

DEMAND OF FARMERS IN VAN GIANG, HUNG YEN, VIET NAM FOR EDUCATION AND TRAINING HUSBANDRY

Tran Thi Ha Nghia

Faculty of Education and Foreign Languages, Vietnam National University of Agriculture

Abstract: This survey research was carried out to investigate the demand for husbandry education and training of farmers in Van Giang, Hung Yen, Viet Nam. The result shows that most farmers in Van Giang need more primary training for their husbandry in short time. This study also provides practical suggestions to the design and organization of animal husbandry training programmes for these local people.

Key words: demand for education and training, animal husbandry, poultry farming, fruit farming.

1. INTRODUCTION

According to the Prime Minister's Decision No. 1956 / QD-TTg of November 27, 2009, an approval of the project "Vocational training for rural laborers up to 2020" was passed through with a total budget of nearly 26,000 billion VND. Many localities in the country has been implementing the project and there are annual reports on the performance, evaluation and experience. At the request of the Ministry of Agriculture and Rural Development, provinces and cities should pay attention to improving the quality and effectiveness of agricultural training for rural workers as well as to reviewing agricultural training plans to suit farmers' needs and local production practices. Agricultural vocational trainees are the core farmers in the locality who have conditions to apply vocational knowledge after school and have the ability to earn higher salary after vocational training.

Based on the assessment of MARD, vocational training for rural workers has not properly evaluated the need for vocational training; the vocational training has not really linked to the production plan of each locality; The selection of vocational training institutions are inadequate, etc. This leads to the large number of trained occupations and the high rate of trained people, but the low proportion of people who are able to apply the knowledge they have learned in the production process.

It is stated in the project that during the period between 2015 and 2020, the number of rural laborers trained is expected to be 5.5 million, 1.4 million of which will be trained in agriculture.

Van Giang, Hung Yen is a bordering district of Hanoi, which has favorable transportation, flat terrain, fertile land, and industrious farmers with high level of intensive farming and market sensitivity. This place has favorable climatic conditions and favorable land conditions for the development of agricultural production and agricultural restructuring in the direction of producing goods of high economic value. Annually, Van Giang transforms more than 200 hectares of rice and low-value land into short-term vegetables, flowers, ornamental trees and fruit trees of high economic value. There is an increasing number of farm scale models (over 118 farms) and a strong development of livestock, poultry, and aquaculture. The labor force in the agricultural sector is quite large (over 26,000 laborers, accounting for 46.9% of the total labor force in 2008). In the coming time, with the aim of restructure the plant and animal species to meet the consumption market and bring high economic value, it is essential that Van Giang farmers need higher skills in cultivation of vegetables, fruit trees, and raising pigs and poultry. It is important to train and foster the development of professional capacity for farmers in a

practical way, coupled with the needs and benefits of their work, to avoid rampant training.

On reviewing the literature, there have not been any empirical studies on the need for vocational training in Van Giang, including agricultural occupations to contribute to the implementation of agricultural vocational training, contributing to the success of the government's implementation of the project. This is the reason why we decided to conduct the present research on the situation and needs of farmers in Van Giang district, Hung Yen province for vocational training. Consequently, the result of the study will provide some recommendations to local authorities on the issue of vocational training for farmers to contribute to the improvement of labor resources quality in agriculture and rural areas. To achieve this aim, the following research methodology was employed:

- Settings: This study was conducted in Van Giang, Hung Yen including 10 communes and 1 town.
- Data collection instruments:

Due to the characteristics of the research on situation and needs, the data were mainly primary information collected through survey questionnaires with 30 crop farmers and 30 husbandry farmers to investigate the self-assessment of their existing competencies and job-training needs. 10 district and commune leaders were also surveyed in order to understand their appreciation of the existing capacity of farmers as well as the training needs of local farmers. Criteria for the division of vocational skills assessment levels are based on the set of skills standards for vegetable cultivation, the standard of fruit-tree cultivation skills and the standard of skill for livestock and poultry production under the Ministry of Agriculture and Rural Development's Circular No. 42/2014/TT-BNNPTNT dated 17 November 2014. Based on vocational and vocational skills standards, the vocational competence is divided into five levels. These levels of competency also correspond to the time spent training to improve their proficiency. Levels 1 and 2 are equivalent to short-term training (less than 3 months), level 3: primary vocational school, level 4: secondary vocational school, level 5: vocational college.

