

# THE TECHNICAL TRAINING FOR THE FARMERS BY USING THE LOUDSPEAKER IN RURAL AREAS

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Since 1980s, China has conducted distance education and training programmes for farmers by using radio, television, Internet, satellite and other education techniques to make it easy for farmers to access the agricultural knowledge, techniques, policies and laws. Almost all villages in Hebei province are equipped with wire broadcasting and loudspeakers, which make it easy and convenient to deliver rapidly the training programme of agricultural technology. It is an important means as it is cost-effective and easy to operate, especially in the remote mountainous areas where the TV sets are luxurious consumables for the farmers and the TV signal is difficult to reach.

This paper presents the practice and experience in respect of technical education and training for farmers by utilising the loudspeaker to solve the “last-mile linkage” problem by taking the advantage of resources of China Rural Distance System and a wealth of experience accumulated in the past years. It provides a successful case in combination and complement between conventional media and modern media (Internet and MP3), which is being implemented as a pilot project titled “Conduct Outreach to Household by Loudspeaker Programme”.

## **Background of proposing the use of loudspeakers in rural areas to carry out farmers’ science and technology training**

### **1. Ways through which rural China receives agricultural knowledge and technology**

China is a big agricultural country with large farming population. In recent years, the governments at various levels in China attach great importance to rural areas, agriculture and farmers. In order to uplift the overall science, technology and education level of farmers, radio and TV stations from the central and provincial levels have established various agricultural programs one after another, which to a great extent have promoted agricultural production and rural economic development. However, since rural China covers extensive areas with diversified topography, many places in the country could not receive such radio and TV programs. In addition, many farmers in rural China lack consciousness about learning and using science and technologies on their own initiatives. Knowledge popularization through radio and television stations can only be feasible under the preconditions that farmers have the time to follow the programs and farmers have the wise selection among the large choices of entertainment programs. Of course, governments at various levels have organized agricultural expert teams and timely delivered technical training and advices to farmers in rural areas. But when facing millions of households in 700,000 villages in the country, it is difficult to have sufficient coverage through such a delivery modality. Therefore, in order to realize the overall improvement of the quality of hundreds of millions of farmers, it is far from sufficient to rely on face-to-face training; furthermore, face-to-face instruction requires substantial investment in human, finance and materials. Therefore, it is necessary to establish farmers’ training mechanism of multiple channels and modalities so as to carry out agricultural knowledge popularization, agricultural technological extension and dissemination of agricultural policies to farmers. The media of broadcast can break up the restraints of time and space, voice can reach farmers before a physical person can, so we propose to use loudspeakers to undertake science and technology broadcast in communities.

### **2. Popularization of loudspeakers in rural areas**

Cable loudspeakers are installed in almost of all villages in rural China, furthermore, the number and distribution of loudspeakers in each village are determined by the population size as well as the terrain of the village, which are in conformity with the features of dispersed residence and extensiveness of rural areas. Once the loudspeaker is on, echoes of voices are all over the village

and information can immediately reach all households. Loudspeakers are propaganda tools used by the Party and the government to disseminate state policies and stimulate the masses to work hard under the conditions of backward rural economy in the 60's of the last century. After the implementation of household responsibility system linking output with income in rural areas, loudspeakers became the mouth piece of the government to urge farmers to submit grains, fees and tax. By now, along with the gradual popularization and development of television, telephone and the Internet in rural areas, the functions of loudspeakers have gradually faded away and loudspeakers have vanished from farmers' memories, but stayed silently on the tree trunks or on poles. CABTS started to use broadcast media to deliver agricultural education in July 1981. The media of broadcast is not only a means, but more importantly an approach of popularizing training. In order to fully use the resource advantage of loudspeakers in rural areas, we proposed to use loudspeakers to disseminate science and technology to farmers and provide information for prosperity.

### **3. Functions and advantages of Agricultural Broadcast and Television School in China**

The principal function of agricultural broadcast and television school is to deliver education and training to farmers through radio and television. With many years' efforts, CABTS has established rather complete school running systems with five-level management institutions at the central, provincial, municipal, county and township levels. It boosts modern audio production equipment. The central school and most of provincial schools have established cooperation ties with radio and television stations at the corresponding levels to offer various types of agricultural technology programs, and have accumulated a large quantity of audio program resources in agricultural science and technologies. Along with the ever-developing of new technologies and research results in agriculture, the program resources are also been enriched and updated. If such resources are disseminated selectively and purposely to rural areas through the CABTS system and broadcasted through loudspeakers, it can achieve double results with only half effort. Therefore, we propose the idea of using loudspeakers in rural areas to popularize knowledge and deliver technical training to farmers.

