Privatization of Agricultural Extension Services
Model of An giang Plant Protection Joint Stock Company

by Ass. Prof. & Dr. ĐINH PHI HỔ

The biggest challenge of Vietnam's agriculture in the WTO era is its competitiveness. Our country is facing two main disadvantages in comparison with neighboring countries: small production scale of farm economy and low efficiency of applied technologies in farm production. These consequences will be the danger to small farmers' bankruptcy and inability to improve farmers' income due to higher production costs but lower product quality, not meeting requirements of the world market. Farmers themselves have to choose production scale and adopt technologies. Nevertheless, this critically depends on their awareness of farming. The world experience shows agricultural extension will be the most effective way to enhance farmers' knowledge about agriculture. Furthermore, the government can help improve farmer's understanding within the WTO regulations. In case of Vietnam, when the Government's budget for agricultural extension is limited, it is necessary to involve other sectors in agricultural extension, especially businesses' agricultural extension. The paper focuses on three main issues: The role of agricultural extension in economics, initial achievements of the An Giang Plant Protection Joint Stock Company (AG Company in short) and policy suggestions to expand the model.

I. ECONOMICS ASPECTS OF AGRICULTURAL EXTENSION

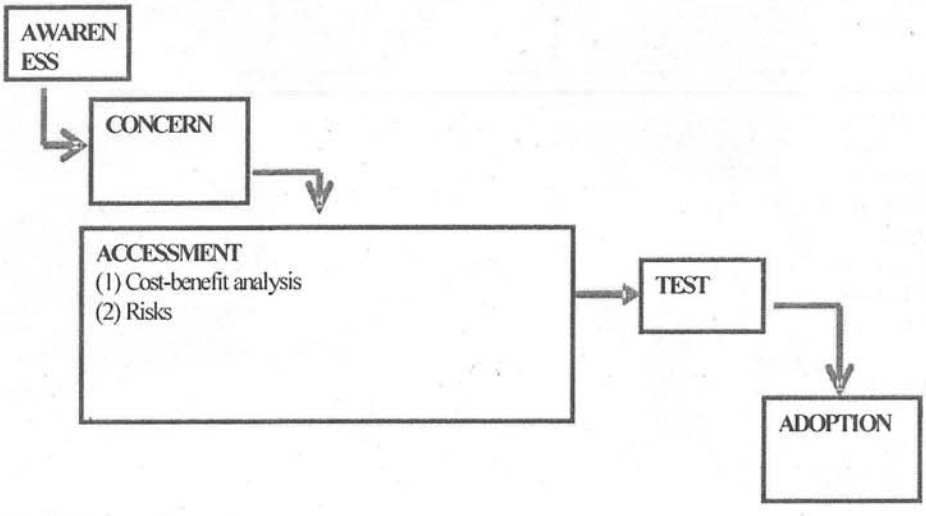
According to Feder G. and Slade R. (1993), the generation of new technologies is not a sufficient condition for increased farm productivity if there is a gap between available knowledge and typical farmer practices. As a result, farm technical information services should be provided to make connections between the supplier of technologies and the user. However, information on new technologies in the agricultural sector is often a public good because the provider of information to one user cannot exclude others from obtaining the information without charge and the value of information is not affected by the number of users. Therefore, farm technical information services should be provided on the basis of the government's investment. The system acting as a bridge between technological advances from research institutions and users is just the extension system.

1. Why do farmers are not willing to adopt new technologies?

Wharton C. (1971) presents the model of "Six Nots" to explain why farmers are not willing to apply new technologies. (1) Not aware of or understanding new technologies; (2) Not capable of practicing; (3) Not acceptable in psychological, cultural or social aspects; (4) Not adaptable; (5) Not affordable; and (6) Not available for adoption. Rogers (1971) describes farmer adoption of new technologies as a five-stage process.

Jedlicka (1997) gives additional ideas to the Rogers' model: the central problem to diffusion of new technologies and farmer popular adoption is: How to help farmers

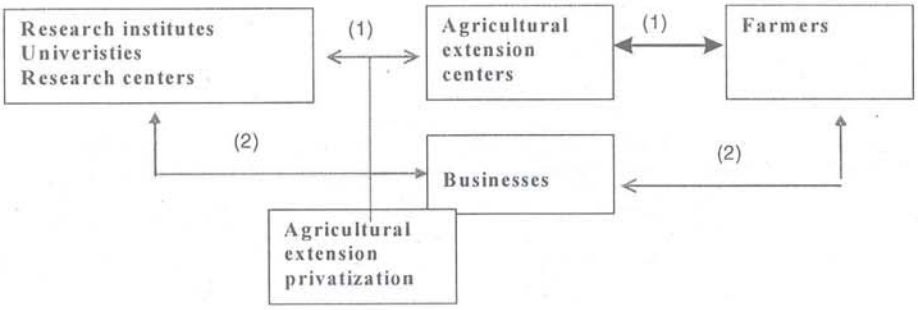
Figure 1: The process of new technologies adoption



know risks and benefits in adopting these technologies on their own.

