

SOCIAL ORGANIZATION OF A KAREZ IN BALOCHISTAN

(WORLD SYSTEM ANALYSIS IN ANTHROPOLOGICAL PERSPECTIVE)

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ABSTRACT:

This paper presents research findings regarding traditional karez system and impact of development on its social organization. The research was conducted in village Zandra, District Ziarat, in the Province of Baluchistan, Pakistan. Zandra is situated 108 km southeast of Quetta just 12 km short of Ziarat town. This village is famous for its apple production. In this article structure and social organization of ZandraKarez have been discussed in detail before moving towards the changes brought by the development. Impact of modern technology has been analyzed in light of world system theory at micro level.

Keywords: core countries, peripheral countries, semi-peripheral countries, world's capitalist economies, karez, mother-well, shaft, tunnels, social organization

INTRODUCTION

The present research was conducted in Village Zandra, District Ziarat, in Baluchistan, Pakistan. Zandra Village is situated 108 km southeast of Quetta just 12 km short of Ziarat town. The village is 8,000 ft. above sea level and is surrounded by grey hills, apple orchards and Juniper forest, which is considered to be the 2nd largest in the world. Thus, the area is greener than other areas of the province.

Area wise Baluchistan is the largest province of Pakistan. It shares its northern border with Afghanistan and western border with Iran. The eastern end is bounded by the Sind province, whereas the Arabian Sea lies on its south. The major part of Balochistan is barren due to lack of water. The people use different sources to get water for irrigation e.g. *karez*s, wells, tube-wells, streams etc. *Karez*s are still the most important source of irrigation in different parts of Balochistan. In many areas of the province, life is not possible without *karez*s. After *karez*s there comes the number of wells and tube-wells. Some of the land is also irrigated with rainwater. In the village there are two types of irrigation systems, traditional and modern. Traditional includes *karez*s and *bowaries* (wells), whereas the tube-wells are considered as modern irrigation system which has been introduced in certain parts of Balochistan like in village Zandra. The *karez* remained as the most important source of irrigation for centuries but now this modern technology has reduced the importance of *karez*s down to certain level.

RESEARCH METHODOLOGY

Qualitative anthropological research methods which include participant observation, key informant interviews, in-depth interviews and focus group discussions were used to collect empirical data. Different sampling techniques were used during the research like judgmental sampling for selecting key informants, purposive sampling for selecting 100 households using *karez* water and snowball sampling to choose 30 households which have switched over to modern technology. It was a longitudinal study. The first visit was conducted in 1987 which lasted for 4 months, then a couple of visits in 1990s and finally in 2007.

THEORITICAL FRAMEWORK

Main focus of this research would be on world system theory. The world system approach was developed by Immanuel Wallerstein (1974¹, 1980², and 1989³). The other contributors of world system theory are Samir Amin (1970)⁴ (1973)⁵, Cardoso and Falleto (1969)⁶, Santos (1970a)⁷ (1970b)⁸, Rodney (1974)⁹, and Andre Gunder Frank(1969)¹⁰. According to Wallerstein the capitalist world economy is a dynamic system which keeps on changing with the passage of time. However, some of the basic features remain constant. When we look into these changes the core countries are clearly the most benefited from this arrangement. They earn very high profits from international trade. They exchange manufactured products for raw materials mainly from peripheral countries and to some extent from the semi-peripheral countries. The core countries are becoming richer and richer at the cost of the peripheral economies. It does not mean that every citizen of the periphery is becoming poorer and everybody in the core countries is becoming richer as a result. The landlords in the periphery often become richer at the expense of their underpaid labour, as they can exploit them and can use their surplus manpower in their interest. On the other hand in the core countries, most of the landless rural population is forced to work as wage labour, which results in a relative decline in their income and living standard. In general this theory says that the world's capitalist economies determine the rout for development of the large part of the world's population in their own favour.

