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MEDJOOOL DATES CULTIVATION IN JERICHO: RE-ORGANISATION OF FARMERS' COOPERATIVE AND IMPLEMENTATION OF QMS

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Nell'attuale scenario economico e sociale si è affermata l'esigenza di orientare i sistemi di produzione e gli stili di consumo verso nuovi modelli virtuosi di gestione in cui l'innovazione, la qualità e la sostenibilità rappresentano elementi fondanti per la creazione di strategie sapienti e lungimiranti capaci di creare un valore "sostenibile" per tutti gli attori della "rete della vita".

Tale sfida rappresenta un tema ampiamente dibattuto nell'ambito delle Scienze Merceologiche e, in particolare, durante il XXIX Congresso Nazionale di Scienze Merceologiche dove sono stati coniugati contributi teorici con esperienze pratiche in un'ottica di valorizzazione delle conoscenze.

Il congresso ha rappresentato un'occasione di confronto, di condivisione e di approfondimento di percorsi di sviluppo su tematiche fortemente focalizzate sui seguenti aspetti:

- Industria 4.0, analizzata attraverso i binomi di innovazione e imprenditorialità, innovazione, start-up e spin-off, tecnologia e innovazione gestionale, ricerca e trasferimento tecnologico;
- Qualità 4.0, intesa come qualità di sistema e di prodotto e sistemi di gestione per la qualità;
- Sostenibilità e Corporate Social Responsibility, che prende in esame l'analisi del ciclo di vita, i sistemi di gestione per l'ambiente, i metodi e gli strumenti di ecologia industriale, fino al concetto di economia circolare.

Benedetta Esposito è borsista di ricerca presso il Dipartimento di Scienze Aziendali Management and Innovation Systems dell'Università degli Studi di Salerno e cultore della materia in Scienze Merceologiche. I suoi interessi di ricerca sono nell'ambito della Corporate Social Responsibility e della Circular Economy nel settore agroalimentare.

Ornella Malandrino, professore ordinario di Scienze Merceologiche, Direttrice dell'Osservatorio Interdipartimentale per gli Studi di Genere e le Pari Opportunità dell'Università degli Studi di Salerno e Delegata del Rettore all'Orientamento. La sua attività scientifica si focalizza prevalentemente sulla CSR e sulla relazione tra i vari sistemi e strumenti di gestione delle differenti dimensioni della qualità.

Maria Rosaria Sessa, PhD in Management & Information Technology e docente a contratto dell'insegnamento di Gestione Controllo della Qualità dei Servizi Turistici presso il Dipartimento di Scienze Aziendali – Management & Innovation Systems dell'Università degli Studi di Salerno.

I suoi principali interessi di ricerca sono: sviluppo di sistemi di gestione della qualità e dell'ambiente, responsabilità sociale delle imprese, strumenti di valutazione ambientale e certificazione delle competenze.

Daniela Sica, PhD in Scienze Merceologiche e docente a contratto di Gestione Controllo della Qualità dei Servizi Turistici presso il Dipartimento di Scienze Aziendali – Management & Innovation Systems dell'Università degli Studi di Salerno. I principali interessi di ricerca sono rivolti alla sostenibilità dei processi produttivi, al Quality Management Systems e alla CSR.

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MEDJOOOL DATES CULTIVATION IN JERICHO: RE-ORGANISATION OF FARMERS' COOPERATIVE AND IMPLEMENTATION OF QMS

di

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Abstract (in inglese)

Date palms cultivation in the Palestinian territories exists in the Jordan Valley with around 100 date producers operating in the area of Jericho and Jiftlek. Actually, despite the potential high quality of Palestinian dates of the cultivar Medjool, the export to Europe still encounters many difficulties. Thus, Palestinian dates, with a step-by-step implementation of standardized procedure, could really improve the quality and faced in front of potential European markets and opportunities. This action-research took place within the project “Sostegno alla riorganizzazione produttiva, manageriale e commerciale delle cooperative di datteri palestinesi ed egiziani” (AID 10601), implemented by Jean Paul II Foundation and funded by the Italian Agency for Development Cooperation.