As a result, the establishment of the state agricultural extension system becomes essential and it will transfer new technologies to farmers with a great variety of extension methods.

Figure 2: Traditional model and privatization



2. The necessity of privatization of agricultural extension in Vietnam

According to the world's traditional model (1), the national agricultural extension system is a bridge linking the supplier of new technologies with farmers. Over the past ten years, Vietnam government has affirmed its effective role as state agricultural extension in technological transfer to farmers. Extension services are financed by the Government. In Vietnamese conditions of budget constraint, privatization of agricultural extension (2) is necessary for attracting all social resources to transfer technologies to farmers with a view to enhancing their farming awareness. The AG Company is typical in playing this role.

II. THE AG COMPANY'S MODEL

In the early 2006-2007 winter-spring crop, before threats of an epidemic caused by brown plant hoppers, the AG Company organized the program "Work with farmers" for key affected provinces in the Mekong Delta. In 2006, the program developed 146 agricultural extension fields in provinces of Long An, Bến Tre, Đồng Tháp, Hậu Giang, An Giang, Trà Vinh and Sóc Trăng. In 2007, the figure will increase to 509 with a field ranging from 1,000 m^2 to 1 or 2 ha involving 1,200 farming families.

1. Method of activity

The program transfers new technologies to farmers through efficient activities in the four-player model

The Government plays the leading role in mobilizing farmers and inspects activities in accordance with its programs of sustainable agricultural development.

Scientists provide new technologies in compatibility with each ecological location (technical process fighting brown plant hoppers)

Farmers adopt technologies in accordance with process and directly benefit from results.

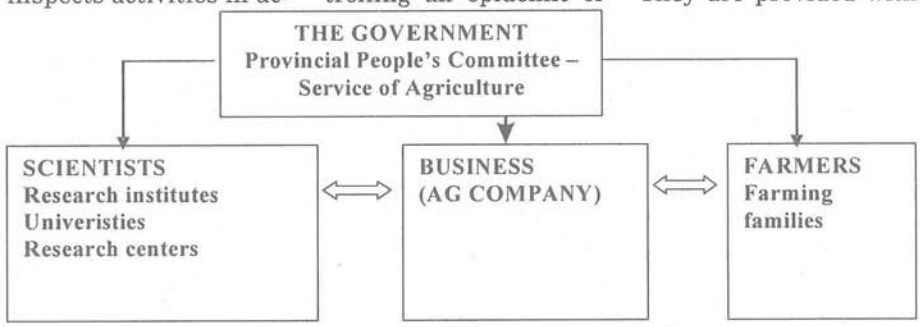
The business acts as a bridge from scientists and farmers in making research orders to solve farmer's technical problems, secures financial sources for research, trains farmers and provides material conditions for farmers to adopt new technologies.

2. Results of the program

Results from the reality:

- Successfully controlling an epidemic of brown plant hopper and other rice disease in the fields developed by the program.

- Promoting socio - economic efficiency and environmental protection.



3. Lessons from the model

The adoption of the AG Company's model shows lessons (Three promotings, two quicklies) as follows:

* Three promotings:

(1) Promoting the sustainability of the four-player model in technological transfer to farmers.

The four - player model is sustainable only if the four players' benefits are satisfied.

- Farmers' benefits: their farming awareness, access to and adoption of new technologies are improved. They are provided with material conditions for technological adoption. Finally, their income becomes higher due to lower costs and increased output and product quality, and

proper use of materials, the quality of which may not be guaranteed in the market.

- Benefits of scientists: They invent new technologies in response to farmer demands, are given funds to do their new research as well as bring their results into life.

- Benefits of the business: The reputation of its brands is promoted, so it can increase its profits because it shares "profits and risks" with farmers. If farmers fail or go bankrupt, then the business faces no expansion.

- Benefits of the Government: It can carry out its development programs in accordance with farm sustainability targets and enhancement of farmers' income.

In the four-player model, the business plays the role of connection and preservation because there is no material conditions to fill the gap between scientists and farmers if the business stays out of the program.

(2) Promoting the farmers' competitiveness in the global integration era.

