

The role of indigenous knowledge toward improving agriculture

Mohaddaseh Nazarpour¹, Maryam Abedi² and ³ Fatemeh Bakhtiar

^{1,2,3} Marvdasht Branch, Islamic Azad University, Marvdasht, Iran

*Corresponding author: saba11085@yahoo.com

Abstract: Experience shows that indigenous knowledge not only has no contradiction with formal knowledge but different indigenous knowledge features, put it as well complementary for formal knowledge. Indigenous knowledge is accessible, useful and cheap. Its perspective is holistic and its transmission is verbal. Knowledge is dynamic and time-tested, and while it has grown within local natural and social environment, so it is very sustainable with indigenous condition. Indigenous knowledge refers to both component and whole part of culture of each nation and this component and whole integration is so that stop to change traditional society of life without indigenous knowledge out of its cultural origin and therefore would lose its concept and effectiveness.

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Introduction:

In recent decades following issues had been recognized very essential : programming and performing development plans , indigenous knowledge at farming , pest control , ranching , veterinary , nutrition , medicine , watershed management , foresting , architecture , urban planning , social associations and decision making method as sustainable technology . At one hand, reason of this great evolution can be found due to wrong policy and at the other hand in undesirable environmental consequences of these policies.

Studies have given new dimension to agriculture research. Now, in many countries the managers of agriculture resources are the people who are trained in western countries. So if the manager becomes familiar with the culture and environment roots of indigenous system of resource management, they won't do mistake. Indigenous agriculture is based on cooperation of farmer with nature.

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 consequences so isn't continuing and human have to find strategies which can make development sustainable and humane (Popzan, 2002) .

Indigenous knowledge owners of world in current age (which known as information age) have valuable experiences from industry age and from inappropriate exploitation of their natural sources. These countries have learned that exporting produced goods is better than selling petroleum. Enforcing indigenous productive system at villages and also encouraging youths and teens to learn indigenous knowledge at one hand , and preparing suitable research condition for applied-sciences scholars in order to identify better and increasing applied aptitude of indigenous knowledge at the other hand , is equal to protection and sustainable use of natural resources (Zare, H and Yaghoubi, 2003).

From Robert Chambers' view, power and wealth are at industry and at cities, and poverty and deprivation are part of villager's life. Power and wealth of cities of world has absorbed experts, sources and needed research facilities for producing and disseminating knowledge. Knowledge of these modern centers is considered scientific, advanced, and valid and enjoys premium technology. He labeled this group as "first" and in contrast "last" for deprived villagers. Because, preferences and values of these two groups are different.

Their knowledge and attitudes are also different. he believes that since “first” development remedies and their attitudes have led to fault , irregular and deprivation , so deprived villager’s attitudes and knowledge should be considered serious in order to reach to improve conditions for this part of human society as they need and demand(Azkia, M and Imani, 2008) .

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).

Sustainable agriculture

Generally sustainable agriculture is every kind of production system which follows theses goals:

More complete mixing of natural processes such as food cycles, nitrogen fixation, and relation of pests and natural disasters with agriculture productions processes.

Decreasing use of that non-farming, outside and non-renewable inputs in order to reduce damage to environment or less damage to farmers and consumer’s health.

More fair access to interests and productions opportunities and progress in order to access to forms of agriculture that is fairer, and also increasing self reliance between farmers and villagers (Chambers, 2000).

Using more potential biologic and genetic aptitude of plant and animal species.

Using more local knowledge including innovative approaches that scholars didn’t understand it completely or farmers didn’t accept it extensively.

Combined agriculture would prepare this opportunity for common systems to apply needed reforms without creating inclusive changes in it toward organic systems. Therefore, aforementioned systems are considered as medium between common intensive agriculture and organic agriculture methods.

Two principles have especial importance at sustainable agriculture that is:

at early 1980's, with the emergence of new concepts, renewable agriculture and sustainable agriculture evolved and indeed it was based on "ecological interplay affect". now, this concept forms alter indigenous agriculture philosophy.

Sustainable agriculture presented from 1987 at global scale. In this principle, "agricultural interplay affects with society" is presented. Three issues are important about sustainability: first is enough income especially between poor people. Second is increasing access opportunity to food and its consumption. This means that more food should be prepared through increasing production and improving marketing. Third issue contains protecting and improving natural resources (Louise, 2000).

Conclusion and discussion:

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.

*Corresponding Author:

Mohaddaseh Nazarpour
Marvdasht Branch, Islamic Azad University,
Marvdasht, Iran
E-mail: saba11085@yahoo.com

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