#### **Feasibility of using loudspeakers in rural areas to carry out training in science and technology to farmers**

##### **1. High attention given by governmental departments at various levels**

In recent years, along with the increasing concern of the government departments about agriculture, farmers and rural areas, more and more attention is also given to issues pertaining to farmers' learning and using of agricultural sciences and technologies. Governments at various levels have adopted various modalities to disseminate knowledge and technology to farmers. Therefore, on the basis of fully investigations and studies in early 2002, CABTS selected 50 villages in Hebei Province that have good facilities and in which farmers are enthusiastic and established agricultural science and technology broadcast stations, which broadcast programs of CABTS via loudspeakers, that are suitable to local situations. The deed quickly caught the attention of government departments at various levels and was welcomed by farmers. Therefore, many villages actively submitted application to CABTS for the establishment of broadcast stations for science and technology. By far, over 2,000 villages in 105 counties in Hebei Province have completed the setup of the loudspeaker stations. Some local governments even mobilized their own local financial resources to prepare articles for broadcasting, and a number of broadcast programs with high accuracy of targeting have been produced. Through exploration and practices of over 3 years, "science and technology loudspeaker" is not only a window for CABTS to directly serve farmers, but also become a link and bridge for communication between government departments and farmers. Through loudspeakers, it not only disseminates agricultural knowledge and technologies to farmers, but also agricultural policies of the state. Policies concerning farmers and rural areas are also broadcasted to farmers. It informs farmers what the government wishes to and wants to do. The system improved farmers' consciousness about the politics and strengthened spiritual civilization development in rural areas.

## **2. Farmers are anxious to get knowledge and need to have techniques**

The implementation of getting science and technologies to farmer households and the improvement of farmer's quality are important basis for agricultural efficiency increase and farmers' income growth, and a strong pillar to accelerated development of modern agriculture and rural areas. Along with the ever-progressing agricultural modernization in China, farmers' consciousness about learning and using sciences and technologies becomes increasingly strong and farmers' demand for prosperity relying on sciences and technologies becomes higher and higher. Since the establishment of the science and technology broadcast station in Changdian Village of Shangzhuang Township in Qian'an County of Hebei Province, farmers approach the village committee almost every day to enquire about the contents and schedule of broadcast. Therefore, the village committee established various regulations to ensure that the work would be smoothly carried out and farmers' demands are met. For instance, village committee has established record systems of broadcast contents, plans and arrangements of each week, farmers' opinions and suggestions, effects of the program voiced, and the loaning of audio programs. As such, the broadcast station can timely understand farmers' demand and attend to farmers' recommendations so as to do a better job. After attending the opinions of farmers, the broadcast station of Liuguo Village of Chengde County of Hebei Province produced and broadcasted programs in association with agricultural seasons, local agricultural structure and local feature of agricultural production. Knowledge is disseminated during slack season and technologies are diffused during busy farming season. In addition, while conducting programs, their attention is given to four synchronizations: the contents broadcasted go hand in hand with local industries, technologies broadcasted go hand in hand with production season, market information broadcasted goes hand in hand with the market and knowledge broadcasted goes hand in hand with farmer's needs, hence it stimulated the interest of farmers of listening and learning. For the past year, through sampling survey conducted in 50 villages within Hebei Province, it was found that on average 82% of farmer households in rural areas in the sampled areas listened to the broadcast on time. Among the listeners, 92% of them held that the contents broadcasted played guiding role to their agricultural production and other agro-business activities. Practice has proven that this is an effective way to improve the farmers' science, technology and education level.

## **3. Convenient, fast, vast coverage and strong operationality**

Broadcast media has the characteristics rapid response, easy operation and vast coverage, the community broadcast in rural area in particular is an important media in economically less developed areas and has large number of recipients, which is for farmers the most convenient channel to accept practical information and technologies. Using loudspeakers to air program does not affect any activities of farmers (field work and housekeeping). Farmers do not need to allocate special time but rather use meal time early in the morning, at noon and in the evening to listen to regular broadcasts. This is to promote a gradual change from a passive listener to a habit, and as time progresses, it will be become a need of farmers. As such, farmers' consciousness about science and technology is improved and it has become a fashion for farmers to learn and use sciences.

## **4. Combination of the traditional broadcast with modern media – low cost and high efficiency**

Loudspeakers in rural areas and other corresponding broadcast equipment are the available broadcast resources built and accumulated by grassroots cadres in the past years, therefore, it does not require new investment in establishing agricultural science and technology broadcast station, the only thing needed is to check and repair the equipment. If management is further strengthened, regulations are established, jobs and positions are set up and the broadcasting is taken as an important function of the village committee, it will be extremely smooth to deliver the work. Major input needed is the production and reproduction of audio programs in science and technology. Our study has discovered that along with the broad application of digital technologies and continued development of modernization in rural areas, some rural areas already have the capability to use computers to browse the Internet. Therefore, we converted the agricultural programs produced by agricultural broadcast and television schools at various levels

into digital format and placed in the fixed columns in the distance education website for rural areas and the broadcast stations can download these programs from the Internet to the MP3 players that is connected with an amplifier to directly broadcast the programs via loudspeakers in rural areas. Such combination of modern and traditional media is faster and more convenient, which saved stages and costs for copying of audio cassettes and for transportation and distribution. It further improved efficiency and lowered costs. Through serious comparison study of 10 villages that use different types of broadcast modalities, when audio cassettes are used, the average input of a village annually is about 1,500 RMB Yuan; if MP3 player is used, the average annual input is only 500-800 RMB Yuan. MP3 can be used repeatedly and has the advantages of using the shortest time to transmit the latest agricultural production technologies and information to farmers. Such a cost-effective modality of technology transmission is undoubtedly an effective way of improving farmers' quality, which has high value for extension.

