that the Arabs before Islam borrowed all to buy dates or goat milk. This is not logical at all. What is more logical perhaps is that Mecca, Madinah and Al Taif (a nearby city) were commercial cities and Prophet Muhammad (PBUH) in his farewell speech made it very clear that all kinds of usury is forbidden and one of them is the usury that was charged by his uncle Al Abbass. Historically, the uncle of the Prophet was not someone who borrowed to buy dates or goat milk but was a reasonably rich person who used to provide free food for the Pilgrims and he was a merchant. The loans that the Prophet was talking about were production loans that were used in commerce and trade. The fact that some of the verses in the Quran speak about the prevention of interest doesn't mean that interest is only forbidden in the case of a loan because charity in Islam is to avoid things that are forbidden. The Prophet says to smile in the face of one's brother is charity.

Summary of 8.12 "Prohibitions of Riba (Interest) I"

The previous program continued the broad topic of production and productivity in Islam. After going through many program which showed Muslim's attitude towards science and technology. We touched on some of the specific measures in an ideal economic system where there is a great deal of incentive or inducement for productivity. We said that this could be done in a variety of ways. One was land use and we indicated how Islam encourages reformation of land and to make use of it. The condition for keeping the land was to make it productive and useful to the community at large. Secondly, we began discussing the prohibition of interest in Islam as one of the things which induces productivity rather than curtail it. We started by saying that it is a myth to consider interest to be a precondition to any type of advancement in the economic system. We started looking at it from the point of view of Islamic Law and how it is clearly and unequivocally forbidden for the Muslim in the Quran and the Prophetic Tradition. We indicated that Islam was not the only faith which prohibited interest or usury. We also indicated that this prohibition is not restricted to excessive interest but any interest small or large. We indicated what the false analogies are that people make between trade and interest and we indicated why these are not exactly the same. Finally we said that the prohibition is not only in the matter of consumption loans but also in production loans because this kind of interest was already known and used when the Quran was revealed.

8.13 Prohibitions of Riba "Interest" II

Host: What are the types of interest which were prevalent in pre-Islamic days?

Jamal Badawi:

Muslim jurists and historians divide them into two broad categories. One category of interest dealing that was prominent in the pre-Islamic days is called Riba al Nassia which means, as explained by Ahmad and Fakhr al Razi, is someone lending you an amount of money for a given term and when the term comes and one is not able to pay the lender says he will delay the loan for another year but one has to pay an extra amount. Similarly, if I sell you one item and say it is worth \$1000 and you don't pay it in the specified time so I say that I will delay the payment due date for a few months but that you have to pay me 10% extra. This type of interest is clearly and unequivocally prohibited in Islam. The second major category is called Riba al Buu'e which relates to the exchange of commodities or buying and selling. The most objectionable type which is analogous to the first case, which is absolutely prohibited, where one exchanges on commodity for another. For example I give you a certain amount of wheat and ask that when you return it you give me more and we are assuming the the items are of the same quality. This has lead to some confusion in the minds of some jurists. Some say that this is not as clear cut as the lending of money. Some even refer to a saying of the Prophet which emphasized the first type of interest but not this one. Some, but not many, including Ibn Abbas said that this type is not as clearly forbidden as the first one. However the great majority of Muslim Jurists feel that there is not much substantial difference between the two because as the Prophet indicated in one saying narrated in Bukhari and Mulsim when he talked about the exchange of commodities he insisted that it should be equal and anyone who asks for more is committing Riba. The other reason why I feel the majority opinion is more than justified is that if we open the door to some of it being permissible and some not people will open a back door to go around the law. For example if one wanted to avoid interest and wanted to borrow \$1000 all I can do to beat the system is to buy 2 ounces of gold and lend it to you and when you pay it back you give me 2.5 ounces. This is playing tricks and instead of lending you money I am lending you gold and asking for more gold later on. This is why the Prophet said exchange must be of the same amount if it is the same type of quality. The question may arise if one wants to exchange a commodity of different quality. For example if I have a higher grade of wheat and you have a lesser grade of wheat then when we exchange these commodities what will happen? The solution is clear as the Prophet recommended. In order to avoid any doubt or any backdoors the best way would be to sell the good quality wheat and then one can turn around and buy the lesser quality wheat. Money here is used as the medium of exchange which would allow for justice and equity.

Host: Some jurists take a more lenient view for the use of interest, why is this?

Jamal Badawi:

We are not going to discuss the point of political pressure put on some jurists to give the verdict that their particular oppressive government may demand. This may be the case in some situations. Even if we assume good intention and lack of pressure, I think as Prophet Muhammad (PBUH) indicated that his Ummah will never have a unanimous view on things that are wrong. So there may be some humans who slip or make mistakes here and there even with good intentions but not the majority. Some leniency may be the result of some jurists who may be well trained in Islamic Law and Teachings but they may lack reasonable understanding of economics and how the economic system operates. If we go to a jurist like that and one tells him that it is impossible for our country to progress if they strictly follow the rules of interest and if he gets the impression that it is impossible then he may use the rule in Islamic Law that allows for things if one is forced. This assumption is wrong in itself which were all discussed by Sheikh Abu Zahra. Again there is no reason why interest should be absolutely necessary for an economic system. There are better alternatives to interest. Some people may say that if one doesn't take interest one's money would be idle and lose value. No one said that Islam agrees with leaving money idle. It is not the idea of investing the money and getting income from it but rather how one invests it and whether there is sharing in profit and loss or a set interest. Even among the rare jurists who may have taken a lenient attitude towards interest after expressing their opinion got strong rebuttals from other jurists and realized their mistake and kept quiet and did not argue their side which is equal to withdrawing their position. In a relatively more recent case a person who published this view, particularly savings in the post office, it was reported that before his death he reversed his position on the topic. An honest Muslim would not try to seek a mistake by a jurist and take it while fully knowing that it is not right. One has to look into the evidence and into the fact that it has been strongly rejected by the strong majority of jurists. It is quite impossible that God would forbid us from something that is absolutely essential for our lives (example: if God tells us not to eat). It is then impossible that the command not to deal with interest would contradict with basic survival and needs of human beings.

Host: Why has Islam prohibited interest?

Jamal Badawi:

The Prohibition of interest in Islam is unequivocal there are no ifs ands or buts. If God knows our needs as humans and who reveals these teachings for the overall welfare of the individual, society and the world at large has forbidden this then there must be an awfully good reason even if we can not find them. First of all, the attitude of taking and giving interest is an activity which seems to reduce the feelings of compassion and sharing in society and tend to foster the attitude of greed and even exploitation. Someone may ask what about loans used for production? First, when an economic system is largely based on interest one will end up having a few individuals or institutions who have tremendous or disproportionate power. These are the ones who control loans and money. These individuals who are in control would not be motivated to be productive with their money in ways that benefit society because their

wealth is already made. In this case they can be idol and just let money beget money which should not be the case which causes them to become disproportionately rich. When a few individuals get to this point it spills into the political system because industrial complexities and would exert political pressure to guaranty the protection of their particular interest. This can lead to political corruption. Second, as a principle that is both ethical and practical called “Alghulm bil Ghurum” which means if a person is subjected to profit they should also be subjected to the possibility of loss. If a person can get large profit he should also be prepared to accept low profit depending on the achievement of the particular venture or enterprise. The ethical and practical side is not found when dealing with interest because when money is lent out the interest guaranties this amount regardless of the profit the enterprise makes and if it looses one must still get paid and if there is profit one does not get more profit. This is contrary to Islamic philosophy that people should equally share in profit and loss. The other aspect that relates to a verse in (2:275) which likens those who deal in interest as one who is touched by Satan. The possible translation of this could be the psychological torment and anxiety that people who deal with interest are subjected to. Anyone who has a house and their mortgage when up for renewal and how they were anxious about their interest rates going up. Many companies go bankrupt because the creditors are not willing to give them a chance. When one lends money to companies they don't care what happens to the company because all you are concerned about is getting your loan back plus the interest that has accumulated. In this case if a company runs into some difficulty and if you are a share holder you wait to see what happens, if you are a creditor you don't care how much damage happens to society and who gets his slip as a result of this and how much losses the company incurs when they sell their assets at very low prices so long as you get your money back. This again creates this difficulty and may be responsible for many cases of bankruptcy of viable enterprises which if were based on equal sharing of profit and loss could have survived and weathered the difficult period. Another aspect is that when loans are made available this way one will feel like they can take any loan they want if they are willing to pay the interest (exuberant or small as it may be). This may be an excess on expenditure on the part of the consumer. Many people do not behave wisely because they know they can get the loan. Many economists refer to this fact and how people are up to their ears in debt. The ease of money availability may cause people to make unwise decisions in consumption. Furthermore, when one has a few people controlling wealth, if they need money they borrow it from others, and others have no control as to the way the business is run; we find that there causes disproportionate power flow to fewer institutions which is no a very democratic approach. The point is that beside all of these difficulties and there are definitely better alternatives.

Host: What is the difference between interest and partnership?

Jamal Badawi:

There are two basic differences. First, when one gives something by way of a loan one is guarantied the interest payment plus the principle without participating in profit and lose. In a partnership one equally participates in profit and loss. If a company makes 20% profit one makes 20%, if they make 5% one makes 5%, if the company

has no prophets one makes no prophet and if the company has a 2% loss you will have a 2% loss. This is essentially different from a loan even if they lose they still have to pay principle plus the interest.

The second difference is that the control of the destiny of society is skewed. If one lends money he has no control whatsoever. If one has a share which is a form of partnership one has the right to be elected to the board of directors and in a sense the person shares in the decision making process. This can be called industrial democracy or production democracy which produces sharing instead of putting power in a few people's hand. There is a larger base in very crucial decisions which effect the community. Loans with interest are not the same as a partnership.

Host: Since Islam doesn't encourage money to be sitting idle but given the prohibition on interest what are the alternatives?

Jamal Badawi:

Some people give the false impression that because Islam prohibits interest that it is against development and that everyone should keep their money which is a false notion. First, Islam encourages trade. The verse we cited in the previous program said that God made trade permissible and lawful. A person can invest on his own and if he does not have the capacity or enough funds he can opt for partnerships where they share in profit and loss. Third which some may call a sleeping partnership which is when a person has access to money but doesn't have the skill to participate in the venture. This type of partnership is known as Kirad, which is when one agrees to contribute capital while the other partner contributes support and expertise and profit and loss percentages are agreed upon. There is nothing wrong because the profit and loss is shared by both and there is equity in the distribution of income. If this is not possible Islam is not against buying shares but as long as they are common shares and not preferred shares. Also the shares have to be in companies that are not prohibited like companies that make wine or deal in interest as their basic business. So shares in the smallest amount can allow one to be a partner in a company. If one wants to invest in something that is more liquid there are mutual funds or investment banks. These banks or institutions collect money from people who want to invest and then invest it in lawful investments that Islam allows and at the end of the year they share in the profit of the investments. This allows for entry and exit of different investors. In fact in some countries cooperatives have been operating very successfully especially with farmers being providing them with capital needed for production, looking after the sales to avoid exuberant charges by middle persons and then deduct items such as seeds, rental equipment and so on. There are a variety of ways by which investments can be made.

Host: Some claim that interest is better than the alternative that you suggest because it gives people allot more flexibility at different degrees of risk?