- Professional interview: An interview was conducted with five experts in the field of cultivation and five experts in the field of animal husbandry to learn about the ideal capacity of farmers.
- Data analysis instruments: The demand for vocational training in agriculture for each laborer in each field (cultivation and husbandry) was analyzed and evaluated with the help of SPSS version 22.0

2. DEMAND FOR AGRICULTURAL EDUCATION AND TRAINING OF FARMERS

2.1. Definitions of related terms

In Vietnamese Dictionary (Hung, N., 1998), the “profession” is defined as the work done by the division of labor of the society. The author said that it was the collection of the same kind of expertise which have occupational objects, requirements for laborers, and the same purpose, but different daily tasks. Expertise is a task that must be done by the employee on a daily basis. It is a special form of labor through which, by its physical and mental power, it affects specific objects in order to transform those objects to produce material and spiritual values for the purpose, requirements and benefits of human beings.

Although Vietnam has a long tradition of agriculture, it was found no formal definitions of the “agricultural occupation” in the dictionary. Most definitions point out that agriculture is a broad field, the basic material production of society, and the use of land for cultivation, animal husbandry, primary processing of agricultural products, including forestry and seafood. Thus, it can be said that agriculture is a profession where workers work in agriculture, forestry and fisheries.

According to the Law on Vocational Education - Law No. 74/2014/QH13 of the National Assembly, the concept of *vocational training* is explained as teaching and learning activities with the aim to equip the person with the necessary knowledge, skills and attitudes to ultimately find work or become self-employed after completing the course or to improve their professional level. *Vocational training in agriculture* is, therefore, teaching and learning

activities with the aim to equip the person with the necessary agricultural knowledge, skills and attitudes to ultimately find work in agriculture or become self-employed in agricultural fields after completing the course or to improve their professional level in agriculture.

Capacity for a specific occupation is the ability to perform appropriate occupational behavior in real professional situations. This behavior is based on the integration of the individual's knowledge, skills, attitudes, motives, and personalities. Capacity development is the goal of training programs.

Demand is understood as the sense of lack (or insufficiency) in physical or mental aspects of humans at a given point of time. When there is a need, people will trigger behavioral responses to find ways to satisfy their needs.

The demand for a person's training is what he or she needs to learn in order to achieve certain goals in the life or work. Training needs assessment is a process in which we try to understand participants and their abilities before training. This activity is concerned with the need to learn, not interested in the likes or dislikes of learners. It also helps to determine the difference between knowledge, skills, attitudes and the knowledge, skills and attitudes that learners need.

Training needs analysis is to find the gaps that can be filled by training. There are different ways to fill in these gaps: training and guidance, job assignment and instruction, self-learning, management change and staffing policy

improvement to create community opportunities in agencies, organizations for a healthy culture.

Identifying and analyzing training needs is a mandatory part of the training. However, training is not always a good solution to any problem. If the learner does not know what to do because of their lack of knowledge and/or skills, training methods can be applied. In case that the person does not like or does not want to do, other measures should be taken. A good training needs assessment will bring about a number of benefits: decide whether training is a good solution; develop strategies to meet training needs; offer training programs based on the learners' experience and knowledge; determine appropriate training content and methods; improve the training effectiveness and create the trust of the learners for the teachers and the quality of training.

2.2. Results

2.2.1. Experts' opinions on the ideal capacity of farmers

Due to the scope limitation of our research, we only investigated three specific occupations of agriculture: vegetable growing, fruit growing, livestock and poultry. Each farmer must perform specific tasks for every sector. In those jobs, the performance requirements (knowledge, skills) needed are different. Through the investigation of experts' views, we found out about the ideal capacity of farmers as illustrated in the following table 1:

Table 1
Experts' opinions on the ideal capacity of farmer and livestock

<i>No</i>	<i>Specific tasks</i>	<i>Ideal knowledge and skills</i>
Vegetable growing		
1	Market research	Collect, synthesize, analyze information, identify market demand and choose production plan
2	Vegetable growing planning	Make a plan on land, equipment, supplies, seed sources, labor, transportation, capital, determine the appropriate season
3	Vegetable seed production	Nursery establishment, seed preparation, seeding, nursery management, sorting and transportation of seedlings, seed treatment methods.
4	Vegetable growing and caring	Land clearance, land treatment, installation of irrigation systems, determination of time to grow vegetables, fertilizers, irrigation for vegetables.
5	Pest management	Investigate the pests, distinguish and identify the main pests and provide appropriate measures to prevent diseases, using chemical, physical and mechanical measures for vegetables. learn, control weeds, select and use appropriate pesticides, and manage pests.

