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EVALUATION OF THE QUALITY OF THE OUTPUTS OF THE VOCATIONAL EDUCATION SYSTEM WITH AGRICULTURAL PROFILE BASED ON ITS CONTRIBUTION TO THE ACHIEVEMENT OF THE TASKS FOR SUSTAINABLE RURAL AREAS DEVELOPMENT

Alina CARADJA

State Agrarian University of Moldova, 44 Mircesti str., Chișinău, Republic of Moldova, Phone: +37368107019, Email: alina.caradja@mail.ru

Corresponding author: alina.caradja@mail.ru

Abstract

The main objective of this article was to assess the quality of skills held by graduates of agricultural specialties in the Republic of Moldova in terms of contribution to the tasks of sustainable development of the rural environment. For this purpose, an empirical study was conduct on the contribution of managers and specialists in the agricultural field in order to solve the tasks of sustainable development of economic units in which they operate based on their own perception. Starting from this premise, an opinion poll was conduct on a total sample of 157 specialists, graduates of various vocational education programs with an agricultural profile of levels 4-7 ECTS. As result of the data processing, a number of problems were deduced regarding the transfer of the quality of the outputs of the vocational education system with an agricultural profile in the performance of the agricultural production sector and, implicitly, the sustainable development at enterprise level.

Key words**:** *vocational education, sustainable development, rural areas*

INTRODUCTION

Today, the relationship between the content and quality of education and the complex process of sustainable development is a recognized one, being approached at multiple international events. Of particular note is the United Nations Conference on Environment and Development, held in Rio de Janeiro from 3 to 14 June 1992 [10]. The significance and magnitude of the event is accentuated by the fact that the participants represented about 98% of the world's population.

Main product of the Rio de Janeiro Conference (also called the Earth Summit) is the famous Agenda 21 - an extensive work schedule for cen. XXI, which covers all areas of sustainable development. In this context, along with other aspects covered by that program, we note the statement of education, training and awareness of the public as a means of implementing the actions provided by it.

In order to mobilize optimally this important means of achieving the goals of sustainable development in terms of education for sustainable development, the Earth Summit was followed by a series of international events:

-Decade of Education for Sustainable Development, 2005-2014, declared by the United Nations General Assembly in December 2002 by Resolution 57/254 [8];

-World Conference on Education for Sustainable Development, organized by UNESCO in Aichi-Nagoya, Japan, November 10-12, 2014 [11];

-World Education Forum, organized by UNESCO in cooperation with the United Nations International Children's Emergency Fund (UNICEF), the World Bank, the United Nations Population Fund (UNFPA), the United Nations Development Program (UNDP), UN Women and the UN Agency for Refugees (UNHCR), 19-22 May 2015 in Incheon, Republic of Korea [9].

Currently, as a provider of skilled labor, especially for the agricultural production sector, the vocational education system being represented by a number of technical and higher vocational education institutions, is one of the important actors in the process of sustainable development of the rural environment.

In the current conditions of society's development, when economic thinking and marketing reasoning are increasingly prominent and active at all levels of government, the contribution of the system in achieving the general development objectives and, implicitly, its relevance is increasingly questioned, reaching options to exclude from the system certain profile institutions through forced merger measures. In this context, we deduce the need to specify that accurately estimating the results and impacts of vocational education, respectively, is an extremely difficult, if not impossible, task due to the following circumstances:

(a)the benefits of education are manifested in a wide time horizon, but it does not represent a good that can be quantified immediately after finishing the studies;

(b)the benefits of education are reflected not only by contributing to economic growth, but also have a wide range of non-economic impacts (reducing crime and poverty, increasing the general level of culture, promoting democracy, etc.), their monetary value being insufficiently noted;

(c)transposing the quality of education into concrete results achieved at the level of society is a process as long as it is complex.