In world system theory, Wallerstein explains the wide-ranging and different effects of development on the world's population. He examines how economic and political conditions in northwestern Europe transformed into the superior commercial and political power after the breakdown of feudalism. The capitalist world economy has been growing since its birth. Its geographic expansion has changed political systems as well as the labour conditions wherever it could penetrate. Functions of the world

¹Wallerstein, I. (1974). *The modern world system, vol. I: Capitalist agriculture and the origins of the European world economy in the sixteenth century*. New York: Academic Press.

²Wallerstein, I. (1980). *The Modern World System II: Mercantilism and the Consolidation of the European World Economy. 1600-1750*. New York: Academic Press.

³Wallerstein, I. (1989). *The modern world system, vol. III: The second great expansion of the capitalist world economy 1730-1840s*. San Diego: Academic Press.

⁴Amin, S. (1970). *L'accumulation à l'échelle mondiale; critique de la théorie du sous-développement*. Dakar: IFAN.

⁵Amin, S. (1973). *Neo-colonialism in West Africa*. Hamondsworth, UK: Penguin.

⁶Cardoso, F. H. & Falleto, E. (1969). *Dependenciaydesarrollo en América Latina*. Mexico City: SigloVentiuno.

⁷Dos Santos, T. (1970a). *Dependenciaeconómicaycambiorevolucionario*. Caracas: Nueva Izquierda.

⁸Dos Santos, T. (1970b). The Structure of Dependency. *American Economic Review*, 60(2), 231-236.

⁹Rodney, W. (1974). *How Europe Underdeveloped Africa*. Washington, DC: Howard University Press.

¹⁰Frank, G. (1969). *Capitalism and Underdevelopment in Latin America*. New York: Monthly Review Press.

economy have created big differences and inequalities among the economies of different countries. The relationship between the core, peripheral and semi-peripheral countries are also relative inconstant. Technological development brings positive changes all over the world. Some impulsive changes are brought in peripheral or semi-peripheral countries, but the core countries get the most advantage. Wallerstein, however, after the analysis of history of the capitalist world system firmly concluded that this development has created inequality and disparities in economic and social sectors of different countries rather than bringing prosperity all over the world.

ZandraKarez

*Karez*es are the underground channels, which bring the water from the higher to the lower place mostly for irrigational purposes. The *karez*es are present in some other countries as well. They are known by the different names in different countries. In Iran, the *karez*es are called as *kanat (Qanat)*. In North Africa, it is known as *Fuggaras*, in Oman its name is *Falaj*, and in Afghanistan it is called *karez*. The word *Kahan* is used for it in Makran, and in rest of Baluchistan it is known as *karez*. All these different names are performing the same functions in the different countries.

In spite of the modern technology and engineering, the methods of construction and maintenance of *karez*es are the same to that of hundred years ago. These *karez*es are dug by the people in shape of groups without using any machine. *Karez* diggers¹¹ are called *karezkash*, *kahankash* or *kannat*. In this field of digging *karez*es, Balochis are considered as the experts. They usually inherit this profession. Some Afghans are also working in this field. Generally, a meeting is held between the *karez* diggers and the owners of the *karez* before start of construction wherein they discuss about course of the *karez*, from where the *karez* will start and where it will end, where the mother-well¹² would be dug, who will search

¹¹Often these *karez*-diggers work in a group comprising of four members. Two members work in underground tunnel. One of them digs the tunnel with a local made tool called as *ganti*. The other fills the mud in a bag and brings it to the bottom of shaft where he attaches it with a rope and gives a signal to the members present on the top to pull that out. Normally a pulley, locally called as *charkh*, is used for this purpose.

¹²Only mother-well contains water, which is present at the head of *karez* at a higher altitude. These mother-wells could be different in number. A *kareze* can have one to ten mother-wells. In rest of the *karez*, water flows but all that is taken from mother-wells. If the number of mother-wells is more than one, then all of them are linked with each other from the bottom with the help of tunnels. All the water from different mother-wells is collected in one well from where it is taken to the fields with the help of tunnel.

for water under the ground before digging, and what method would be used out of two traditional methods which includes the use of copper wires¹³ or a “Y” shape branch of a tree¹⁴.

