STUDY ON DEEPENING THE REFORM OF AGRICULTURAL CONTINUING EDUCATION AND BOOSTING THE DEVELOPMENT OF AGRICULTURE, RURAL AREA AND FARMER

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Abstract: This paper expounds the characteristics, the importance and the necessity of continuing education, and analyzes the guidelines, the objectives, the training system and modes of agricultural continuing education (ACE). In the end, it puts forward the basic approaches and measures for ACE reform.

Keywords: continuing education, agriculture, reform

Agricultural continuing education (ACE) is one of the important contents of developing agriculture vigorously with science and education, and a main approach to boost sustainable agricultural development. Currently, ACE is making headway in China; however, there are some new problems. This paper analyzes and discusses main problems in continuing education and puts forward the approaches and measures for deepening the ACE reform and boosting the development of agriculture, rural area and farmer.

I. The connotation, characteristics and basic types of ACE
1. Agricultural continuing education (ACE) refers to the extra education that can promote agricultural practitioners’ quality and can update, supplement and broaden their knowledge and skills. ACE is also a measure for integrated human resource development, an effective method of intensifying combination of agricultural research, education and production, and of promoting the transformation of new technology to productive forces. ACE is mainly for farmers, agricultural technicians and administrative personnel.

2. ACE has following characteristics: Firstly, it updates and supplements practitioners’ concept, knowledge, technology and method. Secondly, it is so practical that the training contents can be directly connected with practice and real situation and can solve the new problems in production. Thirdly, it focuses on fostering practitioners’ creativity and innovativity. Fourthly, it conforms to the on-the-job education which
requires the trainees to obtain more skill and knowledge in short time, so as to solve more problems. Fifthly, it needs long-lasting continuation and renewal. Sixthly, it sets a high starting point and high objectives so that the trainees' knowledge and skill can be expanded and enhanced.

3. The basic types of ACE
(1)Supplementary type. It focuses on the knowledge insufficiency of the practitioners in some aspects so as to supplement and improve their knowledge repository instead of deepening the knowledge or enhancing the educational degree. At present, this kind of education is particularly needed.
(2)Adaptive type. It’s mainly for the practitioners without actual working experience or capabilities. Special training will be conducted according to the read demands of their positions.
(3)Updating type. It’s for those whose knowledge cannot meet the demands of current work and therefore whose knowledge must be updated.
(4)Alternative type. Due to the industrial restructuring or change of work, training is necessary for practitioners to restudy the required knowledge and skill.
(5)Improving type. It’s for agricultural technicians who have some practical experience and future of development. The purpose is to foster high level specialists.
(6)Research type. This is a kind of high level continuing education for the trainees to have some technical and academic study and exploration on some important projects concerning scientific research, production and management.

II. The significance of Continuing Education to the development of agriculture, rural area and farmer
1. Continuing education is one of the national policies to promote the strategy of “developing agriculture and national economy vigorously with science and education”

Nowadays, continuing education has become a kind of worldwide trend, and to build a learning-type society and lifelong education system has drawn the world-wide attention. The Chinese government has paid great attention to continuing education and taken it as one of the main contents of the strategy of developing agriculture vigorously with science and education and the strategy of talent development. Article 37 of Scientific and Technical Progress Law says “the nation will adopt measures and approaches to foster all sorts of technical specialists”. Article 40 of Education Law says “the practitioners have the legal right and obligation to receive vocational education and continuing education”. It can be said that developing continuing education vigorously is one of the national policies to promote the strategy of “developing agriculture and national economy vigorously with science and education”. Only when we carefully carry out this policy to foster new type of agricultural practitioners with high quality, advanced skills and operational capability, can we transform the pressure originated from huge agricultural population into the human resource advantage so as to build the new socialist countryside.

2. Continuing education is a main approach to build lifelong education system and
Learning-type industry

Continuing education is a major approach to build and improve lifelong education system. According to UNESCO's statistics, humankind's scientific knowledge accumulated over the last 3 decades accounts for 90% of the total accumulated in the history. British technical predictor James Martin also pointed out similar trend: humankind's knowledge increased by 100% every fifty years in 19th century; it took only five years in 1970s; while in the last decade each three year can see a 100% increase of knowledge[1]. Another research shows that the knowledge learned in college accounts for only 20% of the knowledge needed in work and the rest 80% needs to be learned during the work and life, so the continuing education and lifelong learning are the important stages for talent development. Lifelong education and learning have become common demand of various countries for educational development and social progress. The agricultural technology develops rapidly and the practitioners should receive lifelong education and insist on lifelong learning so as to survive in keen competition and achieve sustainable development.

