

Small Vegetable Growers' Satisfaction About The Extension and Advisory Services Provided by Extension Educational Platforms in Beni-Suef Governorate

Radwa Maher Ata

Department of Rural Sociology and Agricultural Extension, Faculty of Agriculture, Cairo University, Giza, Egypt

Citation: Ata, Radwa Maher. (2023). Small Vegetable Growers' Satisfaction About The Extension and Advisory Services Provided by Extension Educational Platforms in Beni-Suef Governorate. *Scientific Journal of Agricultural Sciences*, 5 (3): 131-139. <https://doi.org/10.21608/sjas.2023.231617.1330>

Publisher :
Beni-Suef University, Faculty of Agriculture

Received: 24 / 8 / 2023
Accepted: 27 / 9 / 2023

Corresponding author:
Radwa maher

Email:
radmaher83@gmail.com

This is an open access article licensed under



ABSTRACT

In Egypt, the governmental public and free Extension and Advisory Services (EASs) are facing serious challenges including insufficient budgets and decreasing numbers of village extension workers. Therefore, Extension Educational Platforms (EEPs) represent an appropriate option for providing Small Vegetable Growers (SVGs), with needed and demanded EASs related to effective production and marketing of the prevailing crops. In addition to SVGs, grouped in Non-Governmental Organizations (NGOs), Public Private Partnerships (PPPs) involve all relevant stakeholders, including input suppliers, governmental extension workers, and private sector companies. The main objective of this study was to assess SVGs' satisfaction about the EASs provided by 4 PPPs in the area of the production and marketing of some vegetable crops, including onion, green beans, garlic and cucumber. Study was conducted in Beni Suef Governorate, the Nile Valley of Egypt. A sample of 111 SVGs, involved, as members, in 4 NGOs, were personally interviewed, by using a questionnaire designed for data collection. Medium and high degrees of satisfaction were reported by SVGs concerning: timely provision of EASs, secured marketing of the products, better and improved tools of vegetable production and marketing, better relationships among SVGs and governmental workers of agricultural directorates, well training of agricultural workers in post-harvest marketing practices, well training of SVGs on how to produce vegetables according to specifications accepted by consumers in local, regional and international markets.

KEYWORDS: Small Vegetable Growers, Extension Educational Platforms, Extension and Advisory Services, Egypt

1. INTRODUCTION

The whole world, in general, and the Less Developed Countries (LDCs), in particular, are facing several food security challenges reflected in the ever decreasing food supplies and ever-increasing food demands.

Global contemporary awareness about the need for sustainable development started from the year 2000, when the new Millennium

Development Goals (MDGs) were agreed, as a framework for development. Though significant progress that has been made in a number of areas. the progress has been uneven, particularly in Africa. In 2015 the new Sustainable Development Goals (SDGs)2030 agenda was declared and globally agreed upon. Among the 17 SDGs, the first, the second and the 17th goals were focusing on ending poverty in all its forms

everywhere ending hunger, achieve food security and improved nutrition and promote sustainable agriculture, and strengthening the means of implementing and revitalizing Global Partnership for Sustainable Development (United Nations, 2015).

Recently, as reported by (Mottet, *et al*, 2020), the global food system is facing environmental, social, and health Challenges. While nature and ecological principles were applied by family farmers for millenia, agriculture became increasingly dependent on external inputs, including synthetic fertilizers, in the last century, particularly in large scale production systems. Agroecology is an alternative and systemic approach that builds on local and ecological knowledge, enhances social capital and confronts the proliferation of agrochemical inputs.

Several experiences, from different countries indicate the difficulties of providing sufficient EASs by the governmental sector alone or by the private sector on its own. Therefore the PPP could be, worldwide, considered as a more convenient approach for securing the provision of EASs especially to small farmers, in the LDCs.

As clarified by (Marbaniang *et al*, 2020), a PPP can be defined as a contractual agreement between a public agency (federal, state or local) and a private sector entity, through this agreement, skills and assets of each sector (public and private) are shared in delivering a service or a facility for the use of the general public.

In Africa, as reported by (Mangenil, 2019), most collaborative partnerships involve nonprofit or non-governmental organizations (NGOs), private companies, universities, government laboratories, and/or intergovernmental organizations. The establishment of effective partnerships can lead to new configurations of power and development opportunities, establishment of alliances, more effective work processes and ultimately market transformations.