Zandrakarez was constructed in the village approximately 300 years ago when the people started giving attention to agriculture. This *karez* comes down to the village from the north. Its, mother-well locally called as *chashma*, is 2 kilometers away from the main road of the village. This mother-well is connected through a tunnel¹⁵ which brings the water to the village for irrigation and domestic use. It has only one mother-well and 36 shafts¹⁶. Among these 36 shafts, 18 are new and the other 18 are old ones. The shafts in the local language are called as *saa* and the tunnel as *lamboor*. About 80 years ago the old tunnel was blocked with mud and the natives had to dig a new tunnel. Thus they had to make new shafts. Now the old tunnel and shafts are nonfunctional. The distance between each shaft is about 25 meters. The distance between first shaft and mother-well is 550 meters. The depth of the mother-well is about 30 meter. The depth of shafts varies as the village does not have a smooth earth surface.

In 1935, the government made a drain from the last shaft of the *karez* to the village. This drain brings water to a pond alongside the main road. From this pond, another drain takes the water to another pond, which is present at a distance of 200 yards from the first one. From the second pond, water is distributed to three drains in different directions within the village. These drains pass through the living area to the fields. Some people have extended boundary walls of their houses over the drains to get water by keeping themselves inside the house, as there is no restriction on water for household use.

¹³In first method, a person holds two copper wires, one in each hand. He keeps these wires close but separate from each other and starts walking on the surface of the ground. Whenever he reaches the point where there is water underground, the ends of the wires touch each other. So they come to know that there is water in the deep. Some experts can even tell its depth. The natives think that the people having a specific blood group can only make a correct guess but they do not know which blood group.

¹⁴In second method of finding water, a person holds a green ‘Y’ shaped branch in his hands. He holds this branch from the separate ends with both hands. He keeps it in upward direction and walks on the surface of the earth. When he reaches the point where there is water underground, the upper end of the branch automatically comes down and when the water finishes it goes up again. This practice is called *abbo(water)shanakht* (identification). Some people call it *tajarba* (experience).

¹⁵Underground horizontal tunnel is dug to bring the water from mother-well to the ground surface. It is connected to the mother-well at the bottom. While digging a sloppy is maintained due to which, water travels down. In this system no machine is used to bring the water to the fields.

¹⁶The third essential part of the *karez* is shafts. These shafts are wells which are dug vertically at a regular distance, normally 25-30 meters, throughout the *karez*. At the bottom these are connected with tunnels. Their main function is ventilation. While digging the tunnel, mud is also taken out through these shafts. These shafts are also very useful in the cleaning and maintenance of *karez*.

In 1973 the government constructed a dam¹⁷ at a distance of 500 meters from the mother-well on the upper side to store rainwater. The government neither took any contribution from the shareholders nor imposed any tax for this dam. A small tax was imposed by the government, called as *malia* for the drain, which is Rs.2.60 per *shanger* (three hours of karez water) per year. The government has also appointed a peon on salary for cleaning the drain. People are allowed to take mud from this dam for their lands free of cost.

The government releases funds for the *karez*s amounting to Rs.5000 to 10000 annually. This year i.e. 2007 the amount was Rs.7500. The government releases this fund to the head of Union Council through ZTBL which was previously known as Agricultural Development Bank of Pakistan (ADBP). From the head of Union Council the *mirabbs*¹⁸ of *karez*s collect the amount and spend it for maintenance of the *karez*. This amount does not fulfill all the requirements so more money is collected from the people.

In 2006 the shareholders contributed Rs.300 per *shanger* (three hours of karez water) and started a project on the mother-well, which took two years to complete. They made three tunnels in the well in different directions to improve the level of water. One tunnel is 15 meters, while the other is 10 and the third one is 8 meters long. These tunnels fetch some more water to the mother well. In 2008 they were planning to make another well on top of the longest tunnel.