Within the project, the reorganisation of the management of the local farmers' cooperative, as well as the definition of new quality procedures, intend to foster more sustainable behaviour and improve commitment among them. In particular, the aim is to obtain a more sustainable chain, i.e. guaranteeing fair access to fundamental rights and conditions of well-being, within the workers and within the community, providing opportunities to create and develop internal and external relations involving the community, and recognizing the added value of this food commodity.

Keywords: Sustainable food commodities; Medjool dates; Quality management system; International cooperation; Action-research

Introduction

This study took place within the two-year long project “Sostegno alla riorganizzazione produttiva, manageriale e commerciale delle cooperative di datteri palestinesi ed egiziani” (AID 10601), implemented by Jean Paul II Foundation and funded by the Italian Agency for Development Cooperation. The main objective of the project is to enhance the overall quality and sustainability of the managerial and strategic organisation of a cooperative formed by date producers in the area of Jericho and Jiflek, in the Jordan Valley.

Thanks to the Mediterranean climate, dominant in the area, Medjool production, which requires hot and dry weather, benefits of optimal conditions for growth and development of date palms. Several constraints face dates cultivation and development, including lack of marketing strategies, and limited availability of water.

This paper presents the results of an action-research conducted by ARCO, a university action-research centre founded in 2008 at PIN S.c.r.l. (Polo Universitario “Città di Prato”) – University of Florence.

Within a perspective of improvement of the technical procedures of the farmers of the target cooperative, this study has focused in particular on the following objectives: i) introduction of new quality procedures and best practices among the farmers of the cooperative; ii) implementation of an integrated quality management system in the cooperative, together with iii) a proposal of reorganisation of the management structure of the cooperative.

1. Materials and methods

In order to achieve the above-mentioned objective, this action-research study has adopted a methodology based on the active involvement of the project stakeholders. In particular, the activities were conducted before and during two field missions: a) Desk-based analysis of internal reports (e.g. field mission reports, farmers’ profiles), as well as publications of studies conducted by national and international research centres. b) On field conduction of semi-structured interviews with a sample of 8 farmers, members of the target cooperative, along with on-site sustainability audit of their fields and farms during the activities of harvest and sorting. c) Conduction of semi-structured interviews with the board of target cooperative and representatives of Jericho Chamber of Commerce, Industry and Agriculture.

2. Results and discussion

An integrated management system (IMS) is a managerial tool applicable to all organizations that is implemented in compliance with the requirements of at least two certifiable standards. Among the most widespread international standards, there is ISO 9001: 2015 "Quality Management System - Requirements" for the implementation of a quality management system (QMS). For the introduction and implementation of an IMS in the food sector, further standards must be considered, as:

- ISO 22000: 2005 "Food safety management systems - Requirements for any organization in the food chain";
- BRC "British Retail Consortium";
- GLOBAL GAP.

The adoption of an IMS aims to give confidence that the steps of the process comply with the considered standards. The integrated approach to certification can allow organizations to improve internal management procedures and to rationalize company policies and objectives. In the agro-food sector, an integrated approach to quality management is nowadays necessary, along the supply chain. It is also the chance to jointly apply mandatory and voluntary requirements in order to supply affordable and quality outputs. The natural evolution and revision of the voluntary certification schemes, allows today an easy correspondence of requirements, and the integration appears to be an added value for organizations.

The farmers joined the cooperative in order to have access to land and not for reasons connected to marketing their product or gain more bargaining power to buy inputs. At the early stage of the project, members do not see any particular advantage of being members of the cooperative. Thanks to Jean Paul II Foundation and the funded project, the cooperative has already started moving the first steps towards a more structured development.

In the SWOT analysis reported in table 1, we outline the main information collected during the field mission. In order to improve the general management system of the cooperative and its farmers, within the project, our action-research consists in structuring the IMS starting from the requirements of the ISO 9001: 2015 standard. The quality manual was integrated with elements inspired by the requirements of the GLOBAL GAP (in particular for the agricultural parts, performed by the members of the cooperative) and of the standard BRC (with particular reference to special requests of international retailers).

With the implementation of a QMS, integrated with requirements of different standards, the target cooperative can start supporting its members in

improving their performance in order to enter more favourable contracts, by using the cooperative brand. Therefore, on one side, the cooperative should work on production standards and quality controls, on the other, it should start working on improving its commercial capabilities. The general manager in this phase should create agreements with local transport companies to manage the transport of dates and with local packaging houses in order to pack the dates according to the requirements of the cooperative and the requests of the market.