contd. table 1

No	Specific tasks	Ideal knowledge and skills
6	Vegetable harvest	Determining the time of harvesting, cleaning, sorting and transportation of vegetables, using vegetable by-products, cleaning and maintenance of harvesting tools, methods of packing and preservation of vegetables.
7	Product marketing	Product introduction, distribution system, sales, accounting economic efficiency
8	Production management organization	Labor management, equipment, raw materials, administration, participation in production, environmental protection
9	Career development	Talking with colleagues, participating in professional training courses, updating new information, new technology, branding vegetables.
Fruit growing		
1	Market research	Collecting, synthesizing, analyzing information, identifying market demand, analyzing the ability of the establishment, selecting and developing production plans.
2	Fruit tree selection for planting	Determining the type of plant, plant variety, number of fruit varieties to be purchased, place of purchase, number of self-planted varieties
3	Fruit tree propagation	Planning of breeding, care, selection of parent trees, preparation of material tools and selection of propagation methods (seed, extraction, grafting, planting tissue culture)
4	Design of orchards	Survey of soil and water status, soil properties, plot allocation, plot design, irrigation system
5	Soil preparation	Gardening, soil preparation, digging holes, planting tissue, adjusting pH and pests in the planting hole, fertilizing
6	Planting	Selection of seedlings for planting, treatment of seedlings, selection of planting methods, tree planting, tree planting, root cover
7	Fertilizer application	Determine the fertilizer requirements of the plant, determine the type of fertilizer and the method of application
8	Watering	Check the quality of irrigation water, determine the irrigation water demand and quantity, choose the irrigation method (groove, drip, rain spray, underground, overflow)
9	Integrated pest management	Determining pest components - main natural enemies and pests, weed management, pests, diseases and other pests
10	Growth and development regulation	Evaluate the growth of trees, pruning canopy, selecting growth regulating methods (mechanical, chemical, digging, watering, fertilizing, flower distribution)
11	Product harvest and preservation	Survey the market at the time of harvest, determine the time of harvesting, harvesting, sorting, cleaning, preserving products (chemicals, physics), chemicals to ensure FHS
12	Product marketing	Updating market information at the time of sale, planning sales (promotion, site selection, system setup and distribution channels), with the support of relevant agencies.
13	Equipment maintenance	Cleaning tools and equipment, maintenance of equipment, production equipment, environmental protection
14	Career development	Talking with colleagues, taking part in professional training courses, updating new information, new technology, branding fruit trees.
Livestock and poultry		
1	Market research	Collecting, analyzing, analyzing information, identifying market demand and self-responsiveness
2	Production and business plans setting	Set up business production plan, financial plan, product consumption plan, economic efficiency analysis
3	Design and construction of housing	Design, construction and inspection of stables according to the standard of location, floor, playground, umbrella, electricity, water and sewage system, food storage
4	Installation, testing equipment, breeding equipment	Installation, inspection and operation of feed supply systems, water supply, lighting, sterilization, waste, cooling systems, heating, veterinary equipment, sanitary instruments, labor protection devices

contd. table 1

No	Specific tasks	Ideal knowledge and skills
5	Food and ingredients preparation	Prepare foods (refined, coarse, supplemented, rich in protein, minerals, tubers, fruits, seeds and mixtures), ration and mix feed rations, storage and storage of food and raw materials
6	Water inspection	Water source inspection, water supply, water storage, water treatment, quality control of drinking water, quality of waste water
7	Livestock and poultry breed production	Identification of breeding methods, planning of seed production (net, hybrid), selection of breeding techniques (artificial insemination, embryo transfer), reproductive care and breeding, handling of substandard breeds
8	Pet nurturing	Cleaning, inspection of sheds, lighting before entering cages, entering cages, determining feed and water demands for each kind of livestock, feeding and drinking animals and monitoring the consumption of food and drinking water, adjust food rations, drinking water
9	Pet caring	Primary health monitoring, cleaning of stables, tools, breeding environment, pet mobilization, sunbathing, bathing, combing, pet training, newborn animal caring
10	Veterinary hygiene and disease prevention	Hygiene, disinfection, environmental degradation, breeding facilities, breeding equipment, food processing not meet hygiene standards, disinfection of drinking water, use of drugs, preventive vaccines, internal and external parasites, waste treatment
11	Disease treatment	Detecting, tracking sick animals, diagnosing diseases, isolating sick animals, treating diseases, taking care of sick animals, handling dead animals
12	Product harvest and preservation	Determine the time of harvesting, harvesting, evaluation, product classification, hygiene, product preservation
13	Product marketing	Update information at the time of sale, promotion, product pricing, sales and customer care

However, according to the opinions of a few experts, the above ideal knowledge and skills are difficult for farmers to achieve in reality. A few content items in each job require the support of leaders, training institutions, scientists, and businesses so that farmers can do it in a scientific way with the ensurance of proper process and technique.