We note, with regret, that the quantitative insufficiency of qualified staff in the agricultural production sector is not the only problem related to the transfer of vocational education performance in the real sector [1, 6]. In the same vein, we must mention that, along with the quantitative reflection of vocational education outcomes, the quality of these outputs is of significant importance, expressed by the skills of graduates and being found in their contribution to the performance of the sector/enterprises and organizations where they work after graduation. For example, several studies have highlighted the link between the level, quality of vocational training and labor productivity [3, 2, 7]. After observing a number of companies, it was concluded that, for the majority of workers, the percentage of compliance with the work rules increases in proportion to the increase in the level of education [3]. In this regard, with reference to the Republic of Moldova, we must mention the existence of substantial gaps between the requirements of the sector and the quality of educational provision [4, 6]. In this context, we will repeatedly refer to the said opinion poll [6]. Thus, as a result of the examination of the appreciation by the employers of the quality of the specialists' training on the fields related to the researched programs (phytotechny, horticulture, pedology and soil protection, production of agricultural crops and livestock breeding, animal husbandry and veterinary medicine, products of plant origin technology), it was found that out of the total number of programs, only one (Agronomy, level 6, ECTS) obtained an average score of 4.7 points, the maximum possible score being 5 points. 13 evaluated programs obtained average marks within the limits of 3.6-4.5 points, 4 programs obtained average marks between 2.1-2 points, and two programs were rated with grades between 1.1-2 points. We thus deduce on the need for qualitative interventions in the study programs, so that they are optimally connected to the needs of the sectors, thus creating later premises for an optimal contribution in achieving the objectives of sustainable development of the rural environment.

MATERIALS AND METHODS

In order to achieve the objectives of the investigation, it was initially analyzed the subject of the need to address the link between vocational education and sustainable development, taking place in a series of international events. Subsequently, we found a major difficulty, if not impossible, regarding the specification of the impacts of vocational education in achieving the objectives of sustainable development. Also, an empirical study was conducted on the evaluation of the quality of skills held by graduates of agricultural specialties in the Republic of Moldova in terms of its contribution to the tasks of sustainable development of the rural environment. The study reflects an opinion poll on a total sample of 157 people, including 126 specialists in plant culture and 31 specialists in animal husbandry, graduates of

various vocational education programs with agricultural profile levels 4-7 ECTS. Out of these, 84 holders of positions of managers of agricultural enterprises. The investigation was carried out through a questionnaire, the completion of which was carried out both on paper and online, subsequently being complemented by the unstructured telephone interview.

Following the data processing, it was found that there are a number of problems regarding the transfer of the quality of the outputs of the vocational education system with an agricultural profile in the performance of the agricultural production sector and, implicitly, sustainable development at enterprise level.

RESULTS AND DISCUSSIONS

Aware of the difficulty of accurately measuring the contribution of each manager or specialist in the performance indicators of a company, one possible way to quantify the impact of professional potential and the performance of each, is to evaluate them through their own perception by respondents.

The basic objective of the investigation was to evaluate the contribution of managers and specialists involved in research in order to solve the tasks of sustainable development of economic units in which they operate based on their own perception. The respective tasks, in turn, were deduced based on the approach of sustainable development indicators at enterprise level [5], being formulated as follows:

(1)Tasks for sustainable development of the production environment (ecological aspect): diversification of agricultural crops; diversification of livestock; assessment and improvement of genetic heritage; maintaining and increasing soil fertility; rational water management; application of ecological production technologies;

(2)Tasks for sustainable economic development: increasing plant productivity; increase animal productivity; increasing the level of income of the enterprise;

(3)Tasks for sustainable social development: increasing the quality of agricultural products obtained; agricultural waste processing; optimal use of buildings and landscapes; increasing the quality of roads; development of rural services; human resources development; ensuring adequate working conditions; ensuring decent salaries for employed staff.

When processing the surveys, the role of each respondent in the economic unit in which he/she works was considered, being analyzed only the tasks relevant to his / her professional duties. As a result, it was possible to reflect on the quality of the involvement of specialists in plant and animal breeding in carrying out ecological, economic and social tasks (according to the approach) [5], while business managers have been able to expose themselves to a wider range of tasks, by virtue of their wider area of professional responsibilities.