3. Continuing education is basal, comprehensive and urgent

Currently there are over 400 million agricultural practitioners in China, 75% of which have received junior middle school education or less, 12.7% of which, secondary education and 4.7% of which, higher education. The contribution rate of human resource to economic growth is only 1/10 as much as that of USA. Along with the economic globalization and rapid development of science and technology, knowledge is regarded as the root for human’s development and restructuring global economy, which is more important than raw material, labor and capital. To promote continuing education vigorously for enhancing the capability of practitioners is a trend and demand for agricultural development, and also an urgent task faced practitioners.

III. The major problems existing in Chinese ACE

Facing the new opportunities for agriculture development in new century, China lags behind the developed countries in ACE. The main problems include ACE is unrelated with technical research and extension service; it does not meet the needs of farmers and of the development of rural economy. Besides, the backward production method, insufficient capital input, deviating understanding and slow reform in educational system also restrict the ACE development.

IV. The guideline and principle of deepening ACE reform

Guidelines: Guided by Deng Xiaoping Theory and the Three Represents Theory, insisted the policy of catering to modernization, world and future, centered on strategy of modern farming development and building new socialist countryside, based on all-round development of practitioners, increasing innovation, competition ability as major task, to enhance training of grass-roots needed technicians and to build a team of practitioners for new century.

Principle: (1) principle of study for the purpose of application. Insisting the principle of “To study the necessary knowledge and skill in working ”is the essential
request of developing ACE. (2) To teach students in accordance with their aptitude. In ACE, there is uniform target but also different training means for different student. (3) Effectiveness first. The practitioners are busy at their works so that they have to receive training in short time for necessary theory, skills, new information. Make sure the quality and actual effect. (4) Grading management. Different administrative levels and departments need different training in continuing education so that grading management & training, mutual coordination should be adopted to apply their own advantages.

V. Basic considerations, approaches and measures of boosting ACE
1. Definition of ACE development goals
   Currently, the reform’s focus of attention of ACE is laid on how to improve the ability of practitioners, to serve the comprehensive development of rural economy and society, to center on “production development, well-off living, social civilization, tidy environment and administration democracy”, based on technical, cultural and education development, main points on promoting production level and expanding 2nd and 3rd industries, breakthrough point on transfer of rural labors and income generation. General speaking, the goals of ACE development are to boost three civilizations in rural area and promoting the development of “three agriculture-related fields”.

2. Deepening the reform of ACE operation system
   (1) Based on the goals and guideline of Chinese agriculture and rural works, integrated with relevant laws and regulations of ACE, it is necessary to define strategy position of ACE, development plan and fund source etc. so as to enhance the level and ability of ACE work.
   (2) Positively strive for support from government departments like finance, education, science to do well in activities such as farmer training so as to enhance skill and ability of practitioners and make a harmonious development of ACE.
   (3) To carry out ACE according to different types and levels. Governmental officials’ continuing education should focus on knowledge renewal and management enhancement; high level technicians should mainly enhance their integrated ability by attending seminars and postgraduate courses; primary and secondary level technicians should enhance their technical level by attending diploma class, training class or seminars in agricultural colleges; and the youth farmers can receive suitable technical training or green certificate class to improve their skills.
   (4) Changing the function of governmental departments and operation according to education rule. ACE has been changed from a centralized training by administrative means to a flexible and open training by schools or training institutions according to real demand of farmers and technicians. Farmers and technicians’ desire should be respected and the governments can not replace the main position of farmers and technicians according to old fashion in planning economy times and should follow the rule of marketing and education.
3. Deepening school-operation reform of ACE.

ACE can not be apart from rural area, agriculture and farmers, but it can not be confined only in agriculture and should strive for support from relevant governmental departments.

(1)To break the closed structure and barrier shaped in old planning economy times and to build an open & ordered continuing education system. To dismantle the industrial and departmental barriers and build new level, structure and layout of ACE: giving priority to higher education, secondary education as mainstay, adult vocational education as basis so as to create an open, ordered and vigorous ACE system with different levels.

To build a college service system for ACE by system innovation, for instance, to set up rural education institute, education school and agricultural extension service center. Top borrow the experiences of USA, Japan, German, and South Korea in ACE, and after the authentication of education and agriculture departments, 1-2 ACE schools will be set up in each province within the existing agricultural schools so as to change situation of ACE being weakened due to the management system change.

Coordinating between provincial level departments, lay on existing agricultural schools to set up city level ACE demonstration base and to drive ACE development at county and village levels.

(2) To boost “vocational education, adult education and continuing education” planning system construction. Education and agricultural departments at all levels should change the situation of ACE absence in some colleges. The colleges without teacher and facility for continuing education should be rectified and improved to set up “vocational education, adult education and continuing education” planning system and the ACE should be managed in systemic and standardized ways.