This *karez* needs cleaning and maintenance once in a year which is normally done in April and takes 3 to 4 days for its completion. For this purpose, labour as well as money is required. Every shareholder provides his services as labour according to his shares of water or pays money if he cannot work. This work on the *karez* by the shareholders is called *wragom* in local terminology. A person whose share is six hours (two *shangers*) of water has to work for one day. If he cannot work he may provide a person to work in his place or he has to pay money, otherwise his water could be stopped. This money is called as *nagha* and its amount is fixed by the *mirabbs* in accordance with the wages rates. By this money the

¹⁷A dam is made with the help of stones, iron net and cement, on the top of the *karez* near the mother-well to store rainwater flowing from the mountains. This water is absorbed by the earth and the level of water in the *karez* becomes higher. This dam also stops the floodwater, which could be harmful for the crops. The mud in the dam, which comes down from the mountains with water, is very useful for the preparation of agricultural land.

¹⁸Representative of the lineage who deals with the *karez* related issues.

mirabbs arrange the labourers who are easily available here. Most of the Afghans, who have migrated here work as labourer.

Uses of Karez Water

- The major function or use of the water of this *karez* is irrigation. Other than irrigation people use this water in houses. Some of the water in winter season is stored in a dam, which is made for the wells.
- Before 1980 there were six water mills, which were operated with the water of the *karez*. Now these water mills are not working because the people do not grow wheat now.
- In 1970 the government made a plan to provide electricity to the village by producing it with the help of water of the *karez* because the quantity of water, which flows in the *karez* is comparatively more than other *karezes*. But still there has been no work on this plan.

Implementation of Rule

Most of the *karez* related decisions, even at the government level, are made by following traditional rules written in a notebook, called *riwaj copy*. Whenever a decision situation arises this *riwaj copy* is consulted.

The government has also made some rules for *karez* and tube-wells. Implementation on keeping a distance of 500 yards between *karez* and the tube-wells was only observed during the fieldwork. Digging of well near the *karez* is prohibited because it decreases the water level in the mother-well. Only those people are allowed, who donate some land for *karez* where a new mother-well could be dug or the tunnel could be extended.

Social Organization

An organization is born when a group of people share interests and act collectively to coordinate their activities to achieve well defined and specified objectives. People living in a society may have a number

of requirements, and to fulfill these requirements they act together to satisfy their needs, taking into consideration behaviour patterns within the concerned society.

This definition may be common to all organizations since it has become the customary way to do things and may bring order, stability and predictable behaviour of its members. David-e-Hunter and Phillip Whitten define the social organizations thus,

“Social organization refers to the systematic ordering of social relations through acts of choice and decision. These acts are guided by precedents that are provided in the social structure and limited by the range of possible alternatives. Thus observable behaviours, including change and variations in a social system are accounted for in its social organization.”

(1976)¹⁹

The village Zandra was occupied by Pashtoons centuries ago and they have been living there since then. Zandra is a segmentary society and their social organization is based on lineages. Descent is traced through agnatic line. Property is inherited by the males. Residence pattern is patrilocal. All residents are divided into tribes, sub-tribes and lineages. They are divided into three tribes i.e. Kakar Panezai, Dotani and Turan. All of them trace their descent through a common ancestor, Kais Abdul Rashid. Majority of the population of the village comprises of seven lineages of Kakar Panezai namely Gull Mohammad Khel, Janak Khel, Parakh Khel, Anna Khel, Hassan Khel, Akhtairzai, and Notaizai.

Among seven lineages of Panizais three i.e. Gull Mohammad Khel, Janak Khel, and Parakh Khel trace their descent from three brothers and so they are closer to each other. The remainder three lineages i.e. Hassan Khel, Akhtairzai, and Notaizai, tracing their descent from other three brothers, are closer to each other because of the same reason. Anna khel is closer to the first three because they trace their descent through Juma Khan who was father's brother of Gull Muhammad, Janak and Parakh.