Jamal Badawi:

Suppose one doesn't want to take any risk at all one can save some money. Suppose one wants to take a small degree of risk one can buy shares in companies that do not give high returns but is reliable and might have a modest appreciation. If one is interested in high degrees of risk plus gain or lose 25% one can buy from a company that is a high risk company. If one wants a combination one can have a mixed portfolio.

Summary of 8.13 "Prohibitions of Riba (Interest) II"

In the previous program we described the two different types of interest that were common before Islam. We said that one was clearly prohibited in Islam and the other many jurists believe to be prohibited by analogy. We discussed the rare opinions of those who made an error in the interpretation of the prohibition of interest. We indicated that some of these people kept quite or changed their mind after the majority of jurists pointed out the difficulty with their interpretation. We discussed the reasons behind the prohibition of interest dealings in a purely Islamic society. We discussed some of the harms caused by interest dealing as it effects the character of the individual, that nature of society, the social structure, the political process and in some cases it causes economic harm. We made the distinction between taking a loan with interest verses partnerships which is different because partnerships share in profit and loss. We clarified that dealing with interest is not an imperative in order to establish an economic system. There are so many acceptable (within Islamic legislation) alternatives which include things like buying common stocks, mutual funds, partnerships and a variety of ways to invest which meet the needs of different people depending on the term of investment they want and the degree of risk they wish to take.

8.14 Prohibitions of Riba "Interest" III/Distribution

Host: Even though there are alternatives the elimination of interest reduces those alternatives by one; how do you respond to that?

Jamal Badawi:

I had a discussion with a colleagues and economist at St. Mary's University and his basic argument is that when we speak in economics about maximization and we have to explore all possible options and then determine what maximizes one's benefit. He said that if an individual in his own thought feels that dealing in interest maximizes his benefits then by prohibiting it one is arbitrarily restricting those alternatives and as such not achieving maximization. My response was that in a purely economic system it is not a matter of a dictator or ruler saying that no one is going to deal in interest. This is a matter which is based on the teachings of God and the conviction of members of that community or society that interest dealing is contrary to Islam and the will of God and if we take the individual as the judge for maximization then the individual in that community will not consider interest to be an alternative and as such there is no problem with maximization. So in this case interest is outside of their range by their own commitment and there is no problem with maximization and efficiency and he agreed.

Even maximization which looks like an attractive concept we must remember that maximization is not ideal in everything. For example in teaching in the area of union management relations if a union maximizes its gain regardless of managements ability to pay they might cause management to go bankrupt and they would lose their jobs. If management maximizes their benefit by giving very low wages they might lose their skilled workers. In the long term they are the losers. Maximization is not always the ideal situation for everything. Maximization is not purely mathematical or economic because it can not be divorced from values and possible harms and benefits to society. A person can maximize his wealth by theft, cheating or extortion. So maximization is not something to be worshiped and must be considered in the light of the total benefit of society.

Host: Why is it ethically wrong to get guaranteed interest but it is ok to get guaranteed wage or gallery regardless of the employers gains or losses?

Jamal Badawi:

A colleague of mine in the of management who has an interest in the area of profit sharing also raised this issue. If one is going to say that it is ethically wrong to take interest regardless of profit or loss why is not unethical for you to take a specific wage without knowing if the company is going to gain or lose. If one is going to pursue this and mix between borrowing and hiring labor as a factor of production one is going to make chaos in society. The same thing applies to buying power: why should one pay the power company a given rate before waiting to see if the company is making profit and then in view of that profit determine what you should pay the power company. The difficulty here aside from the fact that it is totally unpractical to apply it in these areas is that when we talk about investment the money is not a factor of production. The money can not produce products or services but is only a medium and measure of value. It is only when equipment is bought with this money when one can start getting concrete out of production. Whereas labor is a concrete contribution to the productive process. When one buys labor one is buying units of effort at the going price or buying units of power at the going rate. One does not say I will pay you when I find out if I am making profit. This is the kind of risk that is taken in

business. This is not much different from getting a share because of your contribution to capital. Even the notion of tying payment of labor wages and salary to profit is also possible under two circumstances. One is the sleeping partnership where one contributes capital and the other contributes labor and then each gets a percentage of the profit. A second possibility is a scheme of profit sharing where one is paid a certain minimum salary but in addition to that one gets a bonus depending on how well the company does. This is something that is gaining popularity and would help bring about a degree of justice and equity in wage payments.

Host: In an Islamic Economic System would there be any banking institutions?

Jamal Badawi:

When we say that in an ideal Islamic situation there should not be any interest dealing it doesn't mean that there shouldn't be any banks. The functions of a bank may change. For example a bank has safe deposit boxes, under an Islamic system nothing would be wrong with that, it is an institution providing a service that one pays a fee for. Second, if one wishes to keep their money in a current account one may or may not authorize the bank to use the money for short term projects, but in any case one may pay a fee to receive those services. This is not contrary to Islam because this is a service. If one wishes to invest the money in a project through the bank this would undertake this task on behalf of many investors and then they get profit or loss depending on the performance of that project or group of projects. Finally even short term deposits can be put in a bank but not for fixed interest but with the idea that the bank would use these funds in Islamically acceptable investments where at the end of the year the money is evenly distributed so that one gets their share of investment. There are many ways of doing this while sticking to the main idea that Banks would not deal with interest as their roles include services or invests.

Host: What is Islam's view on consumption loans if there is no interest being charged on them?

Jamal Badawi:

It depends on the motives behind the consumption loans. If one is talking about a person who is borrowing to meet basic needs; under an Islamic Society this person should not have to borrow in order to live but Zakah (institutionalized charity) would take care of this. There are some consumers who may wish to borrow in order to meet different types of needs. Emergency needs (people who face disaster or unexpected loss) may qualify for Zakah. It could be a temporary situation and then the person would be able to pay it back in which case it would be reasonable that a loan could be provided from a bank or Zakah interest free. If a person wishes to buy

something that is not essential then the bank would have to investigate all the applications and it would be a matter of application between the person and whoever is selling him the item provided that there is no interest involved. It is preferable for him to have the sufficient funds to buy things without having to take loans. It is ethically appropriate not to overspend beyond one's own means and not to depend on borrowing. It is better to try to live within one's means as many problems faced in many families today is this availability of this temptation.

Host: Would this have any application on the macro level or government level and public debt?

Jamal Badawi:

Why does the government need to borrow money? Let us remember the easy access of money to governments by way of bonds and interest many times leads to a great deal of inefficiency which I will leave to politicians and economists. We know about the inefficiencies of government expenditures from the Government of North America and the availability of these funds may not work in favor of the tax payer. It is after all the tax payer who will pay for this debt. If we look into the budget of any municipal, state, provincial or federal government we will find a sizable percent of the budget goes to finance debt. There may be cases where it is necessary for the government to obtain funds (not borrow) in order to meet certain emergencies. In the case where a country is under attack and needs funds in order to defend themselves as the defense budget could be quite expensive and Islam has two approaches. First of all they can get the funds from Zakah. Second, in Islamic Law a just government may impose additional taxes on those who are able to afford it (not on the poor) to satisfy needs. Why in the case of war do we expect people to sacrifice their lives and we don't expect the rich to sacrifice their lives. One of the main problems that face the United States was the debt which was incurred during the war which continued for decades with its compound interest. This is unfair because the rich became richer, during the war, because the industrial complex that supported the war. Young people sacrificed their lives-and again how do we expect people to sacrifice their lives and not expect those who gain from the state of war to pay their fair share.

If there is need for other projects such as public utilities which the government wishes to take over. Again they can invite people to invest in those projects instead of lending them the money. The question of public debt can be dealt with without interest in Islam. Under Islamic rule which extended for hundreds of years there was no need to resort to interest as the economy was very prosperous and there was no problem with consumer loans and things were going so well that the Zakah couldn't find enough poor to help. We don't have this during the 20th century now do we?

Host: Does Islam allow for the free determination of prices in the market place?

Jamal Badawi:

The basic rule is to let there be freedom of pricing. Basically, this lets the forces of supply and demand determine the prices. The source for this statement is the saying by Prophet Muhammad (PBUH) when at one time prices were going up so the companions came to him and asked why he didn't set the prices and his reply was "God determines the prices." What he meant by this was that there are natural forces of supply and demand which result in the determination of prices. He continued saying "I fear that I will meet God on The Day of Judgement with someone complain that I caused injustice by stepping in and dictating a price." This rule should not be taken to mean that under no circumstances a just Muslim ruler is not allowed to interfere in the market. Many economists, even Chamberlain in as early as the 30s, indicated that the old notion of Adam Smith known as the Invisible Hand is not totally correct. Many times there are imbalances and disequilibrium which require some interference on the part of the government. This rule should not mean that in rare situations where the need arises, when there is social interest and justice at stake that the government can not interfere in prices.

An example not from Islamic History but from what happened here in North America. Some may remember when the price of sugar was artificially high. It reached around \$7.50 for 2 Kilos or something like that and it was discovered later that there were artificial shortages and manipulation of the market to make these quick gains. I think that people would agree that in a cases where artificial shortages are made for basic necessities we can not just respect individual freedom and let people starve. In cases like that the government could step in and determine a fair price. There are cases where the government may take a strong role in the matter when absolutely necessary and not in an arbitrary way on the basis of mutual consultation. A famous jurist by the name of Ibn Taymiyyah said that higher prices can be caused by one of two things. On that there is more demand than supply and if some one is forcing you to sell at a given price which is less than cost. Two prices could go up because someone somewhere is exploiting the necessities and creating an artificially high price in which case the interference would be called for.

Host: What happens if a merchant has needed materials that he refuses to sell?

Jamal Badawi:

Like in the question of price determination the basic rule again is the respect of individual freedom. An individual is free to sell or not to sell. Again if one doesn't have that freedom any dictator can just impose anything on everyone. The basic rule is that one is free to sell what one wishes to sell or withhold what you want. This is a serious case because it is where individual freedom comes in conflict with social

needs and the two must be balanced. This is a principle that we all recognize in all laws, in various aspects we have to balance both needs. In this type of case Islam doesn't let people starve and if a person fails to sell at a fair price Islam doesn't rule out forcing the person to sell the basic needs. Actually forcing to sell is a principle that is applied in the most capitalist economy. For example if one doesn't pay taxes on their home they could be forced to sell it in order to pay for it. If one has debts to others and one fails to pay them then one's property can be sold against your will. This should not be an arbitrary matter but should be fair and as needed.

Summary of 8.14 " Prohibitions of Riba (Interest) III/ Distribution "

In the 14th program we started by highlighting a few points pertaining to the previous discussion on interest and interest dealings which have been forbidden by Islam. We indicated that the prohibition of interest dealings in Islam doesn't necessarily mean prohibition of saving or investment and we have seen that there are many Islamically acceptable alternatives to dealing with interest that include investments, in a variety of ways. This includes partnerships, opening one's own business, buying common stocks from the market in permissible areas. The main point that was clarified was that there is an important principle in Islamic law that is called *al ghulm bi al ghurm* which means if one is exposed to profit they should be exposed to loss and if one can get small profit they can also get larger profit depending on the actual performance rather than any prearranged percentage. We also touched briefly on the function of a banking system under an Islamic economy. Banking is not canceled just because interest is not permissible but rather the function and role of a bank changes to a investment and mutual fund type of thing but not in the same way as they operate today.