In new conditions, the supply of farm products meets not only domestic needs but also the world's while foreign agroproducts flood the Vietnamese market in accordance with the country's commitments to the WTO. Farmers will run into collapse if they cannot sharpen their competitive edge. The model "Work with farmers" helps them with low-cost production, high yield and product quality, thus enhances their competitive strengths.

(3) Promoting the community spirit and familiarizing risks to farmers.

The four-player model is used for new technologies adoption in a project, and farmers have to comply with a uniform technological process at the same time. Therefore, farmers in the same project grow strongly attached, share benefits and tighten their neighborliness. In addition, farmers are willing to adopt new technologies because the business gives enough supports (materials, 30% of costs). This will remove their fear of risks in adopting new technologies and stimulate their utilization. As such, new technologies are easily acceptable.

Two quicklies:

	SOCIO-ECONOMIC EFFICIENCY	
Rice yield	Higher than that before adopting the model and much higher than that in non-adopting fields. Moreover if not adopting the model, 70% of the rice output may be damaged by brown plant hoppers and other rice diseases.	Increasing by 0.5 – 1 tonne/ha. - Ba Tri District – Bến Tre Province: 7.39 tonnes/ha (previously 6 tonnes/ha). - Bến Cầu District– Tây Ninh Province: 4.7 tonnes/ha (3.3 tonnes/ha in non-adopting areas). - Tiểu Cần District - Trà Vinh Province (98% of population are Khmer): 6 tonnes/ha (previously the highest yield was 3-4 tonnes).
Profits	Increased profits due to higher output but lower costs of using proper dose of pesticide and decreased amount of rice breed.	Increasing by VND1-2 million/ha.
Product quality	Guaranteeing product quality up to the standard of food safety.	
Environment	Reducing environmental degradation of land and water thanks to effective guidelines in using proper dose of pesticide and fertilizer.	

(1) **Quickly improving agricultural awareness and new technology adoption for farmers.**

The company's field forces are assigned to "eat, live and work with farmers", so farming families have a chance to learn new agricultural knowledge. Neighboring families also learn and adopt new technologies with the program members. Moreover, other provinces across the country also pay attention and visits to the extension fields. As a result, new technologies are widely spread.

(2) Quickly stamping out natural calamities and epidemics

The experience shows if the epidemic of brown plant hopper had not been extinguished, it could have caused serious losses and damages to farmers' investment sources. Thanks to its potentials in capital, materials and capacity to associate scientists and farmers, the company can facilitate the invention of appropriate technologies to stamp out an epidemic on rice.

III. POLICY SUGGESTIONS

The following problems need concerns to involve businesses in agricultural extension efficiently:

1. There should be scientific research at the level of nation, ministry, province, institute, university to summarize socio-economic and environmental achievements in adopting the model of corporate involvement in agricultural extension.

2. The Government needs to encourage the modality of new technology transfer from businesses to farmers by its policies including tax relief for R&D (Research and Development), unsecured loans, and financial subsidies for training.

3. The advantages of the National Agricultural Extension Department and corporate extension system should be fully utilized, especially for training field forces of businesses.■

REFERENCES

1. Binswanger H.P and Ruttan V.W (1978). *Induced Innovation, Technology, Institutions and Development.* Baltimore: Johns Hopkins University.

2. Hayami Y. and Ruttan V.W (1971). *Agricultural Development: An International Perspective.* Baltimore: Johns Hopkins University.

3. Feder G. and Slade R. (1993). Institutional Reform in India: the Case of Agricultural Extension in Hoff, Braverman and Stiglitz (eds.), *The Economics of Rural Organization: Theory, Practice and Policy.* Washington: Oxford University Press, Inc.

4. Jedlicka A.D (1997). *Organization for Rural Development.* NewYork: Praeger Publisher.

5. Đinh Phi Hổ (2003), Agro-economics: Theory and Practice, Thống Kê Publisher, HCMC.

1. Đinh Phi Hổ (2007), Farm Knowledge: Farmers' Tool Kit in the Integration Process, p.159-164 in Vietnam Economy: Integration and Sustainable Development, Thông Tấn Publisher.

2. Đinh Phi Hổ (2007), Labor Productivity – the Key to Vietnam's Agricultural Development in the Integration Process, p. 245-254 in Effects of the WTO Membership on Vietnam Economy, HCMC Tổng Hợp Publisher.

3. The People's Committee of An Giang Province– The An Giang Plant Protection Joint Stock Company (2007), Report on the Ceremony Launching the Program " Work with Farmers" in the early 2007-2008 winter-spring crop.

Pho to by Huỳnh Thơ