Moreover, the PPP approach supplements scarce public resources, creates a more competitive environment and helps to improve efficiencies and reduce costs. This approach is most preferred in developing countries for effective delivery of infrastructure

facilities like transportation, education and health care services as it is more successful there, (Marbaniang *et al*:2020).

Also, the PPP is traditionally considered as an effective interaction between the state and business in various forms by combining their resources to achieve the common goals of socio-economic development. (Kozin *et al*:2020).

Within the agricultural sector, PPPs have become increasingly popular within the mix of policy instruments aimed at promoting innovation, and they have been mentioned as a solution to counteract interaction problems between actors (Hermans, 2019).

Egypt is currently facing a complicating situation that negatively affects and articulates the food security problem. This critical situation involves a combination of inter-related and inter-dependent problems including: the population explosion (a population size exceeding 100 millions), an ever-decreasing per-capita quota of essential natural resources (water and cultivable lands), the negative impacts of severe and unexpected climate changes that affect agricultural productivity, in addition to the Covid 19 pandemic, and the negative impacts of the results of Russia-Ukraine conflict.

In Egypt, one of the best –fit solutions to resolve this complicated situation, and positively contribute to better levels of food security, is to establish PPP, that organize small producers in a Civil Society Organization (CSO), and facilitate the easy access of its members to the basic EASs, needed for improving production and marketing practices.

In addition to small producers, as active members of this CSO, the PPP, as a more participatory approach, involves all relevant stake holders and service providers, including: a) the private sector companies for providing basic production inputs, technical training for small producers and marketing the product, b) extension workers and subject matter specialists, from the the governmental regional and local directorates of agriculture for facilitating farmers' access to different EASs.

As reported by El-Shafie *et al* (2022), the application of participatory extension approach, in 5 different agro-ecological zones of Egypt contributed to improving agricultural production, productivity and income of small

producers. Examples of these improvements include increasing the income of domestic poultry production, in addition to increasing wheat productivity (10% to 15%), onion productivity (around 10%) and potatoes productivity (around 20%).

Agriculture in Egypt faces many difficulties, such as scarcity of land and water resources, land fragmentation, and increasing demand for food, When need a sustainably expand agricultural production to meet escalating domestic demand for food and serve as a pathway out of poverty, particularly in rural areas. Egypt's food security is facing three critical challenges, which are ever-increasing population, shortage of natural resources and climate change(Ata & Fahmy:2022)

2. THE STUDY PROBLEM

Based on fact that small farmers and producers represent the majority of farming communities in rural Egypt and the ever-decreasing governmental abilities to assume the essential function of providing them with their needed and demanded EASs, the potential roles of (EEPs) become very promising for achieving this function. To secure good performance of (EEPs), the assessment of their different aspects is considered as an important objective for better monitoring, evaluation and improvement of this performance.

Therefore, the problem of the study was to apply a SWOT analysis, as a diagnostic tool to recognize SVGs' opinions related to the PPP's positive and negative dimensions in providing a high quality of EASs, to assess their satisfaction about these EASs, in addition to identifying the challenges facing their access to the provided EASs and their suggested resolutions for improving this access.

3. STUDY OBJECTIVES

- 1- Measuring the level of SVGs' satisfaction about the EASs provided by the EEP,
- 2- Conducting a SWOT analysis to identify the Strengths, Weaknesses, Opportunities and Threats, related to the EEP's ability to provide high quality of EASs,
- 3- Identifying the challenges facing the achievement of EEP's objectives and the SVGs' recommended resolutions that facilitate the handling of these challenges.

4. METHODOLOGY

This study was conducted in Beni Suef Governorate in Upper Egypt, about 123 Kms from the capital Cairo. Two villages (Bani-Salman and Hasan Nameq) were selected from two different Districts (Beni Suef , and Naser Districts) respectively. 111 SVGs, as members of 2 NGOs, one in each village, were selected as the sample of the study. The partners of the EEP included these 2 NGOs, in collaboration with the same private sector marketing company, who were, organizing and supervising the production and marketing of different vegetables, cultivated by the SVGs, including onion, green beans, garlic and cucumber. SVGs' satisfaction about the EASs provided by the EEP was measured by asking the respondents about their satisfaction or dissatisfaction about the following aspects: quality of the provided service, timely provision of service, capacity building training of different partners, facilitating the marketing of the products and improving the production and marketing practices.

