Importance of indigenous knowledge in rural areas

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Abstract: Indigenous knowledge of each nation has enabled them to supply their needs from natural sources without reducing these sources. So, indigenous knowledge collection of world is valuable source of practices and time-tested tool that would be useful for sustainable development of all societies. At third world countries, unconsidered triumph of world development policies has led to various social, economic, cultural and environmental issues (Agrawal, 2002). Imbalance population growth, non-sustainable efficiency of natural sources and unequal distribution of resources, goods and services made involved societies in confusing issues and impasses. In these countries, inappropriate sampling of abroad countries and inordinate imports (e.g. heterogeneous and non-indigenous technology) devastated independent collection of micro local systems , and instead has established heterogeneous and dependent system to global economy system , that obviously couldn't supply people's needs. Since , this development process is formed without considering social , cultural and environmental consequents so isn't continuing and human have to find strategies which can make development sustainable and humane(Popzan, 2002) .

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Introduction:

During 1950 and 1960 decades, native (indigenous) knowledge was an inefficiency and absolute barrier for development. Nevertheless, now indigenous knowledge is recognized as a basic source. Indeed this knowledge was an answer to failure of great developmental theories by great countries and it was as a technical oriented solution for changing most peasants and farmers view in the world. (Agrawall, 2002).

The lack of indigenous knowledge about indigenous practices in many technologies in the developing countries will lead to failure. So attention to indigenous knowledge as a knowledge that is result of many thousand years experience is important in development of villages. Rural benefactors, the people who had communion in development of villages, can take efficient steps in rural development if they pay attention in the process of rural schematization for its development. Indigenous knowledge has different aspects, such as hygiene and treatment, medical plants, linguistics, livestock and agriculture, art and mystery and unprofessional things (Farrokhi and Yaghoubi, 2002).

Indigenous knowledge is local knowledge that is restricted to one specific culture and/or certain society. Indigenous knowledge is different with scientific knowledge that was established by universities and scientific communities. This knowledge is basis for decision making at field of agriculture, health, education, food and natural sources (Warren, 1993).

Indigenous knowledge is set of all knowledge and skills that people enjoy in one geographical area (in one environmental conditions) that most of their skills and knowledge be transmitted to next generation , and new generation would be adapted with them and add to it (Merrewij , 1999) .

Since, each knowledge is consequent of individual interaction with environment, so indigenous knowledge is consequent of indigenous people interaction with their environment. Chambers with emphasis on people's role at development process believes that "rural people's knowledge" term is more eloquent than other terms for indigenous knowledge. Our purpose of rural people are producer farmers , input buyers , agriculture production sellers and etc. "people" in above phrase emphasis that this knowledge is more verbal and less has been written . This word also referred to whole knowledge system which contains concepts, beliefs, and attitudes and also contains gain, store and transmitting knowledge process (Rajasekaran, and Babu, 1996).

Features of indigenous knowledge

Some of these features are as follow:

Indigenous knowledge is holistic: indigenous knowledge is gained by sense and inspiration force

and leads information unity. In spite of formal knowledge that is aural, visual and analytic.

Indigenous knowledge is verbal: writing and documenting indigenous knowledge would make it out of reach of villagers who can add to it, if it would not follow applied activities.

Indigenous knowledge is practical: it is possible to write about indigenous knowledge but it is impossible to educate and learn it through books and articles. Only way to learn it is close view and follow professor.

Indigenous knowledge isn't explanatory: it isn't possible to expect one master (e.g. mason, apothecary, farmer) to explain his method efficiency in a way that is apprehensible to us (literate people)

Indigenous knowledge is local: villager's knowledge has formed in itself environmental and climate framework. Effective indigenous knowledge at one geographical area isn't necessarily effective at other area (Nowroozi, A and Alagha, 2000).

Indigenous knowledge is general : while, formal knowledge emphasis is on saving time and removing ideas and also monopoly of knowledge at universities and research institutes , but indigenous knowledge is , receptive , incentive and needs to more people's participation at learning , developing and add to it. Furthermore, in verbal cultures, it is impossible to separate science from world and even include it to computer and book. Every human are important in indigenous knowledge.