Finally, there was a brief discussion on the question of consumption loans and government debt. Then we moved to the last issue of economic system which has to do with distribution. We said that in the matter of distribution the basic rule is that the government should not interfere in determining prices artificially and that the normal forces of supply and demand should determine the price unless there is a basic disequilibrium or exploitation in the market where the government may interfere to make sure that the basic needs of the people are met without undue exploitation. Also we addressed what happens if a person withholds basic food items that are needed by people and whether he can be forced to sell it. Again we said that if an emergency arises he may be forced to sell but not at an arbitrary price but at a fair and equitable price. After-all the Prophet has said that the person who deliberately withholds or monopolizes the market is cursed. This falls under both economic and moral teachings of Islam.

8.15 Zakah and Distributive Justice

Host: What is the view of Islam on the use of a middle-person or broker?

Jamal Badawi:

In principle there is no problem with this. If a person has a function as a middle-person and is getting paid for it there is nothing wrong with it. There is one thing that Islam restricts which is people acting as middle-persons in order to exploit people's lack of knowledge and information. To put it in economic terms Islam insists on the free flow of information between buyer and seller. An example of this was reported in Bukhari that the Prophet (PBUH) tried to put a stop where a seller is on his way to sell his products and someone intercepts him before he reaches the market offering to buy it at a price and takes it and sells it at a much higher price. This was forbidden because the idea here is that the seller should come to the market first, find out what the going rate is for his goods and then determine how much he wants to sell it for. Otherwise any act of helping people with free flow of information is not restricted. In today's complex economy one can not do away with all middle persons but they can be reduced and provide open information.

Host: How does Islam attempt to achieve justice both in terms of distribution of commodities as well as in distribution of income?

Jamal Badawi:

The most important means is Zakah which I translate as Institutionalized Charity. Second, there is voluntary charity. Third, there is the possibility of additional taxes beyond the minimum required Institutionalized Charity. It could also be achieved through the law of inheritance which are basically some of the major means of achieving social justice and more equitable distribution of income in society. This not only covers equitable distribution of commodities but equitable distribution of income.

Host: What is the meaning of the term Zakah?

Jamal Badawi:

In the series about The Pillars of Islam in the seventh program we dealt with Zakah as a basic Pillar of Islam so we will refer to some of the material we covered there. Zakah is one of the Five Pillars of Islam which has been mentioned in the Quran in conjunction with prayers which is one of the most important requirements for Muslims. There are more than 80 verses in the Quran that mention it. It is mentioned that those who pay Zakah are rewarded by God and those who do not are punished by God. In the Quran in (24:56), (2:24), (9:34), and (51:15-19) we find

vivid pictures showing Zakah as an institution in a truly Islamic Society. Zakah means purification and growth. It is purification because it helps purify one's self from selfishness and miserliness and it results in blessings. The blessings are not just spiritual but also growth and economic blessing. I am trying to emphasize that aside from any other aspect of Zakah it has to first be based on Faith in God, Love of God, the feeling of responsibility as the trustee of God on earth and that whatever property we have is a trust given to us and we have to dispense of it in ways which are pleasing and acceptable to Him. Zakah or Institutionalized Charity is partly spiritual but it is not only spiritual which would make it like any religion which calls people to be charitable. Zakah in Islam is unique as it is a combination of the spiritual ethical aspect as well as the meticulous organization and institutionalization aspects which are social, political and economic.

Host: Why is Zakah more comprehensive than charity in other teachings?

Jamal Badawi:

A good reference that deals with this is a doctoral dissertation by Dr. Yusuf Al Qaradawi which appears in a two volume work which is one of the most comprehensive works on Zakah which is called Fiqh al-Zakah or understanding of Zakah. In this reference one can easily point out the social aspect of Zakah. In a way Zakah can be regarded as a sort of social insurance against involuntary unemployment, against the inability to work, against certain disasters or unfortunate events that may take place. This would give a feeling of brotherhood, solidarity in society which would reduce jealousy, would reduce class struggle, it makes members of society feel that they belong and enriches the feeling of belonging so that not too many people feel anti society and anti social and who might be driven to crime. In a way it is psychological also because it trains the individual to have feelings of social concern and to stop the apathy that is destroying societies today. It makes the person feel a part of the system. It is not like other pension systems because in many of those schemes it depends on how much one contributed and whether or not one contributed. In the Islamic system regardless of one's contribution one is entitled to this social security. Second, it could be regarded as a political system because Zakah can be regarded as a mechanism which joins the various segments of society and the various groups within society with the view of serving their interest and concern. Perhaps one of the most important elements of Zakah is economical. First of all the system of Zakah in Islam is one of the important means of fighting one of the greatest enemies of mankind poverty which is an international problem. It tries to fight poverty without killing the individual initiative as it recognizes that people can have differences in their capabilities and talents. Islam doesn't insist on superficial and full equality where everyone must give the same amount. In the mean time it tries to work to reduce the gaps between rich and poor so that it allows for initiative but also looks after the needs of those who are in need. A second economic aspect is that Zakah being a regular annual determined thing provides for a stable source of income for the State to meet certain expenses and needs. A third aspect which is not as clear but is very important because of its economic implications is that by its very

nature the system of Zakah forces the individual to invest his money and discourages hoarding of money. Zakah is imposed every year and if money is not invested one will keep paying the required charity on it till they lose it. This in a way provides strong inducement to use it and not withhold it from circulation. As we have indicated in previous programs many economists believe that this is essential for the health of the economy because if people keep wealth from being used then we get depression and many economic problems. When people invest their money this provides jobs and general prosperity in the economy. No wonder that we find many who study the system of Zakah in Islam (both Muslims and non-Muslims) conclude that the system of Zakah is quite unique and has never been preceded before by any other law or religious teaching in its comprehensiveness.

Host: Could you clarify the main difference between Zakah and Charity?

Jamal Badawi:

The reason that Zakah is mixed up with taxes is due to the fact that even though they have differences they also have some similarities between the two. There are at least three similarities. Both Zakah and taxes are compulsory. Second, both are collected by a given authority; i.e. government. Third, both are collected from members of society and are not collected because a specific service was received but is from members of society who are part of the total social solidarity. There are definitely basic and fundamental differences between Zakah and taxes. First of all, as indicated earlier the very term Zakah means blessing and purification and should be paid essentially as a matter of worship. This makes it quite different from taxes, because if one feels that you are paying your fair share and you are doing it out of your obligation towards God you don't try to find ways to evade it like with taxes. We find an interesting example that was narrated in Ahmad and Al Tabarani Al Kabir when some individuals came to the Prophet Muhammad (PBUH) and he was not aware that they gained wealth and they said "We have this additional wealth and we would like to purify it, so please tell us how to pay Zakah on it?" This happens because Zakah is not something that the State imposes and people know that they do this out of worship and obedience to God. A second basic difference is that when we talk about taxes it is dependent on the government which is determined by the need of the country or by the whims of those in power. In the case of Zakah the Quran itself, which is the word of God, establishes the principles of it and the teachings of the Prophet determines a specific percentage of Zakah which nobody has the right to change. Zakah has to have a separate budget as it is directed to certain specified purposes as are specified in the Quran (there are eight categories) and is not automatically used by the State for other expenditures. A third difference is that the system of Zakah is much more stable and constant because of the lack of argument about the rate. We should add that an interesting feature of the system of Zakah in Islam is that it is money collected from those who are able to afford it and goes to the poor. In the system of taxation it is usually imposed on everybody and a big burden falls on the middle class and the poor. Taxes are sometimes a reverse role as those who are wealthy can get many tax breaks if they know how to play the game and in a way the poor finance the rich. In

Islam Zakah is strictly taken from those who are able to in order to help those who are in need.

Host: Is Zakah based on capital or on income?

Jamal Badawi:

We can not say that the system of Zakah is an income tax because not every item of one's income is subject to Zakah. For example the part of one's income that is used for basic needs such as food, clothing, housing and transportation is not subject to Zakah. Zakah is primarily imposed on your net worth but avoids taxes which are imposed on capital. Many people say if you impose taxes on capital then you are discouraging people from saving or investing. This is not the case in Islam for three reasons. One, Zakah in Islam is imposed on property which is potentially growing. To clarify there is no Zakah due on the jewelry that a woman keeps for her personal use because this is something that doesn't give additional wealth but is there for her use. There is no Zakah on one's professional tools. There is no Zakah on one's principle residence or car. Even if you are a merchant you pay Zakah on articles of trade not on fixed assets. Second, it is very modest and reasonable and is most commonly 2.5% and there is a minimum which is exempt and is usually estimated at about 85 grams of gold or the equivalent in money. I should add that there may be certain types of Zakah which are imposed on income that comes from agriculture or self employment. It is not exclusively an income or capital based tax.

Host: With today's economy there is no way that the government expenditures can be financed with only 2.5%, how do we respond to the skeptics?

Jamal Badawi:

First of all, the tax rates in Western economy of 25%-30% we are talking about income tax which is imposed on the income. In Islam Zakah is imposed on the net worth which is much more than and income that someone gets in a particular year. If for example a person has five or six high rises that he rents out he will pay Zakah on his net worth not just on the income. Historically speaking as we mentioned in a previous program during the reign of Omar bin Abdul Aziz near the end of the first century of Hijrah Zakah from North Africa was collected and there weren't enough poor people to claim it, which is why he instructed the local ruler to buy slaves and set them free. Historically, this did happen and I am sure that even today if we just took the Muslim world and Muslims are true their faith and everybody pays the 2.5% on their net worth I am sure not a single person would be left hungry or in need.

However, we are not saying that Zakah is the exclusive source of income for a government as there is money that can be collected on the produce of the land, Jiziah (the equivalent of Zakah which non-Muslims pay which allows them to share in the overall cost of running the State), property that no one claims or inherits and if need be there can be additional taxes beyond Zakah.

Host: Is the 2.5% flexible and if so what is the basis for it?

Jamal Badawi:

Zakah is a stable thing and no one has the right to change it because it was given in revelation. If we open the door for Zakah to be flexible every government can exploit that and we would get unjust rulers who play around with it. This 2.5% is very reasonable, permanent and not excessive. In the meantime we find that Islam allowed a just government if there is a need for it and if the amount of Zakah is not enough. First, they have to start from Zakah and if it is not enough then they can move to other things. There are a number of evidences in the Quran that speak about paying Zakah and about being charitable which we find in (2:177). The Prophet (PBUH) said as is narrated in Al Tirmithi that in your property there is a claim beyond the amount of Zakah and this is a very sound and strong tradition. There are also additional texts that indicate that Zakah is not the bare minimum. At the same time there must be a genuine need for the additional funds beyond Zakah and the burden should be distributed in an equitable way and it should be spent wisely and done after the approval and consent of the people.