Table 1. Source: authors

<p>STRENGTHS</p> <ul style="list-style-type: none"> - Farmers willing to introduce eco-friendly fertilisation - Some farmers try to be like organic - General good organisation of work time-shifts - Farmers' family involvement - Stable financial status - Selection step well organized 	<p>WEAKNESSES</p> <ul style="list-style-type: none"> - No full technical awareness about fertilisation - Waste abandoned in the fields - Workers without safety shoes and other Personal Protective Equipments - Warehouse organization needs improvement - Water scarcity and low propensity to use treated waste water for irrigation - No traceability system in place from field to market
<p>OPPORTUNITIES</p> <ul style="list-style-type: none"> - Introduction of eco-friendly fertilisation - Improvement of safety on workplaces - "Made in Palestine" label for European markets - Packaging house's workspaces and production lines designed according international standards - Waste water treatment plant in Jericho - New cooperative's cold store 	<p>THREATS</p> <ul style="list-style-type: none"> - Concurrence on European markets - Prices and conditions imposed to farmers by traders and packaging house - Water scarcity - Lack of effective waste management policies

Based on the analysis of the emerged evidence, the purpose of the integrated management system is defined as follows: *"With its members producing Medjool dates in the area of Jericho, Jordan Valley, the cooperative aims at collecting the money of the members in order to adopt facilities for common use. The cooperative also promotes the adoption of sustainable practices among its members in order to be compliant with the regulation of destination markets"*.

The quality manual, written in English and Arabic, extends the scope of some of its operating procedures to members, in particular those engaged in the agricultural phases. Sections and paragraphs of the manual, appropriately adapted to the structure of the target cooperative, are therefore:

- 0.0 Revision History and Approval
- 1.0 Palm Farmers Cooperative Association
- 2.0 About the Manual
- 3.0 Terms and Definitions
- 4.0 Context of the Organization**
 - 4.1 Understanding the Organization and Its Context
 - 4.2 Understanding Needs and Expectations of Interested Parties
 - 4.3 Determining the Scope of the Quality Management System
 - 4.4 Quality Management System and Processes
- 5.0 Leadership**
 - 5.1 Leadership & Commitment
 - 5.2 Policy
 - 5.3 Organizational Roles Responsibilities and Authorities
- 6.0 Planning**
 - 6.1 Actions to Address Risks and Opportunities
 - 6.2 Quality Objectives and Planning to Achieve Them
 - 6.3 Planning of Changes
- 7.0 Support**
 - 7.1 Resources
 - 7.2 Competence
 - 7.3 Awareness
 - 7.4 Communication
 - 7.5 Documented Information
- 8.0 Operation**
 - 8.1 Operational Planning and Control
 - 8.2 Requirements for products and services
 - 8.3 Design and Development of Products and Services
 - 8.4 Control of Provided Processes, Products and Services
 - 8.5 Production and service provision
 - 8.6 Release of products and services
 - 8.7 Control of nonconforming outputs
 - 9.0 Performance Evaluation
 - 9.1 Monitoring, Measurement, Analysis and Evaluation
 - 9.2 Internal Audit