2.2.2. Leaders' opinions on existing capacity of farmers

In order to determine the capacity of farmers in Van Giang, Hung Yen, besides exploring self-evaluation of farmers, we also investigated the assessment of local leaders in the area. We reviewed the opinions from the leaders of the district Department of Labor, War Invalids and Social Affairs, commune leaders. The results were shown in Table 2:

Table 2
Leaders' evaluation of existing capacity of local vegetable farmers

(Unit: %)

No	Evaluated content	Ratings					Mean
		Level 1	Level 2	Level 3	Level 4	Level 5	
1	Market research	20	40	40			2.2
2	Vegetable planning	40	30	30			1.9
3	Vegetable seed production	10	40	40	10		2.5
4	Vegetable growing and caring		30	60	10		2.8
5	Pest management		40	50	10		2.7
6	Vegetable harvest		50	40	10		2.6
7	Product marketing	20	50	30			2.1
8	Production management organization	20	40	40			2.2
9	Career development	10	60	10	20		2.4

As evaluated by local leaders, some of the vegetable farmers' jobs were rated at a moderate level, mostly at levels 1 and 2 including Vegetable growing and caring (Mean: 2.8), Pest management (Mean: 2.7), Vegetable seed production (Mean: 2.5) and Career development (Mean: 2.4). In addition, farmers in Van Giang should be trained at the intermediate level or above. For the capacities rated at Level 1 and Level 2, the high

percentages will be those that the agricultural education and training workers need to pay attention to in order to develop the program and the content of the training to improve the capacity of the farmers. Some suggestions for implementing capacity building training are: market research, planning, product marketing, production management organization and career development of local vegetable farmers.

Table 3
Leaders' evaluation of existing capacity of local fruit growers

(Unit: %)

No	Evaluated content	Ratings					Mean
		Level 1	Level 2	Level 3	Level 4	Level 5	
1	Market research	10	50	40			2.3
2	Fruit tree selection for planting		20	70	10		2.9
3	Fruit tree propagation	20	20	50	10		2.5
4	Design of orchards	10	70		20		2.3
5	Soil preparation	10	20	50	20		2.8
6	Planting	10	20	40	20	10	3.0
7	Fertilizer application		30	60		10	2.9
8	Watering		40	40	10	10	2.9
9	Integrated pest management		30	60		10	2.9
10	Growth and development regulation		40	30	30		2.9
11	Product harvest and preservation	10	60	10		20	2.6
12	Product marketing	20	30	30	20		2.5
13	Equipment maintenance	10	30	60			2.5
14	Career development		60	20		20	2.8

Table 4
Leaders' evaluation of existing capacity of local livestock farmers

(Unit: %)

No	Evaluated content	Ratings					Mean
		Level 1	Level 2	Level 3	Level 4	Level 5	
1	Market research	10	40	40		10	2.6
2	Production and business plans setting	10	40	30	10	10	2.7
3	Design, construction and inspection of housing		30	40	30		3.0
4	Installation, testing equipment, breeding equipment		50	30	10	10	2.8
5	Food and ingredients preparation		30	30	30	10	3.2
6	Water inspection		40	40	10	10	2.9
7	Livestock and poultry breed production	10	50	30		10	2.5
8	Pet nurturing		10	60	20	10	3.3
9	Pet caring		10	60		30	3.5
10	Veterinary hygiene and disease prevention		40	40	10	10	2.9
11	Disease treatment		50	30	10	10	2.8
12	Product harvest and preservation		60	20	20		2.6
13	Product marketing	20	50	10	10	10	2.4

For local fruit growers, most of the work is assessed fairly evenly. A few work items that needs to be done to improve the capacity of the fruit growers for the local armerms include market research ability (i.e. many farmers do not know what to change when the consumption of kumquat trees deceases), design of orchards, product harvest and oreservation, and career development.

From Table 4, it is suggested that training should be implemented for local livestock farmers to improve such skills as Livestock and poultry breed production, Product harvest and preservation, and Product marketing.

2.2.3. Training needs of farmers on education and vocational training

Table 5 below shows the results of the training needs of Van Giang farmers on the work of the crop.