Summary of 8.15 "Zakah & Distributive Justice"

We continued our discussion of the basics of the economic system and consumption, production and distribution. On the question of distribution, Islam looks at the distribution of commodities and income. In our discussion of distribution of income or the achievement of social justice we mentioned that there are four basics: Zakah or Institutionalized Charity, additional taxes, voluntary charity and inheritance. Last time we dealt with Zakah or Institutionalized Charity and we indicated that this is an act of worship as well as institution which is enforceable by law. The implication of Zakah is not simply spiritual but has social, political as well as economic implications. We implicated how Zakah differs from taxes especially due to the fact that it has certain sources and a certain way by which it has to be expanded. In verse (9:60) with the 8 basic categories that Zakah used for: poor and need, unemployed, those who's hearts need to be reconciled, to free those in bondage, to help those in debt for legitimate reasons, to spend on the way of God and to help the stranded wayfarer. This has a separate budget than the rest of the finances of the State. Third, Zakah is imposed on the net worth and is commonly 2.5% and it is not a favor that is given to the needy but their right according to a verse in the Quran in (51:19). Secondly, we talked briefly about taxes and we said that if the amount of institutionalized charity is not sufficient then the State can impose additional taxes to meet the needs of the country provided there is a genuine need for it and the

distribution of the burden is fair and that there is a process of consultation before decisions are taken.

8.16 Charity and Distributive Justice

Host: Could you explain voluntary charity and how it works?

Jamal Badawi:

The basic difference about voluntary charity is not a difference in spirit from Zakah but the difference is that this is highly commendable (voluntary) and not mandatory like Zakah. The basic foundation of voluntary charity like Zakah is the feeling of compassion and sharing with others. In the Quran in (5:3) it calls on believers to cooperate in everything that is good and decent and of course there is nothing more righteous than helping those in need, giving food to the hungry, shelter to the needy and so on. In the Quran there is not only an emphasis on encouraging people to pay charity as we find in (2:261) which deals with charity in a beautiful way but we find in the Quran an warns against those who have apathy towards the needy. We find in the Quran in (74:44) about those who do not provide food for the poor. A threat is repeated against this in (69:34). There are many more examples in the Quran.

In the Prophetic Tradition there are quite a few examples. Prophet Muhammad (PBUH) as narrated in Bukhari, Muslim Ahmad and Tirmithi he says a person who has no mercy on people would not receive the mercy of God. In another narrated in Al Tabrani and Al Bihaki he says by the name of God he or she who sleeps on a full stomach while his neighbor goes to sleep hungry. In another saying narrated in Al Hakim he says that if resident/s in a ward wake up in the morning and one of them is hungry then God and his messenger will disassociate themselves from them. In one beautiful saying of the Prophet found in Bukhari and Ahmad he says that if a person has food which is enough for two let him add a third to share with and if a person has food for three let him seek a fourth or fifth. This means that with God's blessing what might appear to be a small amount of food could actually be enough for a larger number of people. It is important to help in general in any respect that one can afford to. In Muslim the Prophet said that if a person has extra food let him seek someone who has no food, if a person has an extra means of transportation let him share it with others. Abu Said Al Khudri, narrated this Hadith, said that the Prophet kept mentioning all types of properties that one should share with others until we started thinking that non of us would be entitled to anything extra. The Prophet gave them the impression that they should always share exceeded their needs. In addition to this general encouragement of charity there are special occasions where charity is particularly encouraged.

Host: Can you give some examples of this?

Jamal Badawi:

There are some occasions where Zakah is not only voluntary and is compulsory. For example after one finishes fasting the month of Ramadan there is a Zakah called Zakah al Fitr which is basically the equivalent to 5.5 lb. of basic grains on behalf of each person in the household that one is responsible for which also includes one's self. It is similar to a pole tax. This kind of charity is required of all rich and poor provided that the person has more food than he needs for 24 hours which includes the poor. Some may say what is the point of a poor person who actually deserves to receive charity to pay it? And yes he may receive more than he pays but it is done because there is spiritual meaning for contributing something after fasting the month of Ramadan (an act of worship). It also has a sense of dignity that even if a person is a poor person and he is always on the receiving side at least once a year he contributes even if it is a little bit-even if he receives more than he gives- but he can be a part of the spirit of giving and brotherhood. On the other hand the poor can give to another person who is poor and thus it would be like exchanging gifts. In addition, to these compulsory charities there are voluntary occasions for charity. An example is at the time of harvest as the Quran indicates in (6:141) that when one collects the harvest one should render its dues on the day of harvest. During the lifetime of the Prophet (PBUH) they had a very nice practice that when the date ripened they got a whole bunch of it and hung it on the door of the Mosque so that any person who felt a need could just go eat whatever he needed. A second occasion is the occasion of marriage. In Islam as we know marriage is highly encouraged to protect morality and society. In the Quran in (24:32) there is a reference that encourages people to be helped in marriage. Many Muslim jurists have concluded based on the teachings of Islam that if a person is able to get married but might have financial difficulty initially he is entitled to some help from the public treasury. Actually this was practiced during the rein of Omar, the second Caliph after Prophet Muhammad (PBUH). A third example is the hospitality towards guests which has been specifically quoted in both Bukhari and Muslim where the Prophet says he or she who believes in Allah and the Hereafter should be hospitable to his guests. For one day and for one night one should have extra hospitality towards their guest and for three days a person a person is expected to be a good host but anything beyond that would be voluntary or additional charity. In the case of birth under Islamic rule for the first time in history the first organized and systematic system of family allowance came into effect. Fifth, is that at the time of distribution of the estate of the deceased as the Quran indicates in (4:8) if some people are present who are relatives who do not inherit, orphans or needy they should be given something from the estate. In general Islam encourages general help and support. A reference to this blanket type of attitude is found in (107) in the Quran which requires neighborly help in any things that might be needed by a neighbor.

Host: Can you address the family allowance system paid by the State under Islamic rule, when was it introduced and is it like the family allowance system in Canada now?

Jamal Badawi:

In the 1980 in Canada many people would think this is a highly developed, sophisticated 20th century invention which it is not. In Canada there is an amount of money that is paid to the head of the household and sometimes to the mother on behalf of each child that they have and after the age of 18 if the child is still studying the allowance increases. In as early as the 7th century during the Caliphate of Omar from the year 634 to 644 in the common era he instituted a system that for each child in the family an allowance of 100 dirham was given. Whenever the child grew up the amount of the allowance increased in realization of the increasing need of the child. Initially the system called for paying this allowance to the parent of the child after the child is weaned but a nice incident led to the modification of this so that it was applicable from the time of birth. One time a group of people were traveling, they were camped out in a tent and the ruler, Omar, in accordance to his custom went around to find out if there were people in need and he heard a baby crying in a tent. So from the outside of the tent he came to the mother and told the mother to look after her child. He left and came back still heard the baby crying and again he told her to look after you baby. Then again he came back and said “you are really a bad mother; why don’t you look after your child?” She said without knowing that it was Omar who was speaking to her “the commander of believers doesn’t pay the family allowance except after the child is weaned and I am trying to wean him but he won’t wean because he still needs my milk.” Omar felt very unhappy and started thinking about how many children he killed and then he said don’t worry you will still receive the allowance but don’t hasten child if he still needs your milk. Since that time he decided that the family allowance started from the moment of birth. What we consider to be an innovative and just system had already been in existence under true Islamic rule from as early as the 7th century. It was slightly better than the present system because of the gradual nature the allowance used to increase as the children grew. It was not just assistant living but it was adjusted with the needs. It did not give the same allowance for a baby as it did for a 17 year old.

Host: Are there provisions for charity under situations of emergency as well?

Jamal Badawi:

One of the interesting sayings of the Prophet narrated in both Bukhari and Muslim praised a group of people named Al Asharin, who were related to the tribe of a famous companion Abu Musa Al Ashari, because whenever they went on an expedition or traveled their food would run low so they would collect all the food they had, put it in one area and then distribute it equally among all of the travelers. There

was a famine during the rein of Omar during the 7th century and he sent messages to rulers in different places asking them to send provisions and food if they could. Again all of the food and supplies were collected in a central place and he distributed it equally on the bases of need. In fact one of the interesting sayings of Omar that during this famine had it not ended very quickly I would have taken all of those who are hungry and distributed one hungry person per family. He then explained it: because people would not die if they have a 1/2 filled stomach. Of course the situation improved so there was no need for that.

In fact Muslim jurists go to the point of saying that if a person is about to starve out of hunger he has the right to fight those who are endangering him and preventing him from attaining sustenance for his life as is found Ibn Hazm. In fact during the rein of Omar, as is mentioned in Al Kharaj written by Abu Yusuf, some people who were traveling came to him and complained that when they were traveling they got thirsty and were about to die of thirst. We passed some people and we asked them for some water and they refused-and Omar asked if they fought them for it. This means that if one is in danger of loosing their life they should fight for especially during an emergency. Some jurists base this principle on a verse in the Quran in (49:9) that if two people fight that one should try to make peace between them. However if one is aggressive or oppressive of the other you join those who are oppressed over the oppressor. The jurists say what can be more oppressive than endangering the life of your brother. The notion of apathy: of one seeing someone who is about to drown and you look the other way, someone is attacked and you don't even care to call the police, a child who is abandoned in the street and we say it is not our business! There is nothing like this in Islam and it is our duty as a Muslim to provide this emergent help.

Host: Are there other types of voluntary charity that we have not touched upon?

Jamal Badawi:

There are different charities that are either voluntary or In the series of the Family System in Islam we discussed the obligation on the part of the husband to support his wife, children and in some cases relatives. In the series on the Pillars of Islam we indicated that the infractions or mistakes in certain acts of worship like fasting, pilgrimage or for not fulfilling one's oath can be corrected by helping the poor. One thing which is unique in Islam which is found in the Quran in (8:41) is that in the war booty the poor have a share. So not only those who fight get a share in the booty but the poor and needy are also entitled to a share. In the Quran (108) it mentions the charity of a lamb for Eid Al Adha where one slaughters a lamb while keeping 1/3 for themselves, distributing 1/3 to friends and giving 1/3 to the poor. This is not required but is a highly commendable act during the Pilgrimage. There is also a service of Waqf or Trust that Islam provides where a person can will that a certain amount of his

money is invested and that a certain amount of the proceeds would go to a continuous act of charity for a certain purpose or other.

Host: Do all of these measures include non-Muslims?

Jamal Badawi:

All of them, except for one, include all Muslim and non-Muslims citizens of the State. The only exception is Zakah or Institutionalized Charity which as we indicated earlier is a special budget or a designated fund which comes from a specific source and goes to specific expenditures. The reason is that Zakah is a duty in Islam and is not a general tax that everybody pays. It is only imposed on Muslims and should only go to Muslims. This does not mean that non-Muslims are not entitled to social security. Under Islamic system there are additional sources of income. We should ask what non-Muslims pay? If Muslims are paying Zakah which is both an obligation as well as an act of worship we can not ask the non-Muslim to pay the same because it would be offensive to their religious sense. It is actually out of consideration that the non-Muslims pay something different which is more or less a tax which is called Jiziah. This source as well as other sources (from land, Kharaj, from booty) which are all used to care for those in need. An example of the spirit of Islam is that during the reign of Omar he found an old Jew begging people for help. Omar asked him what happened and the man said that he became an old man and that he can not work so he needs to beg to live. So Omar got very angry, took him to his home, gave him something to eat and then he ordered the person in charge of the public treasury and told him that they should not collect taxes from these people when they are young and able and neglect them when they are old. He also said that for this person and the like they should establish a regular pay so that they can live in security. Additionally all the voluntary and non-voluntary charities are applicable to Muslims and non-Muslims.