Indigenous knowledge is deteriorating quickly: by every death of old indigenous people, great knowledge resources would be lost also, so every action toward gathering indigenous knowledge is necessary.

Learning by doing: repeating action in order to sustain and enforce indigenous knowledge through "learning by doing" is one of features of indigenous knowledge in real operation environment (Emadi and Abbasi, 2001)

Villager's knowledge and especially indigenous knowledge systems have various dimensions that is include linguistic knowledge, zoology, ecology, climate, agriculture, ranching and professional skills. Range and value of this knowledge hasn't been considered. Four aspects of various dimensions of rural knowledge were selected and were analyzed, In order to change attitudes and reformer's behavior of rural development. These dimensions are: agriculture operations, rural knowledge about nature, rural people's aptitudes and abilities and their experiences (Razavi, 2002).

In Chambers' opinion , indigenous knowledge or rural knowledge has various dimensions that he classified them to four parts in order to explain more and better about diversity of indigenous knowledge that are as follow : A: farming activity ; B: knowledge in relation to nature ; C : indigenous people's aptitude and ability ; D: indigenous people's test . indigenous people's knowledge originated from exact viewing of environment; since indigenous villagers have direct contact with phenomenon and also see all different processes at nature so have especial aptitude and ability compared to outside people . Maybe least known aspect of indigenous villager's knowledge is essence of tests that they do which maybe these tests are available to choose "bests" and some other for "minimizing risks" (Dewes, 1998).

Characters of indigenous knowledge:

The characters of indigenous knowledge like the definition of this knowledge are presented by experts in different ways which we will explain about them as follow:

1- it is based on experience:

Indigenous knowledge is the result of people's experience during many centuries.

2- it was tested during centuries by working on it.

3- it is compatible with indigenous environment and culture:

Indigenous knowledge was created through native societies and it was formed according to their needs and during time the things which were not compatible with indigenous environment were omitted, so what was remained was compatible with the environment and culture of that society (Amiri Ardekani and 2003).

4- it is dynamic and is changing:

Simultaneously with changing indigenous culture, the indigenous knowledge was changing too.

5- the knowledge of rural people was not technical:

This knowledge was consisted of rural people's wishes, values and preferences.

6- the rural people's knowledge is not statistic:

This knowledge was formed according to people's culture, social and economic history. The history which was written by these rural people shows that their manner and activities were efficient in changing of their conditions.

7- rural people's knowledge is not enough.

Maybe the rural people are knowledgeable but they like to know more and more. Because they want to be powerful in their discussions with political, economical and social forces who made these people poverty before give them technology (Zare and Yaghoubi, 2003).

8- rural people's knowledge has root on their political economy and is more important in political field.

The advantages that rural people can get from indigenous knowledge are the knowledge that is created and released locally and is on their authority and also depends on main factors in regional politic economy (land distribution, marketing relations, and vertical links and …). So improvement of their livelihoods depends on interferences which were made to pervade on these main factors.

9- most of the rural people are public-oriented

Mostly, they have a little information about many things which is in contrast with academic educations. Specialist people in universities have deep knowledge in little fields (of course some of these native people are specialist too) (Razavi, 1999).

10- indigenous knowledge systems are holist:

Local people consider the other people's problems as their problems and try to solve these problems in a whole frame with using their knowledge.

11- indigenous knowledge systems combine the culture and religious believes.

Religious believes as a part of indigenous knowledge are not separated from technical knowledge and these believes effect on people' do and don't

12- indigenous knowledge systems prefer the less risk to most profit

Escaping of risk is important for native people, for example a native person usually keeps some goats for possible cases such as disease of his children and he and he didn't expect any incomes of these cases.

Comparison of native and modern knowledge

Native knowledge is different from modern knowledge in some cases that we will explain them as follow:

- Modern knowledge is reductionism (atomistic) but native knowledge is holist
- Native knowledge is reductionism (atomistic) and modern knowledge is holist
- By using native knowledge we can reach to a sustainable agriculture and modern knowledge doesn't have this feature.
- Government organizations have known native knowledge unreliable but modern knowledge is supported by scientific organization and institutions.
- Native knowledge is available for rural people but modern knowledge is not (Rajasekaran and et al, 1996).