This segmentation of the society plays an important role in social organization of karez. For every *karez*, a manager or a management committee is needed to control and solve *karez* related issues. The

¹⁹Hunter, D. E. & Whitten, P. (1976). *The Study of Cultural Anthropology*. New York: Harper and Row.

individual manager or each member of the committee is called as '*malik of karez*' or '*mirabb*'. Main function of manager or management committee is to collect money from the shareholders for cleaning and maintenance of the *karez* and to distribute water among them according to their shares. The manager can ask any shareholder to pay money or to provide his services as a labourer. If anybody refuses, he may stop his share of water.

These *mirabbs* are selected by the shareholders keeping in view their abilities and good relations. They are not given any reward for their services that is why often people are not willing to become *mirabb*. They work independently. They are not liable to any politician or government official.

In mid 1980s, Mr. Malik Abdul Wahid was serving as a *mirabb* of Zandrakarez, He belonged to *Parakhkhel*(a lineage of KakarPanizai tribe). In his period, the schedule for the water of Zandrakarez was made for 16 days out of which 14 days were fixed for the shareholders. From the other two days, 6 hour-water was given to the *mirabb* as the reward of his services and the rest of the water was sold and the income from this water was spent on the *karez*. These extra two days of water was called as *kachapani*. Mr. Abdul Wahid served as *mirabb* for 30 years. For first 20 years, he took 6 hours, and for the next 10 years 3 hours as the reward of his services. In 1985 his services were terminated by the villagers. He was replaced by six new *mirabbs*. The people give three different reasons for his replacement:

1. He was 90 years of age and could not work for *karez*.
2. He used to take three hours extra water as reward of his services and the schedule of water in his time was of 16 days. The people of the village did not want to give him extra time and they also wanted to eliminate *kachapani* from the schedule. They wanted to make it of 14 days.
3. In early 1980s when the elections of Union Council were held, all the shareholders were divided into two parties: *ParakhKhel* and *JanakKhel*. Both parties had their own candidates for the same seat. This formation of parties became the cause of conflict, which lasted for two years. The rival group was not willing to accept that *mirabb* anymore. Thus he was dismissed and the conflict was resolved. After his

dismissal, all 6 lineages using water of this *karez* selected their own representative. Five of them belong to Kaker tribe and the sixth one belongs to *Dautanis*.

The names of the committee members with their respected lineages and their respective share of water are given in the following table:

Table 1: Mirabbs of ZandraKarez

Sr.	Name	<i>Khail</i> (lineage)	Share
1	Syed Mohammad	<i>Gull Mohammad Khel</i>	5.5 <i>shaboroze</i>
2	Mohammad All	<i>JanakKhel</i>	1 <i>shaboroze</i>
3	Syed Mohammad	<i>ParakhKhel</i>	1 <i>shaboroze</i>
4	Hazrat	<i>HussanKhel</i>	2.5 <i>shaboroze</i>
5	Haji Mazullah	<i>Anna Khel</i>	1 <i>shaboroze</i>
6	Wazeer Mohammad	<i>Dautanis</i>	3 <i>shaboroze</i>

Each member is responsible for his own *khail*. He collects the contribution and can ask the people to go for work on *karez* from his own *khail*. He is also responsible for the distribution of water among his own people. He has no powers to say anything to the members of the other party. All these *mirabbs* don't take anything as reward of their services.

All these *mirabbs* act as a group on the matters of *karez*. All of them have equal status. No one is the head of the group. Haji Mazullah is responsible for dealing with money matters. He collects the money of contribution from the other *mirabbs*. He also collects aids from the government. He spends the money on *karez* and keeps the record with him. He has been selected for this post of treasurer by the group members with mutual consensus. He belongs to Anna khel and has one *shaboroze* (24 hours of *karez* water) under his control.