Data were collected from the sample, through interpersonal interviews by using a questionnaire designed for achieving the study objectives. Frequencies and percentages were used for data presentation and analysis.

5. RESULTS

5.1. SVGs' satisfaction about the EASs provided by the EEP:

The SVGs expressed relatively high levels of satisfaction concerning the ability of the EEP to serve them and facilitating their easy access to different EASs. As shown in table no (1) the majority of the SVGs (more than 80%), reported that they are satisfied about the different aspects related to the EEP activities including the good quality of production, timely provision of production inputs, good quality of capacity building training for different stakeholders, facilitating the marketing of SVGs' products and increasing SVGs' application of the best-fit production and marketing practices. These relatively high levels of satisfaction reflect the positive contribution of the EEP to helping SVGs to increase their farming income through increasing the quantity and upgrading the quality of their production.

Table 1. SVGs' satisfaction about the EASs provided by the EEP (N= 111).

Aspects	Satisfied		Dissatisfied	
	NO.	%	NO.	%
- Improving the of production	91	82	20	18
-Timely provision of production input	101	91	10	9
-Capacity building training for different stakeholders	98	88	13	12
-Facilitating the marketing of the products	93	84	18	16
-Improving production and marketing practices	103	93	8	7

These relatively high levels of satisfaction reflect the positive contribution of the EEP to helping SVGs to increase their farming income through upgrading the quantity and quality of their production.

5.2. PPPs' Strengths, Weaknesses, Opportunities and Threats, as perceived by the SVGs:

As shown in tables (1) through (4), the SVGs reported several positive and negative aspects related to the internal and external environment of the EEP. The Strengths, Weaknesses, Opportunities and Threats, as perceived by the SVGs could be summarized as follows:

A) Strengths: Several achievements were realized, as positive results of different activities of the EEP, including:

A1- Upgrading the quality of the produced vegetables through the very restricted use of pesticides and other chemicals (as reported by 80 % of the SVCs),

A2- Improving the SVGs' access to local, regional and international markets (82%),

A3- Increasing farming income, through attaining high net return of cultivating vegetables (87%),

A4- Reducing the wastes of the produce through wide application of better post-harvest practices (90%),

A5- Establishing a center, in the Bani-Salman village, for value addition to maximize the selling prices of the produced vegetables, (93%),

A6- Adding important assets to serve the SVGs (establishing new stations for vegetable sorting and buying trucks for transporting the produced vegetables, (91%),

A7- Developing technical packages of the practices of cultivating the vegetables, by experts collaborating with the EEP, to be delivered and applied by the SVGs, (95%),

S8- Observed high commitment of different partners to provide the EASs, (96%).

Table 2. Strengths of the EEP as perceived by the SVGs.

Strengths (Ss)	NO.	%
S1- Upgrading the quality of the produced vegetables through the very restricted use of pesticides and other chemicals	89	80
S2- Improving the SVGs' access to local, regional and international markets.	91	82
S3- Increasing farming income, through attaining high net return of cultivating vegetables	97	87
S4- Reducing the wastes of the produce through wide application of better post-harvest practices	100	90
S5- Establishing a center, in the Bani-Salman village, for value addition to maximize the selling prices of the produced vegetables,	103	93
S6- Adding important assets to serve the SVGs (establishing new stations for vegetable sorting and buying trucks for transporting the produced vegetables,	101	91
S7- Developing technical packages of the practices of cultivating the vegetables, by experts collaborating with the EEP, to be delivered and applied by the SVGs,	105	95
S8- Observed high commitment of different partners to provide the EASs.	107	96%

These relatively high degrees of satisfaction reflect the success of the EEP in meeting the demanded and needed EASs of the SVGs. Additionally they provide SVGs with highly promising future possibilities of more expansion of the types of EASs that could be secured by the EEP.

B) Weaknesses: Several negative aspects or weaknesses were reported by the SVGs, during different activities of the EEP, including:

- W1- Lack of the EEP 's abilities to access some regional or international markets (88%),
- W2- Unfair judgment by the importing countries, about the required specifications of the product, that leads to rejecting the product.

W3- The private sector company's late payment of the products delivered by the SVGs (92%),

W4- Late provision of the subsidized production inputs needed and demanded by the SVGs (91%),

W5- Insufficient quantities of the necessary inputs delivered to the SVGs, through the EEP (such as fertilizers).