Compilation of native and modern knowledge:

Many experts believe that for making a sustainable development, native and modern knowledge should be combined. Nowadays, so much efforts have done to make use of native knowledge but main part of these efforts were done for derivation and making it scientific (Burger, 1997).

Amiri Ardakani and Shah vali (2003) believe that the undesirable outcomes of development on people and rural environment is the result of using new science by scientist, so by blending and making relation between modern and native knowledge we can solve this problem.

Millar believe that by combining native and modern knowledge we can make trust between researchers and rural people, because by using this way researchers and rural people know themselves as a partner that are responsible for a common process and product. Millar believe that the trust is the reason for future development (Penny, 2001).

Experts believe that there is no way to reach sustainable development except to combine native and modern knowledge.

Native and modern knowledge will complicate when:

1- We solve structural barriers such as political, economical, cultural and social difficulties.
2- We correct the thoughts on educational systems by emphasizing on learning and thought process and also correct the thoughts on research systems by emphasizing on audience and beneficiaries needs.
3- We solve communication barriers that cause inactivity on relation process and steady and dynamic flow of knowledge between peasants, experts and scholars. (Emadi and Amiri Ardakani. 2004).

Nowadays, making scientific native knowledge in agriculture had devoted important part of native knowledge researches to itself. Creation forestry cultivation system which is taken from indigenous exploitation pattern in forested region is the result of making scientific native knowledge. Stimulus cultivation of fruit trees with other production was usual by farmers in developing countries from one hundred years before (Louise, 2000).

Environmental problems because of forest destruction, made scientist interested to use of forestry's methods and ways and forced them to make these ways scientific. Scientist had specified the physical and biological compatibility between different species and it is output according to laboratory studies and has identified compatible trees and productions. Then they supplied package sets by new title such as forestry cultivation, multi-cultivation and ecological agriculture systems and give them to farmers in commercial and formulated packages. Making native knowledge scientific is meaning to find its efficiency scientific reasons. In

the process of making native knowledge scientific, most of the experts and researchers are not aware of cultural aspects of ways and native methods. If derivation of native knowledge and making it scientific was without attention to cultural aspects and governing values on indigenous society, it couldn't be acceptable among native people.

Experiences show that native people would not accept methods which are not compatible with their belief and needs even if it had had scientific bank roll (Emadi and Abbasi, 2001).

Conclusion and discussion:

Necessity and importance of indigenous knowledge and sustainable human development prepared field for establishing "united nation conference, about nature and development" at 1992. this conference was established due to complaints against damaging environment in order to prepare basis for active indigenous people's participation at legislation and policy making , how to manage sources and related activities to development ; and also if people presented some suggestions about recent subjects , so find way to practice them. Failure of moved technology to rural societies also manifested necessity of considering indigenous people and their knowledge. At the other hand, considering indigenous knowledge is essential to help formal knowledge; because indigenous expert's attendance beside other experts has very critical importance. For example, indigenous peoples know condition of their regional epistemology, very well. Thus, their attendance is very affective for extending incompatible technologies with condition of region and at least, it conceives propagators to test these innovations at small scales and under natural condition and helps to extend them at larger scales, after being ensured of their appropriateness.

So, not only attendance of indigenous knowledge is necessary for applied researches but is important at compatibility researches and it enforced importance of attending to indigenous people and their knowledge. Therefore , applying affective strategy for transmitting technology has been among from affective fields at attending to indigenous people's knowledge and especially experts; because, development institutes realized positive their affects for doing this more than ever (Merrewij 1998) .

Indigenous knowledge has been manifested at sustainable process and improving extension programs at industrial countries of world, very well. Indigenous knowledge related to agriculture, medicine, food and architecture has been widely used At European countries, USA, Canada, Australia, by new names.