In the beginning of the year when the people start irrigating their fields, all the *mirabbs* get together and have a meeting for making a schedule for the year. In this schedule they fix the turns of the shareholders

according to their times. They give this schedule to the people who follow it. One can take his turn after 14 days, once in day time and the next in the night.

This schedule is of 14 *shaboroze*. One *shaboroze* is equal to 24 hours. Half of it is called *wakat* (time). Each *shaboroze* has 8 *shangers* (three hours of *karez* water). One *shanger* is equal to 8 *pals*; so one *pal* is equal to 22.30 minutes. All these 14 *shaboroze* are divided into six *khels*. Five of them are *Panizais* and the sixth one is *Dautanies*. These *Dautanies* have 3 *shaboroze* of water and the other 11 *shaboroze* are divided among *Panizais*. The *Tarans* share water with *Panizais*. They are not a separate party and have no representative.

All these representatives of different *khels* never had a conflict among them except once when all the members wanted to increase a day in the water schedule to help the poor people of the village, but Syed Mohammad who belonged to *ParakhKhel* did not agree. The members of this group resolved the conflict in three days. They did not change the schedule.

The members of every *khel* cooperate with their representatives because all of them are considered as kinsmen. All the shareholders offer their services whenever asked by their respective *mirabb*. If they are unable to work, they can give money or provide any other labourer. If someone refuses to provide services or money, the *mirabb* can suspend his share, but it never occurred.

Being kinsmen, the members of *khel* have some obligations as well. They have to do something for each other. For example if someone is unable to work on *karez*, any of his kinsmen will go in place of him. If someone can't pay money, any other will do it for him. The people work for each other as and when needed on reciprocal basis. The work done for any other in return of work is called *sari*. No reward is taken for this work. The friends also come for help but often they are relatives, the members of the same *khel*. In conflicts, the people support the party of their own *khel* and if the conflict is between sub-tribes the people support their sub-tribe and same is the case with tribe.

Some shareholders of this *karez* exchange water with each other on 7th day and some people having surplus of water sell it. In both the cases preference is given to the kinsmen. They sell water to the

kinsmen at lesser rates. Water is also distributed on the basis of *khels*, which is a reason of their cooperation with each other as well as with *mirabbs*.

Not only the kinsmen but other shareholders also co-operate with each other. And one reason for this cooperation is fear of conflict. If one *khel* does not co-operate with others the conflict may erupt between different *khels*. Another factor behind this co-operation is water. They know well if they do not co-operate with each other their share of water will be suspended.

Mostly the issues of water become the cause of conflicts and disputes. The clashes often take place in the winter when the natives follow no schedule of getting water for their fields. The nature of these conflicts is not very serious. Mostly these conflicts stay at individual level. Lineages normally don't get involved.

Khels play an important part in the social organization of *Zandrakarez*. These are the *khels* which becomes the basis of water distribution, mutual cooperation among the people, conflicts and the resolution. The powers of *mirabbs* are also derived from the *khels*. Sometimes small conflicts arise between kinsmen, which end on distribution of property and formation of nuclear families.

IMPACT OF TECHNOLOGY, A WORLD SYSTEM ANALYSIS

In 2002, a major change in irrigation and water supply took place. The government with the help of natives started installing tube wells in the village, which are technologically far ahead than *karez system*. These tube wells are operated with electric motors and pumps, which pull water from 450 feet deep in the earth. Water travels to the fields through pipeline, so there is no wastage of water as it is in *karez* water because it flows through unpaved drains. The quantity of water provided by these tube wells is much more than the *karez* or the wells. Presently, 70% of the irrigation water requirements are fulfilled by these tube wells whereas 30% by *karez*. The importance of *karez* in their lives has for the first time decreased owing to the advent of new technology.

