

After nearly ten years of economic renovation, the agriculture and rural economy have made good progress, and new technologies have been introduced to important businesses and fields.

In cultivation, many technical advances in seed multiplication were made and new strains of rice, maize and perennial were produced, with the result that the yield became higher, intensive farming became widespread and new seeds appropriate to local climate were selected. New farming techniques were introduced: crop rotation, increasing number of crops, choosing rational structure of crops...

In forestry, many precious perennials were afforested, many technical advances in seed multiplication, cultivating and forest exploitation were applied.

In animal husbandry, there were technical advances in hybridization, mariculture which helped with increasing the percentage of lean in meat for export and meat output.

In short, in recent years, the agriculture has developed well: the rice yield increased from 2.08 tonnes per ha in 1980 to 3.5 tonnes in 1993, the domestic demand for food was satisfied. These achievements have contributed to the stabilization of the social-economic-political lives, helped the country escape from economic crisis and created favorable conditions for next development stage.

The realization of the policy on science and technology in rural areas, however, hasn't produced intended results: the average yield of rice or meat was not high as expected; the labor efficiency was low; the infrastructure in rural areas, especially in mountainous and remote ones, was not improved, factor inputs in rural areas (natural resources, labor, capital...) weren't well exploited; the rural economy remained monocultural and purely agricultural; manufacturing industry in rural areas, except for some handicrafts, isn't developed; the agricultural production wasn't combined with processing, storing and distributing businesses.

Causes of this situation are numerous, the following are worth noting:

- The agricultural production in Vietnam is mainly of small scale and exists at subsistence level; labor division isn't well developed, the agricultural product for sales is of small percentage. Therefore the demand for machines, technical assistance and other services is poor.

- The intellectual standard of the

# POLICY ON SCIENCE AND TECHNOLOGY IN THE DEVELOPMENT OF AGRICULTURE AND RURAL ECONOMY IN VIETNAM TODAY

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people living in the country is low. Only 1.5 million laborers in rural areas finished the secondary education, 670,000 ones had intermediate level degree and 250,000 ones had advanced level degree and up. There are around 8 million illiterates all over the country, most of them lived in rural areas. In addition, the certificated people in the country didn't contribute remarkably to the production, most of 35,000 agricultural experts worked in service or trading businesses. The system of libraries in rural areas nearly ceased to exist. Farmers hardly read anything, they usually learned about new techniques by experience, so it's very difficult to introduce new techniques to rural areas.

- The infrastructure in the country is poor and hardly contributes to the development of market gardening. The quality of life in rural areas is poor, 70% of farmers' income was spent on food; 40% of children under five years of age suffered from undernourishment. Most of farmers lacked capital needed for investment. This situation made it hard to carry out laws on foreign and domestic investment in rural areas.

- The force of old habits and way of thinking is predominant in rural areas. This force has hindered the change from the centrally planned economy to the market mechanism and the development of science and technology in the country.

In such a situation, in my opinion, the following problems must be solved with a view to industrializing and modernizing the rural economy:

1. The quality of life in rural areas must be improved: infrastructure, communications, health care and education, etc, must be developed. We should help the farmer struggle against poverty and backwardness successfully, apply technical advances to their business, develop new industries (service and manufacturing) in rural areas.

2. A new mechanism must be formed in order to make the certificated people connected with the agricultural production. Their labor, inventions, innovations must be appreciated and awarded properly. Material incentives should be given to them with a view to encouraging them to introduce new technical advances to the farmer.

3. Information and technical assistance should be supplied to the farmer, especially information about intensive farming, crop rotation, yield improvement, new strains of seed and animal, knowledge of market and prices, etc. Labor-intensive industries should be established in rural areas. Traditional methods should be combined with modern technologies. In the case of more favorable conditions, modern technologies must be introduced to important factories. This plan should be carried out gradually with a view to persuading the farmer to apply new technical advances.

4. The human resources and intellectual standard of the rural people should be continuously developed in order to facilitate the realization of techno-scientific programs in rural areas.

5. Appropriate investments should be allocated to techno-scientific development in the country. In reality, these investments in Vietnam rural areas in recent years were small in comparison with other countries (equivalent to 1/31 of what allocated by a developed country, 1/12 by an Asia-Pacific country and 1/8 by a Southeast Asian country). These investments should be used properly and economically with a view to realizing the policy on techno-scientific development in rural areas more effectively.

6. Agriculture promotion fund and agriculture promotion centers should be formed in order to help the farmer get access to and apply technical information and advances.