At one research as a name of "analyzing position of indigenous knowledge at sustainable rural development" that was done by Buzarjomhore (2005) it was signified that although there are some differences between indigenous and formal knowledge, but they should not be compared, because they are complementary of each other and it is possible to gain successes by synthesizing them that is impossible lonely. Base on new paradigms of rural development in order to solve rural problems, we should first refer to indigenous solutions and if it was working, then we should reinforce it; if not we should test and use outside solutions. Findings of one research done by Emadi and Amiri (2004), as "Synthesizing indigenous knowledge and formal knowledge as necessity for accessing to sustainable rural development", has shown that dominated belief among educated groups toward natives and their knowledge is precondition of every interaction, synthesis and relation. Creating revolution in formal education systems in order to attending empirical knowledge area is considered as one of main necessity of this synthesis that is outcome of years of researches. Researchers attention to "exploiter's accumulated experimental and historical wisdom" is one of other necessities of this revolution by using cooperative, qualitative and filed methods. Also, applying mutual extension ways and creating revolution at communication system between governmental, education-extension centers and farmers and rural people so that they be interacting, was considered as precondition and necessities. At researches as "indigenous knowledge at development process" done by Karimi (2003) , findings show that indigenous knowledge is principal factor and main source at the field of research of sustainable development , decreasing poverty , enabling local men and attracting their participation at activities and rural development programs , developing and producing appropriate technology , self-reliance of rural societies and country.

So, effort and national commitment and multi-dimensional support is very critical for recording, valuing, extending and exchanging this rich source and also preparing mechanism and practical strategy for synthesizing this knowledge with new knowledge and agricultural development programs.

Agricultural extension was identified as one powerful IT focused area, due to role variation at knowledge system and agriculture information at one hand and at the other hand due to its dependence on various exchanges among farmers, that can has great affect on rural society and developing agriculture. So that work and productions of farmers would increase by farmer's access and use of Internet and subsistence farmers at all over the world are at

developing by gaining needed knowledge and information that during time would becoming as commercial producers. Transmitting from system-cycle source of agriculture to technology-cycle system of agriculture placed more responsibility on agricultural extension because agriculture extension system is as vital technology transfer crossing to farmers at one hand and as crossing for referring feedbacks, needs and agriculture issues, researchers and policy makers of market.

What that is obvious is that extending and researching agriculture can help to sustainability through close relation to farmers , attending to their experiences , gaining their information and logical understanding of agriculture activities , attending to their vital needs for doing “demand-base” researches and extension education efforts for developing agriculture , at process of improving agriculture development.

On the research which was done by Bozarjomhari (2004) with this title "analyzing native knowledge position on rural sustainable development". It was specified that although there are many differences between native and modern knowledge but they are not in contrast with each other, because they are each other's supplement and we can't be success when we use them separately. According to new parameters in rural development, for solving rural problems, at the first we should use of native solutions and if it was not efficient, we can use and test external solutions.

Research findings which was done by Emadi and Amiri (2004) with this title " compilation of native and modern knowledge is necessary for reaching agriculture sustainable development" signify that The believe of educated people to native people and their knowledge " precondition for making them close" is called combination and compilation. Making evolution in modern system for attention to tentative knowledge is the main necessity for this compilation. Another necessity for this evolution is the researcher's attention to experimental accumulated wisdom and historical exploit by using qualitative and communion methods. Also applying compilation methods and making evolution among government, educational centers, farmers and peasant is the necessity and pre condition for combination of modern and native knowledge.

Research findings that was done by Karimi with this title " native knowledge in development process" signify that native knowledge was a essential element and important source for realization of sustainable development, poverty reduction, making local people capable and motivate them to participate in activities for agriculture and rural development, developing and product suitable technology, rural society's self-reliance and self sufficiency. For this reason all side's try, partnership and protection for record and registration, compatibility, distribution and promotion , exchange of this resources and also suitable and scientific guidelines for compilation of this knowledge with new knowledge and rural and agricultural development plans are needed. Although native and modern knowledge are different from each other in their nature and usage, but it doesn't mean that they are in contrast with each other. Experience shows that not only native and modern knowledge are not in contrast with each other, but also they are suitable supplement in agriculture and rural development for providing developmental needs.

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