There are 40 tube wells in the village, 35 of them are privately owned and 5 are owned by the government. The government owned tube wells are used for domestic water supply and the private ones are used for irrigation. Some of the private tube wells are owned by the individuals and some others by the groups comprising kinsmen, depending upon the water requirement and affordability. The government provides half of the total cost to the natives for purchasing the equipment and installation. Two NGOs – Jall and Pipeline – are also working on irrigational projects in the village under the foreign financial aid. Jall is working to improve the condition of drains and Pipeline is providing pipelines in the village.

These tube wells have provided solution to one of the major problems in the village. Undoubtedly it is development but it has brought about some significant changes in the socio-economic structure. *Zandrakarez* was not only providing the people with water for their irrigational and domestic needs but was also working as a cohesive force among their lineages. It kept the kinship relationship strong for a long time as it has become weaker. As I have mentioned earlier this village is a segmentary society. Their social organization is based on the lineages. The karez water is also shared among the lineage members. In 1980s, the people could not refuse marriage proposals for sharing karez water. Same was the case with the other issues like politics, conflicts or economic transactions etc. however the situation is different today. Now the natives prefer the one who is economically sound and well educated even if he is not a kinsman. Water sharing has no significance for them anymore. So this modern irrigation system has weakened their social integration.

This new water technology has increased per-capita income of the natives. They have started investing on other than orchards. They are improving quality education to their children. Their purchasing power has increased many folds. The shops in the village reported that their sales on Eid Day were almost five times more than that of last two occasions. This increase in per-capita income is leading to a big change in the family structure. The joint families are breaking up into nuclear families. Many people have started their business in Quetta and for the purpose, one or two or even more members of the family have to leave the village while the others are staying in the village to look after the orchards. In some of these cases the family members divided their property separating their respective businesses in the village and the cities because the people living in the village have to put a lot of physical effort to take care of the orchards but the income in the end is distributed equally also to those who did not

contributed physically. In most of the cases the people living in the village are not getting anything from the business their brothers are doing in Quetta or elsewhere.

When jointfamilies breakinto nuclear families it normally results into urban migration where the majority of the adults work for the industry and their dependence upon the consumer products also increases.

Subsistence economy in the village was gradually moving towards cash economy since the advent of apple economy. The modern irrigation system has really enhanced the speed of change. In subsistence economy, people were growing crops for their domestic use and keeping cattle for meeting household needs, meaning thereby that they don't have to spend money to get anything from the market. On the other hand when it opened up into the market economy, the farmer started growing crops to sell in the market and earn money. Now he has to buy almost everything for his personal use from the market. The money which he earns always falls short of his needs because of change in his consumption patron. For example, in the past he drank *lasi*²⁰ to finish his thirst and served the same to his guests, but today he buys coca cola or any other soft drink for the purpose. Same is the case with other products which are available in the market and properly backed up with advertising.

Shift from subsistence economy to cash economy supports the industry as the raw materials, which includes livestock and farm production are sold in the market to earn money and for personal consumption they are bought from the market produced or processed by the industry. So the ultimate beneficiary of this change remains the industrialist of core countries for being producer of all these products.

Since the middle of 20th century, the village economy was only based on horticulture with apple as the main source of income, but now theyare involved indifferent businesses and employment in public and private sector to earn additional income. In order to further supplement domestic income, the women have started working. Some of them have started producing home based handicrafts.

²⁰Milk product; remaining liquid after taking out the butter from the milk

Moving from horticulture economy to businesses and employments in public and private sector to earn additional income also benefits the industry as it finds cheap labour. Supplementary domestic income by the women folk through handicrafts helps to maintain low wage rates.

This improved irrigation system was introduced in the village in public-private partnership and some further refinements have been brought with the help of NGOs. This change attracted some more development in the field of horticulture which includes use of technology, modern techniques, transportation, pesticides and chemical fertilizers. Before 1980s farmers were dependent upon animals for farming and the animal waste for urea.

Technology, modern techniques, transportation, pesticides and chemical fertilizers used in the village are imported from the core countries sometimes in shape of finished products and sometimes in shape of instillations, industrial supplies and fabricated parts.