(3) To optimize ACE structure at county and village levels. The core part should be laid on grass-root. By integrating manpower and facility, 1-3 ACE schools should be set up in each county and some small schools at township and village levels. The adult education school and training institutions under standard should be rectified and improved to avoid the waste of education resources.

4. To deepen education content reform of ACE

ACE should pay attention to practice, pertinence and advanced, integrating with relevant projects on scientific research, technical innovation, new technology introduction, extension service, new product development and management modernization.

Firstly, to conduct high-tech and key technology training. Trace the world trend of agricultural technology development and stress on transgenic crop variety breeding, hybrid advantage in cotton, oil and grain crops, fruit and crop virus-free breeding, gene engineering, animal vaccine, agricultural product processing and fresh-keeping, disease & pest forecaster system, equilibrium fertilization information system, animal and poultry large-scale management system etc. so as to have a breakthrough in high-tech training and restructure the agriculture distribution for higher technical level.

Secondly, the suitable and applied technical training are developed to serve the
regional agriculture development. Agriculture production has regional, industrial, geographical and population features, which will be the foundations to develop modern agriculture, and promote agricultural regionalization, specialization and commercialization. Therefore, ACE should lay on regional agriculture features, carrying out training according to local conditions. In recent years, National Agriculture Ministry held some training classes in southern China and northeastern China on rice, maize and soybean new technologies. After training, integrating with local conditions, the practitioners can extend these technologies for better economic and social effectiveness.

Thirdly, to carry out urgent technology training. In northern China, for the drought climate, water-saving dry-farming technology is the stress point. The cross-straits animal and poultry metabolic syndrome seminar and cross-straits green farming technology seminar have been held to enhance the exchange among compatriots and promote understanding and communication.

5. To integrate ACE with rural basic education

Firstly, rural education's effectiveness and applied content decide that rural basic education should integrate with continuing education. The types, levels, means, stages, regionalization of rural basic education have to show the characters of modern agriculture development. The purpose of rural basic education is to foster practitioners with applied skills. By means of the integration of ACE and rural basic education, the basic education will be deepened and extend the chains of knowledge and skills to display the effectiveness of rural education.

Secondly, ACE and rural basic education’s integration is the core of rural lifelong education, and the best choice of education accommodating economic restructuring and social changes. The sustainable development of agricultural technology and rural society need ACE integrating with rural basic education to realize manpower’s sustainable development and social comprehensive development. The major object of ACE is farmer so that to do well in farmers' training is one of the main points of ACE. Nowadays, among the rural labors, only 20% of them received short time training, 3.4% of them had primary vocational education, 0.13% for secondary vocation education and 76.4% without any technical training, which shows the task of continuing education is heavy and also much potential. Farmers’ continuing education needs also further improvement, whose courses and books should be laid on “local condition, applied and real effectiveness”, and be fond and received easily by farmers. The printing papers should also be accompanied with videotapes or discs to show the applied and easy-learned means for farmers.

Thirdly, vocational education for rural labor shift is another key point of ACE. According to consideration of “grand training, transfer, income generation and development”, the mechanism of policy support, fund input and market operation should be set up and improved to carry out varieties of labor shift trainings such as industrialization enterprise running training class, labor recommendation fair in coastal area and service station for out-working labors who need service in legal right maintenance so as to promote a health transfer and employment of rural labors.
6. To increase investment of ACE

ACE’s input is a guarantee for sustainable development of agriculture, however, the insufficient input is a long-worried factor of ACE development. In China, the input distribution of continuing education is dissymmetry, e.g. in USA, the enterprises will input 1.5% of the sale income or 8%--10% of the total salary into continuing education. But in China, many enterprises and departments pay less attention to continuing education input and sometimes fund is not guaranteed. To change the situation, the input should be increased. (1) The governments and agricultural departments at all levels should input more fund into ACE to guide the investment. (2) The employer can cooperate with colleges to run the training so as to solve fund insufficient. (3) Private investment. The trainee should bear some fee for education investment risk.

7. To accelerate legalization procedure for ACE

Currently the legalization of ACE nationally is dragging, for most of provinces have not legislated the law and regulations for ACE. The legalization backward has confined greatly the health development of ACE. Therefore, the legalization of ACE should be put on schedule for governments or relevant departments at all levels so as to guarantee the application of ACE by the authority of laws. In agricultural industries, qualification training and position certificate training should be pursued to protect the right of practitioners for receiving continuing education. The law enforcement should be strengthened to overcome lower effective enforcement. The enforcement responsibility should be fulfilled by relevant departments in which an enforcement institution will be set up to guarantee the strict law enforcement in practice.

References:

Curriculum Vitae

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