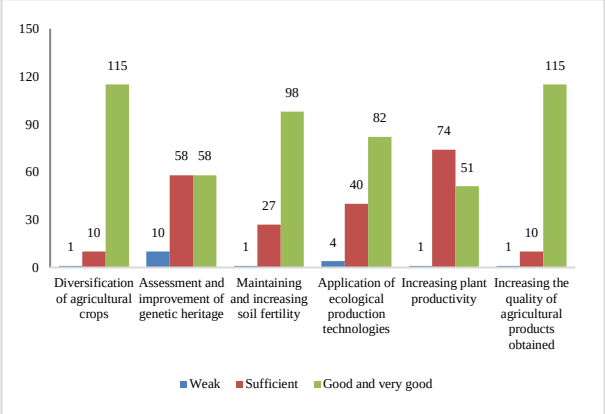

Fig. 1. The evaluation by the specialists in plant culture of the extent to which the competencies obtained in the process of professional education helped them to accomplish the tasks of sustainable development, pers.
Source: Own calculation.

Through the interview, some concretizations were possible, as well as the distinct identification of the contribution of professional and managerial competencies in solving the tasks of sustainable development by the managers who simultaneously exercise the attributions of the specialists in the respective branches.

The basic limitations of the research can be referred to: the small sample of people involved in animal husbandry; subjectivism in the evaluation by the respondents of their own contribution in increasing the indicators of the sustainable development of the economic unit.

The results of the systematization of the opinions of the managers and specialists trained in the survey are presented in Figures 1-4.

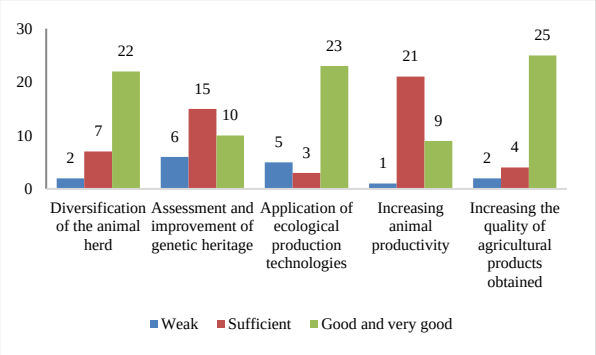

Fig. 2. Evaluation by animal husbandry specialists of the extent to which the skills obtained in the process of vocational education have helped them to achieve the tasks of sustainable development, pers.
Source: Own calculation.

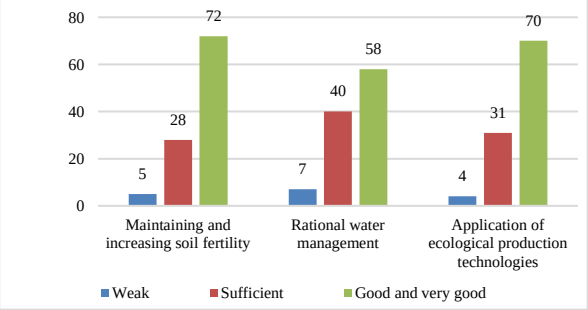

Fig. 3. The evaluation by the managers of the agricultural enterprises of the extent to which the managerial competencies obtained in the process of professional education helped them to achieve the ecological tasks of sustainable development, pers.
Source: Own calculation.