Summary of 8.16 Charity & Distributive Justice

So far we covered three of the four basics to achieving social justice and they include Zakat or Institutional Charity, taxes and voluntary charity. The fourth is inheritance which we hope to discuss today. In the previous program the focus was on the third means of achieving social justice, voluntary charity. We referred to the foundation of this source in the Quran and the Prophetic Tradition and how both emphasize cooperation, mutual concern, sharing and compassion. In addition to this general concern for being “good” we discussed certain occasions where charity is particularly emphasized (harvest, marriage, birth of a child, hospitality). We briefly discussed the system of family allowance that was applied in the 7th century by Omar the second Caliph after the Prophet. We briefly discussed some of the emergency situations which make it incumbent on anyone who is able to aid those who are hungry or need immediate medical attention. In addition we discussed some additional sources of charity in society, some of which are actually regarded as charity but more of a duty, atonement for infractions but also the distribution of meat in the Feast of Sacrifice

(Eid Al Adha), the institution of trust or Waqf which allocates funds for the benefit of the poor.

8.17 Distributive Justice and Inheritance

Host: Can we provide information about the practice of inheritance prior to Islam?

Jamal Badawi:

I found a nice summary of this in chapter 7 of the volume written by Hamouda Abd al Ati called “The Family Structure in Islam” in which he discusses this. Basically we can say that under the Greek and Roman systems the property right and religion were very much tied with each other and the son was considered to be the symbol of the continuity of religion. Based on that philosophy the female was not given any inheritance rights because the son symbolized religion and property. Among the Hebrew people there was a definite preference to the male side of the family. In the beginning the oldest son used to inherit the whole estate and later it changed so that the oldest son inherited double what the others got. Among the pre-Islamic Arabs the common system for inheritance was known as Comradeship in Arms. This is a strange concept but basically it meant that anyone who contributed more to the strength and power of the tribe which included military defense was entitled to a higher share of the inheritance, and those who do not contribute as much are not entitled to anything. The close relatives such as females, minors and invalids were not entitled to a share of the inheritance because they did not contribute to strength. On the other hand a stranger who might have allegiance to the family in defense would get part of the inheritance because he simply contributes to the strength of the tribe.

When the mission of Islam was completed and culminated through the Prophet Muhammad (PBUH) there was a new and independent system which may have some similarities here and there but in essence it was a totally new system of inheritance. Hamouda summarizes it by saying that “it would be inaccurate to call this system individualistic, collective nor traditional or modern, nor would it be correct to call it a system which is befitting the agrarian or tribal society, it is much more than all of these.”

Host: What the main features of the law of inheritance in Islam?

Jamal Badawi:

The first and most important characteristic of it is that it is a system which considers human nature's motivation to work. As we know there are some totalitarian systems which prohibit the right to inheritance. This is contrary to human nature because if a person knows that their estate will go to the State they may not be motivated to work hard. Instinctively God has motivated us to love and care for our descendants, so we work hard and leave something for them.

A second basic characteristic is that the law of inheritance in Islam is mandatory so one would not have to go to court to get their share because it is specified, at least for the primary heirs, in the Quran. The Muslim regards the Quran as the direct word of God and nobody has the right to over rule God. So this is mandatory and not only would it be prohibited for any state or government to restrict inheritance but it would not be permissible for an individual to disown or ask that one of his legitimate heirs is deprived of inheritance (except under very rare and specified circumstances).

The third basic characteristic is that the scheme of distribution of inheritance in Islam is rather broad and includes those who are able and those who are not (minor, female, young, old, married, unmarried). In Islamic Law even a fetus in the womb of his mother is entitled to inheritance. For example if the fetus's father dies before the birth they are still entitled to their inheritance. In the Quran in (4:7) "From what is left by parents and those nearest related there is a share for men and a share for women, whether the property be small or large,-a determinate share." This covers the question of male and female and basically anyone who is a legitimate heir is entitled to their share according to the scheme provided in Islam. No body has the right disown. This is why we call it a more broad scheme of distribution.

A fourth basic characteristic is that it is a scheme which keeps in mind equity and this doesn't mean mere mechanical and superficial equality. This is why we find that different percentage goes to different heirs depending on their financial responsibility. The distribution is somewhat proportionate to this responsibility as we find in the reciprocity of inheritance

Host: Can you explain the concept of inheritance with special reference to the variations between the male and female share of it?

Jamal Badawi:

First, the term equity means that we should not take a partial aspect of Islamic Law and take it out of its context and judge it as some do. A comment that is very inaccurate and is perhaps even a superficial statement that we find in the media is that

Islam accords a Muslim woman a lower status. One of the reasons given is that a woman under Islamic Law inherits half as much as the male. Aside from the fact that to the Muslim it is strange to say that this is unfair because these shares are in the Quran and the Quran is the word of God and God is not male or female. Why would God be bias towards males or females? The main problem arises when things are taken out of their context, when one problem is taken out of Islamic Law instead of taking it all together. If we take financial obligations, responsibilities and privileges of both males and females you will find that a woman is much more secure financially than the male and she is always entitled to support. A woman does not have to earn her own living, of course she can if she wishes to, but she is not required to do so legally. The full financial responsibility falls on the male side whether it is a father, husband, son or brother and if none of these then the state would be responsible to support her. Furthermore, as we indicated in The Social System, in Islam a Muslim woman unlike what we find in other cultures is always on the receiving side. During the engagement she is the one who receives gifts, at the time of marriage and it is the husband who pays for the marriage gift which is exclusively her right and her property. Third Islam allows the woman before and after marriage to own any property in any way she wishes. After marriage any property she used to have remains hers and she has full freedom to dispose of her property without the permission of a father, husband or anyone else. Fifth, in Islamic Law no matter how rich the wife may be she is not required to spend a penny on the household. The entire responsibility for housing, food, clothing, recreation, medication and everything else for her and her children falls exclusively on the shoulders of the husband unless she voluntarily wishes to contribute. If divorce takes place she is entitled to keep all of her property that she owned before marriage, to any growth of that property during the marital life and she is entitled to full maintenance and support during the waiting period which is usually three months but could extend to 9 months if she is pregnant. She is entitled to compensation for suckling the baby after divorce, she is entitled to child support and is always on the receiving side. On the other hand the male side of the family carries a much bigger burden. He is the one who pays for gifts, pays the marriage gift, he is fully responsible for the household no matter how rich his wife may be, he is the one who has to pay the delayed part of the marriage gift in case they get divorced, he has to support her, he has to support the children. If we look at it in terms of equity instead of the mechanical and superficial item, we find that not only are they equitable but that there is a slight advantage given to the woman in consideration of her greater need for security so she can go on and never fear to get pregnant, never fear to stay home to look after the baby because after-all she is totally secure financially. There may be some cases where a female may inherit similar to or equal to the male. It is the general rule that the male inherits twice as much as the female. An example of this would be in the circumstances of mothers who both inherit 1/6th of the child's estate. In the case of a father and daughter the daughter inherits 1/2 and the father inherits 1/6th. It is not always that the female gets less than the male as it is related to the degree of closeness to the deceased. But on an equal level like brother and sister and in consideration of the variations in financial burdens and responsibility the male inherits twice as much.

Host: Can you tell us about the scheme of distribution among the heirs?

Jamal Badawi:

First of all the cost of the funeral has to come from the property of the deceased and most jurists would say this has precedence. The funeral of anyone under his care such as a wife or child come from his property. There are some jurists who give debts a first priority which are due to others which involve a mortgage or rahn. Some people put debts first and some put the funeral first.

The second general priority is to pay the debts due on the deceased person. This in fact includes debts to human beings or debts to God (if someone did not yet pay his required Zakah). There is a differences in opinions of some jurists as to whether debts to God like Zakah stops at the time of death like Abu Hanifa says or whether it should still be given priority like the opinion of Ibn Shafi'i and Ibn Hazm. In an case this field involves both types of debt especially if the person specifies before his debt that he is in debt to such and such a person and I did not pay my Zakah. Well on the question of debts the liability of the heirs is restricted to the maximum value of the state. In other words they are not liable if the deceased person has more debts than his worth unless they do it out of their own kindness.

The third priority would be to execute the will and testament of the diseased. For example if he specifies before his death that he would like a certain amount to go for charity or to someone who would not otherwise be entitled to inherit. This is executed but with some restrictions. First, a person can not make a will and testament for more than 1/3 of their leftover estate after paying for all the dues and funeral expenses. This protects the legitimate heirs. The second restriction is not that definite. Generally speaking as Prophet Muhammad said as is narrated in Ahmad, Abu Dawood and Tirmithi that a person should not make a will to someone who is going to inherit. If a person has a legitimate heir like a son, daughter or wife and they are going to inherit anyway one can not make a will for them because that distorts the scheme and distribution as the Quran presented. In another saying of the Prophet narrated in Al Darr Qatmi that the Prophet made an exception that a person could make a will and testament for more than 1/3 of the estate with the permission and approval of the legitimate heirs. An example is if a person has so many children and one happens to be in dyer need (more need than the others) and the rest of the siblings are ok with their sibling inherits an extra amount along with his original share. After this the distribution takes place in accordance to the scheme provided in Islamic Law. By the way there is no succession tax in Islam, the heirs are more entitled to the inheritance.

Host: Is the will a mandatory item in Islam and what happens if the deceased exceeds the 1/3 maximum without the agreement of the heirs?

Jamal Badawi:

First of all, the will and testament in the sense of assigning wealth is not mandatory. A person may or may not do this and if a person lives in a place where Islamic Law is implemented then automatically the distribution would go with the Islamic scheme. It is however recommended if a person can afford it. If a person is poor and is leaving behind a small amount and feels that his needs are in more need of it, then charity starts at home as they say.

In the case where the deceased gives more than 1/3 to a person, it is automatically reduced to 1/3 after the funeral expenses and other debts are paid. If it is less than the maximum of 1/3 it is executed as is.

The will and testament is null and void if the person made it at a time when his mental state was lost. In this case the will would not be applicable because he would not be in the proper shape to make these decisions. So a will keeps in mind the desires of the deceased and protects the rights of the rightful heirs.

Host: How are these shares distributed?

Jamal Badawi:

First, there are the Ashab Alfurud which are the primary heirs who have their shares specified directly in the Quran. This includes four males and eight females. The males include the husband, father, grandfather and brother. The females include the wife, mother, grandmother, daughter, sister, half sister and niece. The son is not mentioned here but that doesn't mean he is excluded because he inherits under another title called Tasir which means that whatever remains goes to the sons and other males.

After the primary heirs there are the Tasir or agnate heirs. Basically whatever remains after the specified shares are given to the primary category the rest goes to the son and if there is no son it goes to the father if there is no father it goes to the brother and if none of those are living it goes to the uncle. Of course it goes to the non agnate heirs like the grandchildren, nieces and nephews who would otherwise not inherit.

Host: What happens if one has property that is not divisible like a house?

This is dealt with in a method called takharooj which is an evaluation of the property and if one person keeps it he can pay others their share.

Host: Are there any circumstances which result with exclusion from inheritance?

