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IMPACT OF AGRICULTURAL LITERATURE ON ORGANIC FARMING IN NORTHEASTERN REGION

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Agriculture is one of the basic sources of subsistence for man over thousands of years. It is vitally linked with the production of the basic constituents of man's food, shelter and clothing which is derived from plants and animals. It provides a livelihood to half of the words 's population even today (Kamla,2002). The word Agriculture is derived from the Latin words Ager and culture; ager means field and culture means cultivation Together, the term therefore, means cultivation of the field (Anonymous, 1980). Dictionaries usually describe agriculture as the science or art of cultivating the soil, producing crops and raising livestock (Anonymous, 1971). It is also the science of producing and rearing plants and animals. It constitutes the foundation of all social, cultural and economic structure of mankind (Rainu, 1987).

Pre-Independent agriculture

Farmers are having their own practices in farming system since the beginning of the art of agriculture. These indigenous technologies are eco-friendly suitable to different locations. These traditional farming systems have been developed by the ancestors from time immemorial, defined through the commonsense wisdom and practiced over centuries. It is practiced mainly by small and marginal farmers producing food for their families and local village community. Their knowledge of agriculture embrace selection of crops, transplantation, plant protection, weeding, maturing, etc. A mixture of crops such as intercropping, crop rotation were widely practiced throughout the year without drops in yield . Further, the crops were relatively free from pests, highly economical, effective for utilization of natural resources without impairing the environment over a longer period of time.

The Green Revolution steered by research- based technological developments involving new methods, materials have transformed the agriculture dramatically. This involves the use of improved high yielding crop varieties, higher levels of inputs of fertilizers, irrigation, plant protection chemicals, suitable management strategies, mechanization, etc. However, this achievement though remarkable in food production and productivity has resulted in the elimination of thousand of traditional varieties of crops, which steadily destroying the stable traditional ecosystems.

Agriculture in North Eastern Region

In NE Region, traditional agriculture depending on organic manure resources is practiced for many centuries. This traditional agricultural farming is unique, resulting from continuous process of experimentation, innovation which have been evolved over many generations. Thus, this ensures adequate utilization of natural resources with maximization of efficiency. Yielding of agricultural crops is inadequate in the past due to non-utilisation of available resources accordingly. Agricultural workers in this region do not have access to the new information, new development, researches published in micro literature to make timely decision. To achieve sustainable food production, the solution lies in a number of promising farming methods. Among the various measures, organic farming is the essential strategy of sustainable agricultural system to cope with the problem of sustainability in crop production.

Resource degradation

Over the years of successful implementation of modern agricultural technological innovations, adverse effects are coming to light gradually covering major areas viz., environmental degradation, deforestation, health hazard linked to increase use of toxic- agrochemicals, land degradation, urbanisation, rapid industrialization, commercialization, demographic pressure, fragmentation of land due to division of joint family into nuclear family, food scarcity, faulty agricultural practices and other factors. Thus, the gravity of resource degradation have caused grave alarm among the concerned agricultural scientists, planners, conservationists, social scientists, farmers, etc. These threats pose serious problems to the farmers and the society, which have adverse impact on future generation. Therefore, the present situation demands to evolve an environmental friendly technology.

Organic farming

Organic farming is a matter of giving back to nature what we take from it. It is safe, inexpensive, profitable and sensible. It is a system of farming based on integral relationship among soil, water plants and animal kingdom, of which man is the apex animal. It is the totality of these relationships which is the backbone of organic farming (Fantilanan, 1990). Besides, it minimising pollution and preventing environmental degradation, it helps in maintaining ecological balance because farmers have to depend on local natural resources.

Impact of agricultural literature

- The following findings on the basis of agricultural researches could be presented for consideration and implementation (references have been cited at the end of this paper).
- Establishing seed bank on all crops grown in the region, to guard against any unforeseen calamities.
- Blending of frontier technologies which are socially equitable, economically viable and environmentally acceptable with traditional agricultural knowledge must be prioritized with the objective to learn more from farmer's wisdom.
- Agricultural research can not flourish alone. Multidisciplinary research need to be developed to generate technology appropriate to local conditions on a continuous basis.
- Emphasizing research efforts on precision farming drawing on expertise in the range of subject areas such as agronomy, entomology, genetics, plant science, soil science, etc. It involves the use of right inputs, at the right time by right quality applied in the right way.
- For better utilization of locally available resources, location specific technology must be properly developed to maintain ecological balance.
- To enhance crop productivity in the near future, farmers need to be encouraged through Resource Conservation Technologies, with proper use of natural resources. It must suit local conditions as well as farmer's needs.
- There is a need for adoption of consortium approach to share knowledge and experiences with corporate organization, agricultural research institution, NGOs, private sectors of the country. This will highlight perspective constraints in right direction.
- Advance research in the field of agriculture is crucial to harness vast natural resources in order to bring a rainbow revolution which is eco- friendly environment.
- Intensive research on traditional agricultural information must be scientifically documented, analysed and evaluated which may offers scientific explanation.
- Community Information Centre in this region is needed to promote the free flow of information. Accessibility of relevant information at village level will bridge the gaps between the farmers and the information sources for further improvement.

- Remote sensing technology needs to be developed which generate resourceful information at various levels. This is useful for resource planners to revitalize the natural resources for sustainable agricultural production.
- Creating of databases of such innovations and making them available via Wide area Network (WAN) at a low cost is the best example for agricultural development in this region.
- Technologies available at different research organizations in regional languages need to be started at grass root level. This step helps to obtain feedback from farmers for further assessment and refinement of the technologies.
- Geographical Information System (GIS) must be set up in this region for collecting, storing, retrieving and displaying geographical information crucial in the present day. This is helpful for effective planning, decision making etc. It also facilitates inter- departmental information sharing.
- A wide range of communication technologies need to be developed to meet the information needs of the farming communities. These include internet, electronic mail, CD ROM and other electronic media. Therefore, dissemination of agricultural information will benefit them.
- Global exchange of scientific programmes needs to be extended. This will provide a broader scope of knowledge and experiences of the new technologies.
- Future Thrusts

To achieve sustainable agriculture the following factors are as follows:

Collaborative and co-ordinated efforts of local agricultural research institutions, agricultural universities is necessary for optimum food production.

- Advance research in the field of agriculture which is eco-friendly is crucial for long term sustainability.
- Agricultural research institutions must establish an excellent communication network for effective dissemination of research findings/ latest technologies.
- Latest tools of information technology are the primitive means to bring new face of agricultural development. They are the potential keys to future success.
- Indian Council of Agricultural research ICAR), other state agricultural departments can take the initiative in this direction, due to research infrastructure availability. Another significant contribution is to meet the changing human needs of today and tomorrow.

REFERENCES

Anonymous (1971). Webster's Seventh New Colegiate Dictionary. Massachusetts, G & C Merria, 19

Anonymous (1980). Compton's Encyclopadia and Fact Index. Britanica. F.E. Compton, 101.

Fantilana, S. (1990). Safe, Inexpensive, Profitable, Sensible. *International Agriculture Development.* March-April : 24.

Kamla, K. (2002). Suatainable Agriculture and Organic Farming. *Indian Farmers' Digest.* 35(10) : 5-10.

Rainu, S. (1987). Dictionary of Technical Terms. New Delhi: Amol Publications, 5.