Use of pesticides and chemical fertilizers gives rise to health problems due to which medical bill increases and the pharmaceutical industry of the core countries gets benefit. The transfer of wealth by exploiting periphery and semi-periphery by core countries which encourages rapid scientific development so that Western medicine and other scientific institutions could surpass underdeveloped countries of the world.

The low profit farm products are no more cultivated in the village. Majority of the natives has replaced cheap quality apple trees with that of expensive ones. They have switching over to the types having great export value, local market demand and high profit. The market is also in transition from local market to the export. Before 1980s total production was consumed at local markets but now more than 40% of the apple is sold to the exporters. Increase in the export of farm products supports Wallerstein argument where he says that world is becoming a single economic unit through exchange and trade with a vast diversity in division of labour among the countries.

CONCLUSION

Man is change oriented by nature. Traces of this advancement could be found right from human prehistory which begins in the Paleolithic Era. Significant changes in man's life were brought first by Agricultural Revolution started between 8000 and 5000 BC and then by Industrial Revolution in 18th century. After Industrial Revolution the concept of development changed from enhancement of the richness of human life to the richness of the economy in which a man lives, with industrialization as its pre-requisite. During last couple of decades the pace of the development has really been increased.

The data reveals that use of technology has affected the village and economic growth is visible everywhere. The natives are economically well off. Their income through farm and other secondary sources has grown up. Cash economy has resulted in the growth of per-capita income and increase in the volume of consumer goods and thus improved the material quality of life of the people. On the other hand it has also resulted into the disintegration of social bonds in the village.

According to world system theory core countries have an interest in growth of the peripheral countries, because such a growth increases demand for the goods produced by the capitalist industry. This, in turn, will promote growth in the core countries. The interdependence exists between core and periphery which supports the core countries as the consumer products used in peripheral countries become a source of profit and inexpensive raw material and cheap labour provide them savings. So they are becoming richer and richer at the cost of the peripheral economies.

The world's capitalist economies determine the route for development of the large part of the world's population in their own favour. The economically backward countries have to pledge considerable resources to set in motion an industrial development process. Technological development brings positive changes all over the world. Some impulsive changes are brought in peripheral or semi-peripheral countries, but the core countries get the most advantage.

In the end the researcher is in full agreement with the views of world system theorists who have been working in the field of capitalist world economy (Wallerstein, Samir Amin, and A. G. Frank). In the light of empirical data world system theory is found valid and accepted.

Bibliography

Amin, S. (1970). *L'accumulation à l'échelle mondiale; critique de la théorie du sous-développement*. Dakar: IFAN.

Amin, S. (1973). *Neo-colonialism in West Africa*. Hamondsworth, UK: Penguin.

Cardoso, F. H. & Falletto, E. (1969). *Dependencia y desarrollo en América Latina*. Mexico City: Siglo Veintiuno.

Dos Santos, T. (1970a). *Dependencia económica y cambio revolucionario*. Caracas: Nueva Izquierda.

Dos Santos, T. (1970b). The Structure of Dependency. *American Economic Review*, 60(2), 231-236.

Frank, G. (1969). *Capitalism and Underdevelopment in Latin America*. New York: Monthly Review Press.

Hunter, D. E. & Whitten, P. (1976). *The Study of Cultural Anthropology*. New York: Harper and Row.

Rodney, W. (1974). *How Europe Underdeveloped Africa*. Washington, DC: Howard University Press.

Wallerstein, I. (1974). *The modern world system, vol. I: Capitalist agriculture and the origins of the European world economy in the sixteenth century*. New York: Academic Press.

Wallerstein, I. (1980). *The Modern World System II: Mercantilism and the Consolidation of the European World Economy. 1600-1750*. New York: Academic Press.

Wallerstein, I. (1989). *The modern world system, vol. III: The second great expansion of the capitalist world economy 1730-1840s*. San Diego: Academic Press.