Jamal Badawi:

In principle no one should be excluded from their inheritance. There may be some rare and specific cases where a person may be excluded from his inheritance. First is deprivation because of the individual himself. An example is the saying of the Prophet (PBUH) narrated in Ahmad, Ibn Maja and Abu Dawood in which he says that if a person kills another so that he can inherit from him or her then he would not be entitled. For example a grandmother has lots of money and he kills her so her would lead to him being disinherited. A second aspect is when the religion of the diseased and heir are different. The jurists that a non-Muslim can not inherit from a Muslim. Some say the reverse is true too but others say that to become a Muslim shouldn't be a disadvantage and that a Muslim can inherit from a Muslim or non-Muslim but the reverse would not hold.

There are also categories that may not be instilled to inherit if there is someone who takes priority over them. For example if there is a grandfather and a son, the son would inherit and the grandfather would not. If there is no son then the grandfather could be entitled. There are degrees of priority in this respect.

Summary of 8.17 "Distributive Justice & Inheritance"

The law of inheritance was dealt with in the last program as the fourth mean for achieving social justice in an ideal Islamic society. We discussed the basic characteristics of the Law of Inheritance in Islam which is mainly something that is consistent with human nature and recognizes the basic desire to leave something for one's heirs. Inheritance is mandatory and some shares are specified in the Quran so one doesn't need a court ruling and nobody can deprive one except in very rare and specified cases. Thirdly, it is broader in scope and includes the strong, the weak, male and female. It involves a wider scheme so that the wealth could reach more people in society. Fourth, it achieves equity which takes into account the reciprocity of financial obligations and responsibilities between parents and children as well as the differentiation of financial responsibility of males and females. We looked further

into the differences between males and females and why the variations existed within a totally fair and equitable scheme. We also briefly discussed the priority for the distribution of the estate: payment of funeral expenses, debts, execution of the will and testament for up to 1/3 of the estate and the primary heirs who are entitled to specified shares as provided in the Quran. Following this there are the agnate heirs like the son, father, brother and uncle in that order who take whatever remains. The third category would include non agnate relatives.

In the case that the estate is not divisible, it could be valued and whoever wants to keep it may buy off the rest in proportion of their shares. Finally, we also addressed the question of deprivation from inheritance. A person can not be deprived of inheritance except in the rare cases like the person killing the person from whom he wishes to inherit and the punishment is that he doesn't inherit anything. We talked about the difference in religion and how that affects the succession. Even if there is difference in religion as we said before the non-Muslim can not inherit from a Muslim. If someone marries a Christian or Jewish woman does she not get any inheritance at all? She can get inheritance but not through the scheme of distribution that is laid out but rather as part of the will and testament. As we indicated earlier the deceased is entitled to bequeath up to 1/3 of their property to people who would not otherwise inherit. In general similarity in religion would be required. We also mentioned that there are some categories can be superseded depending on the priority.

8.18 Economic Policy

Host: In principle what is Islam's view of the government's role in economy?

Jamal Badawi:

The first thing to emphasize is that in Islam whether we are dealing with the economic, social or political system the dependents is not on the force of law or government or a heavy hand of some kind of authority. In all aspects of life the appeal is to the conscience of the individual. A second basic principle which applies to economic, social and political systems is that freedom is the foundation and it can not be restricted unless there is necessity to achieve social justice. In other words there would be no interference in economic activities in an ideal Islamic system except where there is a social necessity for justice. This has been explained by Prophet Muhammad (PBUH) in a Hadith narrated in Bukhari in which he says people stand to make sure fairness is upheld and the limits of God are not trespassed are like people sailing in a ship and there are some people in the lower deck and others in the upper deck. He continues that the people in the lower deck start asking why every time they want water they have to pass through the whole ship and bother everybody, why not just make a hole right here. He concludes that unless they are stopped from making

that whole that everybody would drown. This is a very nice analogy because if everybody is apathetic and there is no government to try and assert justice the whole society will drown. So there must be limits, but again freedom is the basis and only necessity requires government intervention. A third fundamental principle is that the basic role and the essence of the government is to ascertain justice and to prevent injustice in economic life.

Host: What should an ideal Islamic government do to achieve this justice?

Jamal Badawi:

There are measures that relate to production and distribution. In the area of production Islam encourages a government or people in power to assert the maximum and efficient use of resources. In some previous programs under productivity we gave evidence from the Quran and the sayings of the Prophet which show how in Islamic understanding all of the resources created are for the benefit of humankind and it is our duty to benefit from them. So the maximum and efficient use of resources is a principle which is enshrined in the Quran. Second, there are restrictions on labor and that there are certain types of work which are contrary to the ethical teachings of Islam such as prostitution, gambling, sorcery and magic. If things are morally wrong then it is incumbent on a Muslim government to make sure that these kinds of professions are not practiced. Third is that the basic philosophy in Islam is that there should be equal opportunity for all to learn and develop their capability and skill to the maximum that they can. There is no barrier aristocratic or institutional that should stand in the way of anyone developing their abilities. This is unlike some cultures where jobs seem to be an exclusive domain of one group or the other. It is the duty of the state to make education available to all. A fourth aspect is to control permissible work so that it is done without cheating and in a proper way that doesn't constitute danger for the population. This includes control on production standards, product safety, consumer protection, professional standards or trade standards are all things which Muslim jurists have addressed long ago. In terms of labor we find that Muslim jurists have also spoken of the possibility that a truly Islamic government may intervene to specify minimum wages. But also it is not one sided where the bias is always for the working class or for the management or owners. Muslim jurists also say that if labor exceeds its limits and becomes oppressive to management or to owners it is the government's duty to stop them. So this is a kind of balance in justice rather bias for one or the other.

Another aspect of specific measures is to prevent actions which may hurt the population. They had zoning regulations. They prohibited someone from having a blacksmith shop in the midst of a residential area because people could be hurt from the smoke. They made sure that people would not have a noisy plant where people would not be able to sleep peacefully. Even within specific laws under an ideal Islamic system they spoke of prevention of cruelty to animals. Having a government

representatives make sure that horses or camels were not overloaded or beaten is also part of the law. Ship safety was also addressed (we think that ship safety regulation is a modern practice where inspectors make sure the ships are safe) as we find in a very early reference, hundreds of years ago, called Al Ahkam Al Sultania by a judge known as Abu Ya'la who spoke of the possibility of prohibiting the owner of a ship from letting it sail if there is too much load on it or danger to the people working on it.

We have spoken about the unethical monopoly of the basic needs of people like food and withholding it while people are in need. Again this is a matter that could be informed. In terms of general services offered by the government such as infrastructure, again, jurists have addressed this and the fourth Caliph Ali (may Allah be pleased with him) wrote to the local ruler in Egypt and told him "Don't make your major concern simply the collection of the taxes on land but rather the development and prosperity of that land. This really contrasts with the attitude of colonial powers and how they try to suck the wealth of a poorer country. In this case developing the country first so that people can prosper and collections of taxes can be legitimately collected without squeezing those who are in need. These are specific measures which sometimes go back to the days of the Prophet (PBUH).

Host: What is the government role in the area of distribution?

Jamal Badawi:

In a couple of programs in this series we spoke about the collection of Zakah, Institutionalized Charity, which can be paid by the individual or collected by the state and enforced. This position of collecting Zakah could be a duty of the State which would distribute it according to the categories found in the Quran. We mentioned also that the government may be entitled to collect additional taxes if the charity is not enough or in cases of an emergency. There is also tax collection from non-Muslim citizens who enjoy the same social security as Muslims but we can not expect them to pay Zakah which has religious connotations. They pay an equivalent tax which is called Jiziah which includes the role of the government in collecting and spending on the welfare of the people. In general the government should take measures which narrow the gap between rich and poor. Islam doesn't call for complete financial equality because people vary in their ability and aptitude but it calls for the reduction of this big gap so that we don't have people getting richer and others getting poorer. There should be some sort of justice, affection, love and cooperation within society to avoid hard feelings and turmoil. In Islamic Law the minimum responsibility of the State is to make sure that everybody has enough food, clothing, shelter, means of transportation and if he is a professional to provide him with tools for his trade. This is the minimum under a proper Islamic system which should be guaranteed to every citizen, Muslim or non-Muslim.

Host: What specific tools can be used by the government to perform these roles?

Jamal Badawi:

This can be addressed from an economic sense and an institutional sense. Many economists speak of monetary policies and fiscal policies. Monetary policies administer the collection of Zakah, Institutionalized Charity, which constitutes a large amount of money. We talked about certain portions of Institutionalized Charity which may be used for interest free loans, to make sure that the funds are allocated efficiently. All of these can be regarded as monetary needs for society at large. As far as the fiscal policies such as taxation, income and expenditure the door opens up because the government has access to Zakah, taxation and other sources. Through a system of expenditures, subsidy and public works the government could stimulate the economy and provide employment. All of these are within the Islamic framework and its economy. As far as specific institutions that take care of implementing these measures we find that they include the court, started during the days of the Prophet Muhammad (PBUH) in the 7th century, which was used to resolve disputes that may arise between people and to achieve justice in society. The second institution, which seems to be the product of the 19th or 20th century but actually existed during the days of the Prophet when Muslims tried to implement the full teachings of their faith, is called Hisbah. Ibn Taimia, one of the great Muslim jurists, defined it as control on social behavior in order to make sure good ordained and evil is forbidden. Good and evil in an Islamic context is not necessarily moral things but also things that pertain to economic life, social life and political life. Life is an integrated whole and there is good and evil in every aspect. The idea of Hisbah started during the time of Prophet Muhammad (PBUH). When the Muslims migrated from Mecca to Medina they returned victoriously to Mecca after some years; when Mecca was reopened and before the Prophet returned to Medina he appointed a companion by the name of Said Ibn Al Ass whose duty was to control the market place (makes sure there was no cheating etc). We find in Islamic jurisprudence many books that had been written about this institution which include authors such as Al Mawardi, Abu Yalad, Ibn Taymiyyah, Ibn Khaldun and Al-Ghazali. This institution included many things which we consider to be quite recent such as accreditation of people in certain professions or trades. They had inspection, in what falls today under the department of health, of meat and bakeries. They gave examples of inspectors who found that the baker did not use proper head cover or is not observing cleanliness. The Muhtasib who works for the institution of Hisbah may inspect the meat and if he finds that it is tainted he has the right to shut down its production. We have the same practices today which were practiced hundreds of years ago. There were controls on weights and measures which is based on the Quranic injunction that one should weigh or measure in an honest way. There were controls on the actions and behavior of professionals, doctors, pharmacists, teachers and others. There are certain rules in Islamic rule to make sure they are doing their job honestly and without causing others any harm. A Muhtasib tries to resolve difficulties that may arise from contractual agreements and contracts before they go to court. Prevention of cheating in the market place is part of the duty of the Muhtasib. In addition to these two basic institutions there are a recent authors, Dr. Muhammad al Mubarak, who suggested that a third system can be added which is the police force. He said that in many cases the police force may be needed in order to enforce the rules. I think this makes allot of sense. For example suppose we have a union on strike and they go to far in their picketing by preventing anyone from entering the premises. In modern times people

could go to court but still a police force is needed to keep the order and to make sure there is no sabotage or destruction of property until the dispute is resolved.