These weaknesses could be considered as an early warning about the aspects that could hinder the EEP success in satisfying the SVGs' present and future needs for important EASs. They also represent the areas that need special concern and efforts for positive handling.

Table 3. Weaknesses of the EEP, as perceived by the SVGs.

Weaknesses	NO.	%
W1- Lack of the EEP 's abilities to access some regional or international markets	98	88
W2- Unfair judgment by the importing countries, about the required specifications of the product, that leads to rejecting the product.	102	92
W3- The private sector company's late Price payment of the products delivered by the SVGs	101	91
W4- Late provision of the subsidized production inputs needed and demanded by the SVGs	99	89
W5-Insuffieient quantities of the necessary Inputs (such as fertilizers fertilizers) deliverd to the SVGs through the EEP	103	93

C) Opportunities: Several potential and emerging opportunities for improving the performance of the EEP were reported by the SVGs, during different activities of the EEP, including:

- O1- The possibility of replicating the successful experiences of establishing other EEPs, involving relevant partners, to serve other crops' growers (82%),
- O2- The possibility of opening new markets, in the European Union Countries, for exporting the produced vegetables (87%),
- O3- The possibility of developing and enhancing the coordination, supportive and interactive collaboration, among different partners within the PPP (NGOs, the SVGs, private sector companies and local governmental directorates of

agriculture), for better performance of the EEP (81 %).

These opportunities reflect different areas of investment of all partners in the EEP to work for positively manipulating weaknesses and maximizing the benefits of wise use of the EEP's strengths.

D) Threats: Several threats that challenge the well performance of the EEP, were reported by the SVGs, during different activities of the EEP, including:

- T1- The possibility of reducing the enthusiasm of the SVGs due to some negative experiences, including unfair low prices, or late payment, of the prices of their products, paid by the private company or late payment (80 %),

Table 4. Opportunities of the EEP, as perceived by the SVGs.

Opportunities	NO.	%
O1- The possibility of replicating the successful experience of establishing other EEPs, involving relevant partners, to serve other crops' growers	89	82
O2- The possibility of opening new markets, in the European Union Countries, for exporting the produced vegetables	91	87
O3- The possibility of developing and enhancing the coordination, supportive and interactive collaboration, among different partners within the EEP (NGOs, the SVGs, private sector companies and local governmental directorates of agriculture), for better performance of the EEP	97	81

T2- The possibility of emerging different options, than delivering the products to the private company (such as selling the high quality products, for relatively higher and instantly paid prices, to mega supermarkets or hotels, in the near urban centers) (82%),

T3- The possibility of emerging some bad practices against the agreed upon and signed contracts (such as un-commitment of the private sector company, or the NGO, related to some conditions of the contract (87 %),

T4- The SVGs' fears from the possibility of some corrupted actions practiced by the board of director of the NGO, through abusing their power to gain some benefits from the EEP, for the goodness of their own families (81 %).

These threats need to be highly considered by all partners in the EEP, They could represent the important areas of concern that must be used as a base for both monitoring the present activities and preparing future plans and efforts of the EEP.

Table 5. Threats of the EEP, as perceived by the SVGs.

Threats	NO.	%
T1- The possibility of reducing the enthusiasm of the SVGs due to some negative experiences, including unfair low prices, or late payment, of the prices of their products, paid by the private company or late payment	89	80
T2- The possibility of emerging different options, than delivering the products to the private company (such as selling the high-quality products, for relatively higher and instant paid prices, to mega supermarkets or hotels, in the near urban centers)	91	82
T3- The possibility of emerging some practices against the agreed upon and signed contracts (such as un-commitment of the private sector company, or the NGO, related to some conditions of the contract	97	87
T4- The SVGs' fears from the possibility of some corrupted actions practiced by the board of director of the NGO, through abusing their power to gain some benefits from the EEP, for the goodness of their own families	90	81

5.3.Challenges facing the achievement of EEP's objectives and the SVGs' recommended resolutions that facilitate the handling of these challenges:

As shown in table (6), the SVGs reported the main challenges that face the well-functioning the EEP, and suggested some recommendations

to positively face them. The most important challenges are associated with the SVGs' fears from unhappy experiences with some activities or events that could be resulted in decreased enthusiasm among different partners to serve small farmers, and in turn slowing or discontinuing the well-functioning of the EEP. Other challenges are related to emerging different and more profitable markets for their

Table 6. Challenges facing the achievement of EEP's objectives and the SVGs' recommended resolutions to handle these challenges.