9.3 Management Review

10.0 Improvement

10.1 General

10.2 Nonconformity and corrective action

10.3 Continual improvement

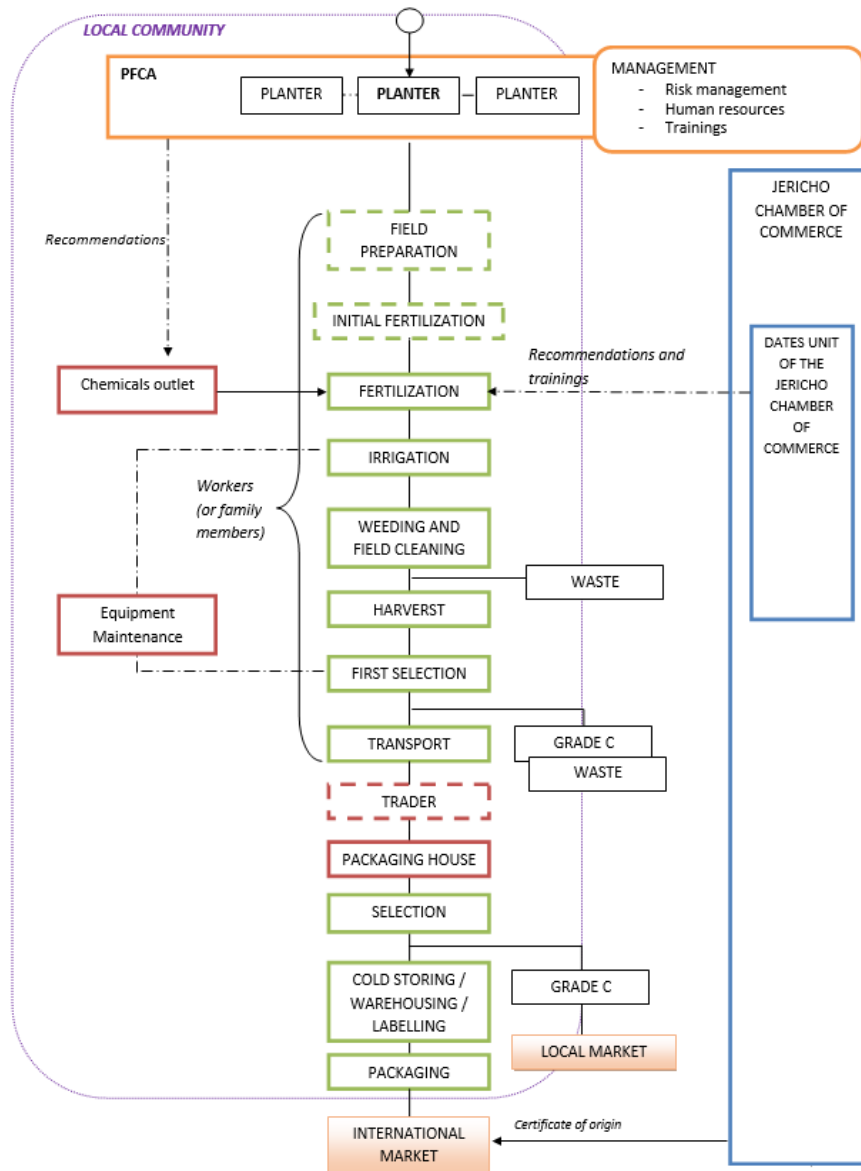
Appendix A: Overall Process Sequence & Interaction
Specific documents

High-level processes have been identified. Every high-level process can be broken down into sub-processes or activities. In the identification of high-level processes, it was decided to follow the flow of production and the supply chain, from the field to marketing, considering the management as transversal. In particular:

- **Farming**
 - Fertilization
 - Weeding
 - Irrigation
 - Equipment maintenance
- **Harvest**
 - Safety conditions for workers
 - Machineries maintenance
- **Post-harvest**
 - Selection
 - Cold storing
 - Warehousing
 - Labelling and traceability
- **Marketing and delivery**
 - Packaging
 - Dispatch of the goods
- **Management**
 - Risk management
 - Waste management
 - Human resources
 - Training

The overall processes are represented in figure 1, together with the main interactions along the chain.

Figure 1. Supply chain and process interaction (Source: authors)



The first issue of the manual includes six specific documents listed in table 2 (among procedures, Pre-requisite program, PRP; Good Agricultural Practice, GAP):

Table 2. Source: authors

In top-level process Farming → <i>Introduction of eco-friendly practices</i>	
- Waste management (e.g. collection of empty bottles to avoid waste abandon)	<i>PRP</i>
- Limited use of chemicals fertilizers	<i>GAP</i>
- Combined use of organic and chemical fertilizers (i.e. INM)	<i>Procedure</i>
In top-level process Harvest → <i>Improvement of workers' health and safety</i>	
- Maintenance	<i>PRP</i>
- Use of safety shoes during operations.	<i>Procedure</i>
- Use of Personal Protective Equipment	<i>Procedure</i>

3. Conclusions and future perspectives

The introduction of new procedures for the members of the target cooperative will foster more sustainable behaviour and improve commitment among them by sharing same practices, with the aim to obtain a more sustainable chain. This is a first introduction of prescriptive documentation. In fact, it was decided to start with a limited number of procedures in order to allow members to familiarize with this type of instrument before the implementation of new ones.

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