### **Primary results of using loudspeakers to carry out training in science and technologies for farmers in rural areas.**

#### **1. Farmers' awareness about science and technology enhanced and farmers' scientific farming level improved**

According to initial statistics, science and technology broadcast stations in rural Hebei Province have about 5 million farmer listeners, while each farmer can get to know and learn about 100 items of information about agricultural knowledge, policies, technologies and information. Many farmers have walked out from the traditional agricultural production and operation mode, improved the consciousness and capability of learning and using sciences and technologies and established new concepts about scientific development of agriculture.

#### **2. Accelerated the popularization of agricultural science and technology and broadened the thinking of farmers about their income growth and prosperity**

Since rural areas are located in remote areas with inconvenient communication and information access, the channels for farmers to get information is limited and obstructed, causing that some agricultural new technologies, new research results and new information can not be timely disseminated to farmers, as a result, the transformation rate of agricultural science and technological research results to productivity is slow and the rational use and development level of agricultural resources is relatively low, hence hampering the improvement of agricultural modernization and information-driven level in China and obstructing the broadening of channels for farmers' income growth and prosperity. The undertaking of agricultural science and technology broadcast provided a window to farmers to learn science and technologies, to understand market information and master the dynamics of sciences and technologies so that farmers can accept knowledge and formation without stepping out of their homes hence accelerating the popularization of agricultural sciences and technologies and broadening the thinking of farmers for income growth and prosperity. Therefore, farmers have changed their traditional production mode and relied on science and technology to organize production and relied on information to get into the market. For instance, there are over 70 farmer households engaged in pig production in one village in Fengning County, due to the lack of scientific pig raising technologies, the efficiency of pig raising has been low. After the establishment of the broadcasting station in the village, the "three-in-one" pig raising technologies were repeatedly broadcasted, which transformed the "free feeding" to scientific feeding, shortening the production cycle from one year to 6 months, reducing the cost of feeding and greatly improving the economic effects of pig raising.

#### **3. Promoted rural economic development and adjustment of industrial structure**

The dissemination of agricultural technologies and S&T information promoted the establishment of rural industrial pattern of "one industry for one township and one product for one village", speeded up the adjustment of industrial structure and promoted rural economic development. Daxingdian Village in Qian'an County is a small village located in the middle of a mountain slope and most villagers rely on animal rearing for their income, but they can not generate good

benefits due to the fact that the animal breeds are not pure and the farming scale is too small. After the village broadcasted the “Techniques and development perspective of raising Boer goat” and detailed studies and discussions, the leading group of the village committee decided to spend about 40,000 RMB Yuan to purchase Boer goats from other places. Then the entire village was engaged in the scale production of Boer goats and standardized management and business operations were promoted. The village quickly became a specialized Boer goat production village that was well-known among the neighboring areas. Through repeated broadcasting of “Vegetable production techniques in greenhouses”, Liugou Township of Chengde County developed into a greenhouse vegetable production township, and a “50km-long white corridor” was built in the township. Loudspeakers were installed in the greenhouses so that farmers can listen to broadcast while working in the greenhouse. In addition, in order to ensure farmers’ production will get due returns, vegetable production and marketing service association were established, and farmers have tasted the benefits of production in line with purchase orders. Through conducting agricultural science and technology broadcast in rural areas, specialized vegetable production villages, coarse grain production villages, biogas energy demonstration villages and 40 other demonstration villages of different industries emerged in Hebei Province, which promoted rural economic development in an overall manner.

#### **4. Strengthened the development of spiritual civilization in rural areas, laying solid foundation for the construction of new rural China**

The sound of the loudspeakers in a village broke up the silence of the past, improved the spirits of farmers and played the role of guidance and motivation. Through such broadcast programs, we timely disseminated agricultural and rural policies of the state to farmers, informed farmers of the things that the government wanted to do, so that farmers have more confidence in the government, more care about their collectives and politics, which improved the position of the township government in the hearts of villagers and increase coherences. After the launching of the broadcast in Liguanying Village of Qinghuangdao City, farmers have spiritual sustenance. More and more farmers discuss new science and technology at leisure time rather than playing Majiang and cards. When farmers have free time, they proceed to the broadcast station to look for audio cassettes and watch VCDs; their enthusiasm about learning sciences and using sciences became higher and higher, and their awareness about laws and about protecting the laws became stronger and stronger. The village and folk custom has been significantly improved, hence strengthening spiritual civilization development of rural areas and forcefully promoting the process of modernization of new rural areas.

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