Challenges	SVGs' Recommended resolutions
Negative experiences during the EEP activities that reduce the SVGs enthusiasm to maintain their membership in the NGO. Emerging other high competitive options for delivering the products to mega supermarkets in the capital or near urban centers.	To develop and maintain more collaborative and supportive relations among all partners of the EEP, To regularly, and critically, review and adapt the prices of the products to be near or equal to free market prices
Emerging some practices against the agreed upon and signed contracts.	To develop and maintain all partners' high commitment, about different conditions of the contract.
Board of directors' power abuse through corrupted actions that threaten the cohesion of the NGO	To develop effective participation of all partners' representatives in different meetings, activities and events.

products, the possibilities of non-conforming of some partners to the agreed-upon contracts, in addition to the possible power abuse by the leaders of the NGO to exploit the EEP for their goodness and their own objectives.

SVGs' recommended resolutions focused on strengthening the friendly collaboration among all partners, regular improvement of the prices paid to SVGs for their products, more commitment for agreed-upon contracts and developing more active involvement and participation of all partners.

6. CONCLUSIONS AND RECOMMENDATIONS

The study revealed high levels of SVGs' satisfaction concerning the quality and sufficiency of the EASs provided by the EEP. They reported several positive aspects of the EEP, including highly observable points of strength and some potential opportunities that could be utilized for improving and supporting the performance of its different functions. They also clarified some negative aspects of the EEP, including points of weakness, that need to be handled, in addition to some possible threats that may negatively affect the achievement of its objectives.

Based on the results of the study, the following recommendations could be suggested:

- Since the main target category of the EEP is small producers, who usually lack self-organizing abilities and have very low access to the needed and demanded EASs, therefore it is

highly recommended to maintain and support the revealed high levels of satisfaction among the SVGs . This could secure the existence and well-functioning of the EEP, and help make it as a viable and replicable role model for establishing more EEPs to serve farmers in other crops or agricultural activities both in the village and in other villages as well,

- As one of the important implications of conducting SWOT analysis of the EEP, it is highly recommended that different scenarios be studied, analyzed to improve the current and future performance and achievement of the studied and other EEPs. Examples of these scenarios could include:

a) Activating and supporting the EEP's Ss to handle its Ws, and pragmatically utilize the available Os, in addition to facilitate positive handling of the possible Ts

b) Maximizing the benefits of the available Os to resolve the EEP's Ws, and support its Ss, in addition to considering the Ts as challenges that could be positively faced through smart utilization of Os,

3- Developing and maintaining high levels of resilience among all partners in the EEP through upgrading their preparedness to handle the current and future inconveniences, hardships and unexpected situations or events. Different capacity building programs and activities, for training all partners, should consider this preparedness as an urgent and important objective.