Host: Can you compare Islam's system with the capitalistic and communistic systems?

Jamal Badawi:

In essence if we accept the premise throughout this whole series, that when we address the social system of Islam we first base it on divine guidance, on the Quran and the revelation given to Prophet Muhammad (PBUH). It follows that there is no other system that can match it, because any other system which is divorced from divine guidance which is exclusively dependent on human wisdom falls into excess or problem in one way or the other. From a Muslim standpoint only a system which provides for interplay between the divine and human is more practical. This type of system is based on divine guidance but allows for flexibility for implementation depending on time and place. With this perspective in mind we find that the ideal solution in the mind of the Muslim is the Islamic system, because it is the only system that provides for this balance between individual motivation and social welfare, between the rights of owners and the rights of laborers with no bias towards one group of society or another. As we said before God has no reason to be biased, but we as law makers can fall into this bias. If we follow the restrictions that God provided there will be better justice, welfare and prosperity. If we put it on a continuum or line we find that on one end we have the purely individualistic or capitalistic system. From historical experience we will find that many of those have been compromised and that there has been gradual movement away from the extreme form of individualism toward the introduction of some measures to achieving social justice so it is no longer a capitalistic system. We find that they have found that this way doesn't work because it dehumanizes the individual with everything in the hands of a few of the elite. Even in the communist world we find the introduction of some measures which provide inducement. The vision of the proponents of the Islamic system is that ultimately, the way things are going, both major systems collective communist or capitalist seem to be moving away from the extreme to the middle. The middle would have to be Islam. After the long and bitter experience of humans they discovered that the only system that would give balance and moderation would be a system based on divine guidance.

Host: What are some of the applied problems for Muslims living in a non-Muslim environment?

Jamal Badawi:

There are things that Muslims have to watch for even though they may have to deal with minor inconvenience. First, if a person has a store he is not supposed to sell stuff that is forbidden. As the Prophet indicated anything that is forbidden to eat is forbidden to sell which was narrated in Ahmad or Dawood. A person should not sell pork or wine or any other forbidden item. A person should depend on God and not feel that he will go bankrupt if he does that. Second, many Muslims here are faced with the issue of insurance. Many jurists conclude that life insurance is not permissible the way it is done but if the State is doing that as Islam allows there is nothing wrong with it. The way it is done now is not really Islamic. Property insurance is not exactly in line with the Islamic system but some jurists like Sheikh Yusuf Al Qaradawi make it close to a system in Islam which provides for donations provided one gets some kind of compensation. Health insurance is permissible in the absence of a proper Islamic system. Some people ask about interest from a bank, some people think that even though it is forbidden it can be taken not to use for one's self, not to pay it as part of one's Zakah but it could be used for the benefit of starving Muslim, just under these circumstances. Nonetheless Muslims should put their heads together and figure out solutions to their problems including alternatives to mortgage.

8.19 An Alternative to Mortgage I

Host: What is an alternative to the dilemma faced by many home owners- with mortgages coming up for renewal and the interest is very high? What is SER?

Jamal Badawi:

SER means Shared Equity and Rental for home ownership. In a way it is a substituted or possible alternative to the traditional that we have used for too long for home ownership through mortgage loans which involves interest. It is shared equity in a sense that instead of investors giving a loan to the homeowner they are investing in shares in his home. This means that they would be entitled to a share in the appreciation of the value of the property. We call this shared equity and rental because both the home owner as well as those who contribute the cash to buy the house or to retire the mortgage are also entitled to a share in a rental value which would be charged to the home owner. Since others hold a share in the home they get a share of the faire rental value of the house. This system is designed in a way that would allow the home owner to gradually build up his or her equity as time goes on or he would just pay rent. So in order to build up his equity he can buy shares and then the amount he pays in rent would gradually decline.

Host: Could you show us in specific figures how SER works?

Jamal Badawi:

There are a number of steps that explain the system.

The first step, one has to find out what is your own equity as an owner. Of course this could be a house coming up for renewal so one gets the fair value of the property by appraising it. We are supposing that the fair value is \$50,000. Suppose you need to retire a mortgage on the property for \$40,000. This means that one holds an equity on the house, based on the fair market value of the difference between the value of \$50,000 and the mortgage of \$40,000 which is \$10,000. We are not talking here about equity as interpreted by mortgage companies which is usually one's contribution to the principle not the fair market value. This system talks about an equity based on the fair market value of the house.

The second step is to divide the market value into shares. For example a reasonable share would be \$1000. This way the value of the house will be represented by 50 shares. Step three is that one can simply sell these shares to investors who have interest in buying them. The amount of investors depends on the needs of the people involved, their financial capabilities. For example the \$40,000 could come from 10 investors putting \$4000 each or 4 investors putting \$10,000 each. The beauty of the system is that it is very flexible and it can be applied to a group of friends, or any other group. In step four the money is used to retire the mortgage or buy a home. This system can apply to a mortgage that one wants to get out of or it can apply to the case where someone wants to buy a house. If someone wants to buy a house for \$50,000 and he has \$10,000 in cash which is the equity and would need \$40,000 in shares.

The next question is what kind of benefits the investors would get? Step five starts with the determination of the fair rental value of that property. We will suppose that the fair rental estimate is \$450 a month which we multiply by 12 so that we get the annual rental cost of the property. The total would be \$5,400. Since the whole system operates on the system of sharing it follows then that basic expenses like taxes, insurance should be shared by all share holders and should not be left to the home owner alone. When a person rents a home they don't pay the taxes nor the insurance this is the responsibility of the landlord which is the share holders in this case. When we deduct \$900 (tax and insurance) we are left with \$4,500 as the net rental income for the year. If we divide it by 50 shares it comes out to \$90 per share. So one investor would get \$90 for each \$1000 share. Under this system the home owner doesn't have to pay the whole \$4,500 to the investors because they also hold a number of shares. In our example it was 10 shares. This means that he can deduct his own shares out of the rental. This means that the net cash he pays out to investors is \$3,600 a year (40 shares @ \$90 each).

Step six is how much am I going to pay as a home owner. There are two types of payments that the home owner has to make. First there is the \$3,600 for the rent which is paid to the investors. If the owner only pays the rental it means that he will not build up his equity. The assumption here is that he buys back 3 shares a year which would go towards his principle. So in one year the owner will pay the \$3,600 plus the price of three shares. As we said each share is a \$1000 which means that \$3000 would be paid by the end towards equity. So the owner pays a total of \$6,600 at the end of the year at a \$550 a year.

Host: This is very practical for the home owner but what about the investors, what are the advantages that they get from participating in the program?

Jamal Badawi:

I agree that the system is far superior from the point of view of the home owner than the conventional system. It suffices to say that in this system in year one alone the owner is adding three shares to his principle. As we know under mortgage payments most people pay thousands of dollars in monthly payments and only get a couple hundred dollars towards their principle in a year. In our example from the point of view of the investor; he is not losing either. In this case we are simply eliminating middle men from the operation. The investor gets a return on his shares in rental values which in this case is \$90 per share (profit). The second aspect is that the share holder shares in rental and equity. This means if the value of the property goes up then the investor would be entitled to reap some of the value of the appreciation of the increased value of the property. In other words the value of the share that he holds becomes greater. In this case \$90 per share comes to about 9% and the appreciation in the value of the property is usually no less than 10%.

Host: Can you explain how the investors share in the appreciation of the property? Do they have to wait till the end of the contract to collect the appreciation or is it something that works annually?

Jamal Badawi:

No they do not collect at the end of the contract. This system is different than others that are based on shared equity because you don't have to wait till the property is sold or the contract is finished to collect. Those systems also involve interest but at a reduced rate. This system is totally different because there is no interest dealing whatsoever. Following the same assumption that we had before that as a home owner in addition to rent you are also buying back three shares a year. When those shares are bought back they are not bought at the original price of \$1000. At the beginning of the second or any subsequent year, the property value will go up (lets assume at 10%) which means that the value of each share will go up by 10%. So when the home owner wants to buy those shares you will be paying \$3300 not \$3000. Again this is an additional reaping of benefits in addition to the rental value that the investor gets from the owner.

Host: What happens in subsequent years?

Jamal Badawi:

First of all we have the new fair value in the beginning of year two and the assumption is that the value increases by 10%. This increases the value of the property to \$55,000. The new share value also goes up by 10%. The number of shares stay the same. The only difference is that they change hands. The new price per share is now \$1,100. Then we go to the rental value which is also assumed to increase by 10% which means that the owner would pay \$5940 per year. But also we have to deduct taxes and insurance from this total which we also assumes has gone up by 10% (it may not increase that much). Then we deduct \$990 (taxes and insurance) from the \$5940 which ends up giving us \$4950. This comes out to \$99 in rent per share. The rent paid out here is more than that of the first year because the value of each share has gone up. Step six, as we said before that the owner does not have to pay the whole \$4950 because he himself holds a number of shares. What happens is the amount of rent he has to pay out will decline because he now owns 13 shares instead of 10. This means that his share is \$4950 shares divided by 50 and multiplied by 13. So his share would be \$1287 and he would actually have to pay \$3663 for the 37 shares that they hold. As we mentioned before he has to buy additional shares in order to acquire more equity. Supposing that he wants to buy another 3 shares he would have to buy them at the new price of \$1,100 per share which gives us a total of \$3,300. The total payment will be for \$6,963 a year which comes out to a monthly payment of \$580.

If we repeat this again in year 3 with the new fair value of the house and going through each step. At this particular rate of acquisition one can own the home fully in 14 years.

Host: Is it possible to stabilize the monthly rental (mortgage) payment?

Jamal Badawi:

This can be done without any problem. If someone says that they can not pay more than \$550 a month for the next five years. This simply means that in the second year one would buy 2.8 shares instead of 3. This way one can buy less shares in order to stabilize the monthly payments. However, if we follow the system it may be more advantageous for the home owner because you acquire equity faster and thus reduce the amount of rent that you have to pay to other investors. Second, the increment is not that great. The total payment will be 5-6% more than the payment from the

previous year. This of course is less than what most people get in incrementation in their salary. So if the home owner can afford it it might be better with a slight increase in the monthly payment to acquire the equity faster in order to reduce the burden.

Host: What are the legalities of the model? What protects the investor?

Jamal Badawi:

This can be resolved easily and in fact has been tried more than once. There is a property in the Halifax area which uses this system. What is done is the whole property is put as collateral in favor of the investors until everything is paid back. Legally speaking this is called a mortgage document. Again lets not mix the word mortgage with the conventional mortgage. A conventional mortgage is a loan from the mortgage company which bears interest. What we mean here by mortgage as in a legal term indicating that the property is held in collateral and as a guaranty to the investors. The only thing that one may have to add to the conventional wording of the mortgage document is that the house is held in collateral is to say that the method of payment of the amount contributed by the investors is determined by schedule A. Then you would put as an appendix with the mortgage document the specific details and claus which determine how the value will be reassessed and the new values of the shares will be calculated. Then this would be guarantied and registered with the official registry.

Host: What are the income tax implications of participating in the scheme?