The results shown in Table 5 indicates an urgent need for cultivation training of vegetable growers and fruit growers. Every individual farmer working directly with vegetables and fruit trees also want their specific work to be further trained and fostered so that they can work better. However, the majority of their training needs is short-term and primary training. A certain number of

Table 5
The need for farmer training in the local area

(Unit: %)

No	Content that needs training	Training levels				Mean
		Short-term	Primary	Secondary	College	
Vegetable growing						
1	Market research	55.6	33.3	11.1		2.56
2	Vegetable growing planning	44.4	33.3	16.7	5.6	2.83
3	Vegetable seed production	33.3	27.8	38.9		3.06
4	Vegetable growing and caring	5.6	55.6	33.3	5.6	3.39
5	Pest management	11.1	11.1	50	27.8	3.94
6	Vegetable harvest	22.2	33.3	33.3	11.1	3.33
7	Product marketing	72.2	16.7	11.1		2.39
8	Production management organization	22.2	44.4	27.8	5.6	3.17
9	Career development	94.4	5.6			2.06
Fruit tree growing						
1	Market research	60.7	32.1	7.1		2.46
2	Fruit tree selection for planting	3.6	42.9	53.6		3.5
3	Fruit tree propagation	25	17.9	53.6	3.6	3.36
4	Design of orchards	42.9	50	7.1		2.64
5	Soil preparation	14.3	25	42.9	17.9	3.64
6	Fruit tree planting		21.4	42.9	35.7	4.14
7	Fertilizer application	21.4	32.1	46.4		3.25
8	Watering	35.7	35.7	28.6		2.93
9	Integrated pest management		25	46.4	28.6	4.04
10	Growth and development regulation	10.7	42.9	35.7	10.7	3.46
11	Produc harvest and preservation	42.9	46.4	10.7		2.68
12	Product marketing	53.6	32.1	14.3		2.61
13	Equipment maintenance	28.6	50	14.3	7.1	3.0
14	Career development	57.1	35.7	7.1		2.5

Table 6
The need for education and livestock training of local farmers

(Unit: %)

No	Content that needs training	Training levels				Mean
		Short-term	Primary	Secondary	College	
1	Market research	53.3	36.7	10		2.57
2	Production and business plans setting	26.7	30	40	3.3	3.2
3	Design, construction and inspection of housing	3.3	36.7	43.3	16.7	3.73
4	Installation, testing equipment, breeding equipment	6.7	23.3	63.3	6.7	3.7
5	Food and ingredient preparation	13.3	26.7	46.7	13.3	3.6
6	Water inspection	3.3	13.3	60	23.3	4.03
7	Livestock and poultry breed production	33.3	23.3	33.3	10	3.2
8	Pet nurturing		26.7	56.7	16.7	3.9
9	Pet caring	6.7	30	46.7	16.7	3.73
10	Veterinary hygiene and disease prevention	23.3		56.7	20	3.97
11	Disease treatment	6.7	13.3	53.3	26.7	4.0
12	Product harvest and preservation	10	60	30		3.2
13	Product marketing	53.3	30	13.3	3.3	2.67

horticultural jobs have high training needs such as planting (Mean: 4.14), pest management (4.04), growth and development regulation (Mean: 3.46). In short, managers and trainers need to select proper contents that are highly in need of training to suit the farmers.

The information collected in Table 6 suggests that livestock farmers have the need of training in most of the work content items, such as the ability of water inspection (Mean: 4.03), Veterinary hygiene and disease prevention (4.0), Veterinary hygiene and disease prevention (Mean: 3.97), and Pet nurturing (Mean: 3.9). Market research and Product marketing are the only two kinds of capacity that are of lowest training needs.

3. CONCLUSION

Identifying training needs and analyzing training needs in general and vocational training in agriculture in particular is the first and most important step for an effective training program. The survey results showed that the current capacity of farmers in Van Giang, Hung Yen in the field of vegetables, fruit trees and livestock

and poultry is evaluated by local leaders and peasants themselves at an average level. In order to meet future capacity, according to the opinion of scientists in the fields of cultivation and animal husbandry, local leaders said that farmers need to be trained in most of the cultivation and livestock jobs at intermediate level or higher. However, the actual needs of the farmers here are limited to short-term vocational training and focus on the specific tasks of each of the professions assessed at the lower levels (level 1, 2). Therefore, the local authorities should pay attention to the immediate training needs (training focus) of the farmers in Van Giang, Hung Yen province: on specific capabilities such as integrated pest management, plant and tree care, animal treatment and short-term training. In addition, the units assigned to provide education and vocational training for farmers should coordinate with scientists and farmers to analyze the professions in detail, which helps to build the knowledge and capacity framework associated with the actual work, and the needs of the society with the aim of designing and setting up a good training program closely with the needs of farmers.

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