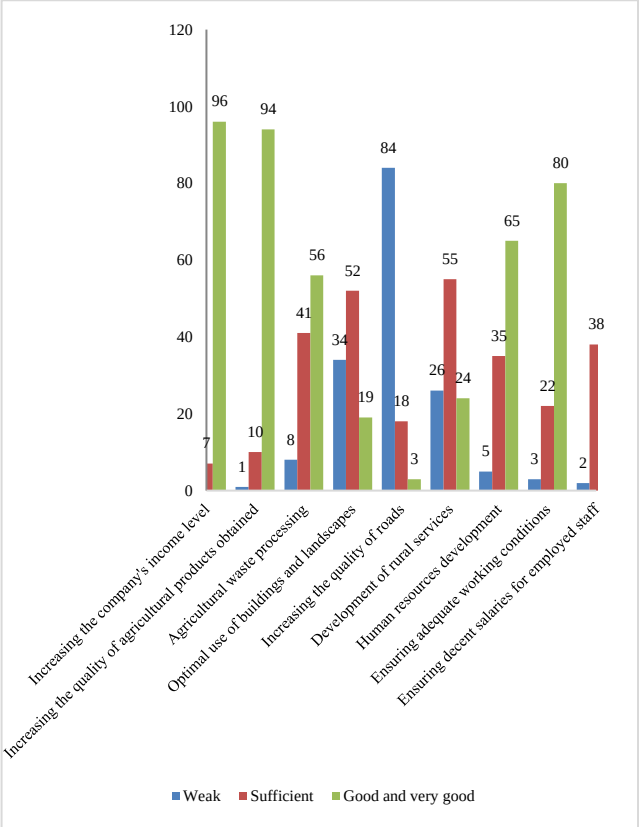

Fig. 4. The evaluation by the managers of the agricultural enterprises of the extent to which the managerial competencies obtained in the process of professional education helped them to achieve the economic and social tasks of sustainable development, pers.
Source: Own calculation.

The findings of the analysis of the results of the survey of specialists and managers of agricultural enterprises are set out in Table 1.

Table 1. Analysis of the results of the opinion poll of managers and specialists of agricultural enterprises

Groups of respondents	Tasks, the involvement in which it was appreciated mainly with the qualifications "good" and "very good"	Tasks, the involvement in which it was appreciated mainly with the qualifier "sufficient"	Tasks, the involvement in which it was appreciated mainly with the qualifier "weak"
Specialists in plant culture	*Tasks for sustainable development of the production environment (ecological)*		
	Diversification of agricultural crops; Assessment and improvement of genetic heritage; Maintaining and increasing soil fertility; Application of ecological production technologies.	-	-
	Tasks for sustainable economic and social development		
	Increasing the quality of agricultural products obtained.	Increasing plant productivity.	-
Specialists in animal husbandry	*Tasks for sustainable development of the production environment (ecological)*		
	Diversification of livestock; Application of ecological production technologies	Assessment and improvement of genetic heritage.	-
	Tasks for sustainable economic and social development		
	Increasing the quality of agricultural products obtained.	Increasing animal productivity.	-
Managers	*Tasks for sustainable development of the production environment (ecological)*		
	Maintaining and increasing soil fertility; Rational water management; Application of ecological production technologies.	-	-
	Tasks for sustainable economic and social development		
	Increasing the level of enterprise income; Increasing the quality of agricultural products obtained; Agricultural waste processing; Human resources development; Ensuring adequate working conditions; Ensuring decent salaries for employed staff.	Optimal use of buildings and landscapes; Development of rural services.	Increasing the quality of roads.

Source: Own determination.

From the data in Table 1, taking into account the potential subjectivism that can generate an overestimation of the contribution of skills in achieving the tasks of sustainable development, we find, however, the existence of a number of vulnerable aspects in their exercise, especially in relation to the following tasks:

(a)sustainable development of the production environment (ecological): evaluation and improvement of genetic heritage;

(b)sustainable economic development: increasing plant productivity; increase animal productivity;

(c0sustainable social development: optimal capitalization of buildings and landscapes; development of rural services; increasing the quality of roads.

Admitting that the tasks highlighted above are complex and depend on several factors, both endogenous and exogenous, the role of competencies, especially managerial, is to contribute to an accurate assessment of those factors, as well as the optimal use of resources available in terms of effectiveness and efficiency.

CONCLUSIONS

Generalizing the information regarding the transfer of the quality of the outputs of the vocational education system with agricultural profile in the performance of the agricultural production sector and, implicitly, the sustainable development at enterprise level, we deduce the existence of the following problems:

-the labor market for the agricultural production sector faces an unsatisfied demand in terms of quality, the conclusion being argued by the results of the evaluation of the quality of specialist training by employers, which shows a low quality of skills offered in most curricula with agrarian profile;

-the existence of the problem of the quality of professional and managerial skills is also argued by identifying a series of vulnerable aspects in ensuring the fulfillment of important tasks of sustainable development at enterprise level, such as: evaluation and improvement of genetic heritage; increase plant productivity; increase animal productivity; optimal use of buildings and landscapes; development of rural services; increasing the quality of roads;

-issues highlighted above are a key impediment to achieving the sustainable development objectives assumed by the Republic of Moldova in relation to the 2030 Agenda.

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