7. REFERENCES

- Agricultural extension: generic challenges and some ingredients for solutions (2020).** Policy Research Working Paper 2129, The World Bank, Washington, D.C. Available at: <http://www.ds.worldbank.org> 2020.
- Ata MR and Ahmed F (2021).** Wheat Growers' (WGs) practices to adapt with climate change in the Nile Delta (ND) of Egypt, *Scientific Journal of Agricultural Sciences* 3 (2): 317-326, 2021 Print (ISSN 2535-1796) / Online (ISSN 2535-180X) DOI:10.21608/sjas.2021.107138.1168,(317-319).
- El-Shafie, Emad M., Abdel-Shafi Azam and Reda Hosny.** "Participatory extension and advisory services (PEASs) as an extension approach to achieve food security in Egypt, lessons learned from 5 Governorates", *International Journal of Agricultural Extension*,
- Ereneus K Marbaniang, Chauhan JK and Pynbianglang Kharumnuid.** www.agrifoodmagazine.co.in e-ISSN: 2581 - 8317 Volume 2 – Issue 2 – ,Public Private Partnership (PPP) in Agriculture: A step towards sustainable agricultural development, (378-390pp).
- Hermans Frans and Floor Geerling-Eiffb (2019).** Jorieke Pottersc and Laurens Klerkxd Public-private partnerships as systemic agricultural innovation policy instruments – Assessing their contribution to innovation system function dynamics, *NJAS - Wageningen Journal of Life Sciences journal* homepage: www.elsevier.com/locate/nja ,2019
- Kale Elinah, Patrick Mbataru, Kenyatta University, Kale E and Mbataru P (2022).** Public-Private Partnerships and Agriculture: A Review of Sorghum Production in Meru County, Kenya. *Journal of Public Policy and Governance*, 2(1), 1-16pp.
- Kozin Mikhail, Galiana P and Elena R (2020).** Public-private partnership in the agricultural sector: empirical estimation by factorial characteristics, *Moscow Academy of Management of the Ministry of Internal Affairs of Russia, Conferences* 175, 13016 (2020).
- Mangeni Bonphace (2019).** The Role of Public-Private Partnerships (PPPs) in Ensuring Technology Access for Farmers in sub-Saharan Africa. *University of Science and Technology, Kenya.*
- Mottet Anne, Abram Bicksler (2020).** Dario Lucantoni , Fabrizia De Rosa , Beate Scherf , Eric Scopel , Santiago López-Ridaura , Barbara Gemmil-Herren , Rachel Bezner Kerr , Jean-Michel Sourisseau , Paulo Petersen , Jean-Luc Chotte , Allison Loconto, and Pablo Tittonell, *Agricultural and Food Systems: A Tool for Agroecology Performance Evaluation (TAPE)*, on several aspects: environment published: 16 December 2020 doi: 10.3389/fsufs.2020.
- Sedykh Vladimir, Galina Pyrchenkova and Elena Radchenko (2022).** Public-private partnership as a form ensuring food security in Russia(2022), *IOP Conference Series: Earth and Environmental Science* ,(1-4pp).
- United Nations (2015).** Transforming our World, the 2030 Agenda for Sustainable Development, cited at: (<https://www.un.org/sustainabledevelopment/sustainable-development-goals/>) .

الملخص العربي

رضا صغار زراع الخضر عن الخدمات الارشادية والاستشارية الزراعية التي توفرها المنصات التعليمية الارشادية في محافظة بني سويف

رضوه ماهر عطا

قسم الاجتماع الريفي والارشاد الزراعي، كلية الزراعة، جامعة القاهرة

تواجه الخدمات الارشادية والاستشارية الزراعية المجانية التي يوفرها القطاع الحكومي العديد من التحديات الصعبة والتي تشمل الميزانيات غير الكافية وانخفاض أعداد المرشدين الزراعيين على مستوى القرية. وتمثل المنصات التعليمية الإرشادية بديلاً مناسباً لصغار مزارعي الخضر حيث تمدهم بكافة المعلومات و الخدمات الإرشادية والاستشارية الزراعية التي يحتاجونها في مجال الإنتاج والتسويق لمحاصيل الخضر. وتشمل منصات التعليم الارشادي كل الأطراف المعنية بتقديم الخدمات الارشادية والاستشارية الزراعية والتي تضم كل العاملين في مجال الإرشاد الحكومي وشركات القطاع الخاص والموردين، وروابط المزارعين، ومنظمات المجتمع المدني. واستهدفت الدراسة التعرف على مدى رضا صغار منتجي الخضر عن الخدمات الإرشادية والاستشارية الزراعية التي توفرها المنصات التعليمية الارشادية في مجال إنتاج وتسويق بعض محاصيل الخضر، وشملت (البصل والفاصوليا الخضراء والثوم والخيار). وقد أجريت الدراسة في محافظة بني سويف، وتم إجراء مقابلات شخصية مع عينة من صغار منتجي الخضر بلغت 111 كأعضاء في بعض منظمات غير حكومية، وتم استخدام استمارة استبيان لجمع البيانات. وكانت درجات الرضا متوسطة وعالية الرضا فيما يتعلق بكل من: توفير الخدمات المطلوبة في الوقت المناسب، وضمان التسويق للمحاصيل، وتحسين عمليات الإنتاج والتسويق للخضر، وتدعيم الاتصال ما بين صغار منتجي الخضر والعاملين بالقطاع الحكومي بالمديريات الزراعية، والتدريب الجيد فيما يتعلق بالانتاج والتسويق وممارسات ما بعد الحصاد للخضر بالمواصفات المطلوبة بالأسواق المحلية والإقليمية والدولية.