Jamal Badawi:

This may be a new issue that will face the tax department because the income that you are getting as an investor suppose you put \$10,000 and at the end of the year you get your share of the rental value which is \$900. This is a matter that we should get a ruling from the tax department on but it appears to me that it can be dealt with in one of two ways. It could be regarded as income on investment like dividends because that is basically what it is. If it is acceptable to the tax department it would enjoy the deduction which is allowed for interest and dividends. Even though it is not interest it may be regarded as the closest thing to it and there is a possibility that it may be dealt with as interest for tax purposes. The other possibility is that the investor can report it as rental income. Other investors who receive the \$90 a year for the first year can report this as rental income. In the meantime they can also deduct from that total income the depreciation. These are the three possible ways and whichever way would probably not be less advantageous than any other type of income that one might obtain by way of investment.

Summary of 8.19 An Alternative to Mortgage I

Suppose one had a house worth \$50,000 and the mortgage is up for renewal and one still owes the company \$40,000. What was suggested was that one divides the value of the house into 50 \$1000 shares and then you can sell forty shares (besides your own equity) to other investors who are interested and who can provide you with \$40,000 which can be used to retire the mortgage or in some cases it can be used to purchase the home. The investors are rewarded by determining the gross rental value of that property, our assumption in the example was \$450 a month and \$5400 a year minus the main expenses (taxes and insurance of \$900). This gives us the net rental value of \$4,500 or \$90 per share. The home owner doesn't have to pay that full amount because they have to deduct the portion of the shares that he already owns. So he can subtract \$900 (\$90 multiplied by 10 share that he owns) which leaves \$3600 rent due to the investors. We said that in order for the home owner to accumulate equity he would be allowed in accordance with the contract and mutual agreement to buy back some of those shares every year. The assumption that is made here is that he can afford to buy 3 shares per year. Assuming that the shares are worth the same price and each share is worth \$1000 he would pay \$3000 for the 3 shares. So he would pay a total of \$6600 per year which is a monthly payment of \$550 which in fact is less than what he would pay for a mortgage at most rates. In the second year and every subsequent year all you have to do is update the basic update based on the new appraisal of the property. In this case it went up the next year by 10% so the house was worth \$5,5000. This means that the price per share would go up by 10% to \$1,100. The new fair rental value may have also gone up by 10% (could be less but it is what was assumed) which gives us \$5950-\$990(updated expenses) which give. Then new rental value is \$4960 for the next year which if divided by 50 shares comes to \$99 a share. Similarly the owner would have to deduct his share of 13 shares. This shows that his portion of ownership has increased and the portion paid out to other investors would decrease. This gives us a total of \$3663. Again he would have to buy 3 shares back at the new price of \$1100 per share. So that total payment in the next year would be for \$6963 which is a monthly payment of \$580. Still the person comes out on top and accumulates much larger equity than he would otherwise accumulate through the traditional mortgage systems and still with very affordable monthly payments.

8.20 An Alternative to Mortgage II

Host: What is a program like Islam in Focus doing talking about the topic of home ownership?

Jamal Badawi:

In the Western civilization the term religion is used to refer to a set of beliefs, values and devotions. What is forgotten here is that in the case of Islam it is not only a

religion in that sense but it is a comprehensive way of life that deals with all aspects of human living. Part of that living are the economic problems of mankind. In fact one of my major motives for trying to develop that system, even though the idea is not new, is the fact that Islam prohibits usury or interest in the modern term while allowing and encouraging people to participate in ventures on the basis of equal sharing in Profits or losses. This is not only significant as a concept for Muslims, in order to avoid dealing in usury, but I am sure it would be of interest to those who mind the high interest rate. I have not found anyone yet who doesn't mind that rate.

Host: How is the fair value of the property determined? What happens if there is a dispute about the fair market value of the property?

Jamal Badawi:

The basic rule is the mutual agreement of the investor and the homeowner as to what is the fair value. But an impartial opinion can be acquired by someone who has professional training in property appraisals. If there is difficulty accepting a particular appraisal one could get two appraisals and take the average. However it seems that most of the appraisals would give similar estimates because they have certain formulas they apply plus some consideration of the market value. Two appraisals can be done but the cost would of course increase. It can be specified in the contract how appraisals are acquired and agreed upon.

Host: How much does an appraisal cost and who would pay for it?

Jamal Badawi:

I mentioned in the previous program that one property in Halifax is under the SER system. In that particular case it cost \$150 to get a professional appraisal. My feeling is that the cost of this should be shared by all because it is part of the cost of running the property. I think that this can be deducted from the gross rental for the year which will distribute the load in proportion of the shares.

Host: To divide the property into shares does this include formally issuing shares in the form of documents in the same way as one might buy shares from companies? What is done about the title? Why \$1000 shares?

Jamal Badawi:

A formal document can be issued if that is what is desired. I however, don't think that this is needed. One has the full legal guaranties if one has the owner and investors sign a document which holds the property in collateral until all the principle as well as the profits are totally paid for. The document could specify what shares each party owns.

Second, the title doesn't necessarily have to be changed. Even mortgage companies themselves don't ask you to change the title. The title is simply held by them till you pay your mortgage. So there is no need to change titles. However if one pursues this within a group, corporation it is quit possible that it can be set up as a housing co-op. The housing co-op would hold titles of all the properties under the system and when everything is paid off the title can be transferred back to the homeowner. This is flexible and does not have to be done. If it is done every year the title has to be changed because the portion of shares undergo some changing which requires lots of taxes and cost which are not necessary.

The shares being a \$1000 is not a magical number. The shares could be \$10, \$100 etc. there is no reason behind the number. In fact if there is a credit union the share can be as small as \$5 per share in the credit union. I just suggested that figure as a convenient figure, because when a house is worth \$50,000 one would not go around collecting \$10 and most people who want to make investments can possibly make a \$1000 investment per share. However, if one wants to apply this in a Mosque, Church group or club where there are people who are not very well off but are willing to participate but not too many can afford more than \$500. One can reduce the value of the share to \$500 and increase the number of shares available. It doesn't make a difference what the value of the share is if it's an agreeable and practical figure.

Host: How can you charge rent to a home owner for the use of their own home?

Jamal Badawi:

If one totally owns their home and no one else has any claim on it then obviously no one is going to charge you any rent. When we talk about a home that is worth \$50,000 and one only owns \$10,000 which means it is not fully your own home. In a system like this the mix up happens because the concept is totally different than a traditional mortgage. In the case of mortgage you are truly not paying rent to the mortgage company but interest because you are a borrower and the mortgage company is a lender. Under this system the how owner is not a borrower and the investors are not lenders they are all co-investors including the homeowner. It is just like you and I owning a home, you own half and I own half but one of us needs to live in it. So I rent it to you if you need to live in it. It is fair that we both own it and we rent it to each other. Of course we would both share the rental value and thus you would only

have to pay me half of the rental value. It is really a concept of sharing in the consequence of the whole deal. Obviously it is unfair for the investors to contribute the money, without getting interest or rent. There must be a fair return for them. And the closest thing that would give them a return would be a rental agreement.

Host: How is the rental value determined?

Jamal Badawi:

It can be determined in the same manner as the determination of the property value. The person making the appraisal of the house can also tell you what is the fair rental value of the same property. This information is readily available and people in fields with rental departments have this information readily available. However, this is similar to the appraisal of the value of the property and is a matter of mutual agreement and what is regarded as a fair rental value.

However, as a rule of thumb the rental value can be determined to be a certain percentage of the value of the property. I think anywhere between 3/4 of a percent to 1% as a monthly rental value is not unreasonable which seems to be the average that is found in the market. This could be incorporated into the agreement and would resolve this whole problem. We are talking about a gross rental value not including rental expenses.

Host: What are included as legitimate expenses and are deducted from the gross rental value and which ones are not?

Jamal Badawi:

There are a few items that I have no doubt about including. One are taxes or insurance. When someone rents a home or apartment they do not pay taxes nor do you pay insurance. Since the whole concept is shared equity and rental then it is only fair that these basic expenses are shared by all the investors. The rental value would be the equivalent to a house that one would rent in similar conditions and areas. This should be levied against all the share holders and that is why we deduct these expenses from the gross rental. It is useful to add a few dollars to cover minor repairs like maintenance (leakage or painting every few years). This again is the practice and when a home is rented the home owners are responsible for these basic repairs. Of course in this case the home owner is part owner and the share holders are part owners so they should all share it. So this should all be deducted from the gross rental value.

Things like grass cutting and snow removal should not be included in the shared expenses because the normal practice when renting is that these things are taken care of by the tenants. It should not include any basic capital or improvements onto the house like building an extra room.

Host: What happens when improvements or additions are made to the house?

Jamal Badawi:

Again this has to be specified. One can not prevent the home owner from improving the property for the 14 years (example) of the contract. There are a few alternatives. One, is that all the investors share the cost of improvement because it would reflect on the value of the property which would in turn reflect on the value of the shares. The appraisal of the property would go up not only by inflation but also because of the added improvements. In this case everybody, homeowner as well as investors, can share the cost of improvements by spreading it out proportionally to the number of shares each of them holds. The other possibility would be to let the homeowner make this improvement of and then issue him 3 shares (example) and in subsequent years it would be the price of the current share price. This means that the formula stays the same except that the total number of shares would vary. In the previous example we assumed there were 50 shares and when he spends the extra money it changes to being 53 shares. Now his share would start at 13 shares instead of ten. Gradually he would build up more and more shares. This is just a technical issue and not a major problem at all.

Host: Is there a price that one has to pay in order to acquire equity so fast?

Jamal Badawi:

As we showed in that example one can build \$3000 in equity per year at \$550 monthly payment on a \$40,000 in investments. I agree that this is beyond imagination. Most people only get \$100-\$150 per year out of all the payments they make. Plus, under a mortgage one has to pay taxes and insurance while in this system that is covered. Under a mortgage agreement when one contributes \$150 per year to their principle the total amount of principle remains the same from year to year. In other words one borrows \$40,000 and it remains that way for the 20 or 30 years of the mortgage with very minute deductions to the principle every year. In this system one contributes a lot more in thousands to the principle but in the mean time during the following year when one wants to buy shares one doesn't buy them at the original price of \$1000 but at the new market value which could be 10% more. And every

year one buys the shares at the increased price. I still believe that this is a very fair and reasonable system. I did make some computations about that and the total payment under the SER system as compared to a mortgage would be equivalent to a 13-14% mortgage depending the appreciation of the property.

Host: If a home owner purchases more shares than the 3 who receives the money?

Jamal Badawi:

There are two ways of doing this. If all investors want this to be a long term investment and are not in a hurry to get their money back the money received from shares purchased by owners could be distributed among them in proportion to their shares. This means that everybody would have a proportional reduction in the number of shares that they own. However, the system is very flexible, with the consent of the others, one could agree with the investors that a certain person gets some of his/her money back when the owner buys back some shares which would mean that one is reducing their holdings from 10 shares to 7 shares. This can be worked out between investors anyway they like. It is a very flexible system.

Host: Is there any benefit from the investor's point of view in investing in a scheme like this verses investing in other schemes?

Jamal Badawi:

First of all the renter gets the rental income every month which comes close to 9-10% of the investment. He gets an appreciation of the value of his shares which is compounded at about 10% per year (used as the example). Third he also gets the monthly payment by way of cash which can be reinvested and would be a third source. The main price here is that one has to be fair and expect to participate in smaller increase or even decline in the value of the property which makes it fare for both sides.