

## CONCEPTUAL MODEL OF INTEGRATED APIARIAN CONSULTANCY

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### **Abstract**

*The socio-economic field researches have indicated the necessity of realizing an integrated consultancy service for beekeepers that will supply technical-economic solutions with a practical character for ensuring the lucrative ness and viability of the apiaries. Consequently, an integrated apiarian consultancy model has been built holding the following features: it realizes the diagnosis of the meliferous resources and supplies solutions for its optimal administration; it realizes the technical-economic of the apiarian exploitation adapted according to its objectives and identifies its optimal administration measures; it manages the local pollination services market; it realizes viable investment projects and ensures the management of their implementation; it elaborates aggregated indicators as efficient instruments of analysis and utilizes and informatics application of apiarian management used for realizing the specific objectives of the apiaries; it integrates the technical, economic and juridical consultancy service.*

### **INTRODUCTION**

The purpose for elaborating this concept consists in realizing a package of complete and integrated services, adapted to apiarian exploitations. These characteristics also represent the elements of innovation of the model.

The integrated consultancy model in apiculture assumes assuring information, counseling and representing beekeepers after their main preoccupations: the administration of the meliferous resource, apiarian technology, pollination services, the commercialization of apiarian products, legislation, design, apiarian management, and the improvement of the level of the economic results.

This integrates the modular consultancy services to assure an efficient consultancy services package through the utilization as resources of the information resulted from each type of service that comprises the package.

The model proposes adapting consultancy services on various types of beekeepers by their objectives as: beekeepers-owners,

beekeepers-entrepreneurs, beekeepers-investors and viable beekeepers.

### **MATERIAL AND METHOD**

The utilized research method in the present paper is represented by the socio-economic interview technique on the sample basis.

The first phase of this was the areolar type sampling that consists in dividing the concerned space in sectors differentiated by a certain characteristic. The Romanian territory was divided in six specific areas from apiarian point of view names bio-apiarian zones bounded by the volume of the meliferous resource [2]. These are differentiated by the type of terrain, altitude and longitude – determinant elements for the volume and distribution of the meliferous resource. By the share of the volume of the meliferous resource at national level it has been determinated the number of counties that have been part of the sample in the group. Thus, 21 representative counties have been identified.

In each county, the sampling of apiaries by size groups of bee families effectives were necessary as following: 0-50 families; 50-100 families; over 100 bee families.

This sampling was realizing according to the quota procedure that involves two stages, the first consisting in building a reduced model of the population concerned in the research and the second consisting in establishing of subjects quotas for each operator [3]. The model is defined by the size of the apiaries and their share in each group resulting a dimension of the sample of 126 apiarian exploitations.

The second phase consisted in realizing the investigation plan that comprised the interviewing technique, the type of interview, moment, interview guide and the means through which these are realized.

The interview guide was previously verified in a pre-inquiry realized on a reduced number of subjects aimed at discovering any discrepancies, completing and adapting the questions in relation to the way in which this was received by the interviewed population and the measure in which it offered the expected results.

The moment of realization of the investigation was in spring because in this season the final results are known both regarding the final production and sold the previous year and the hives losses accrued over the winter. At the same time, it has been necessary avoiding the period in which the beekeepers are out in pastoral, that is why the month of April has been considered as being the optimal period of realizing the interview.

The utilized materials have been those specific to socio-economic field researches: interview sheets, tables with the studied population, maps etc.

## RESULTS AND DISCUSSIONS

**The objectives of the integrated consultancy service in apiculture are:**

- Increasing the level of fructification of meliferous resources available to the apiarian exploitation;
- Increasing the level of efficiency in the supply with inputs;
- Elaborating adapted and efficient technological models;

- Developing the bee pollination services market as a vector for the increase of beekeepers welfare;
- Insuring the informational and consultative support in a legal aspect;
- Improving apiarian exploitations marketing;
- Insuring the technical-economic design and the implementation management for investment project;
- Developing an efficient management at the level of apiarian exploitations;
- Insuring financial and accounting assistance;
- Providing the technical-economic instruments for improving the economic efficiency of apiarian exploitations.

The integrated consultancy service in apiculture has a modular form interconnected an interactive PIVOT database, connected to the databases specific to each module.

The modules that are part of this package respond punctually to each specific objective of the package:

- Consultancy in the administration of meliferous resources;
- Consultancy in supply;
- Technical consultancy;
- Brokerage and counseling of bee pollination services;
- Legal counseling;
- Marketing consultancy;
- Technical-economic design;
- Consultancy in apiarian management;
- Financial-accounting consultancy;
- Technical-economic consultancy;

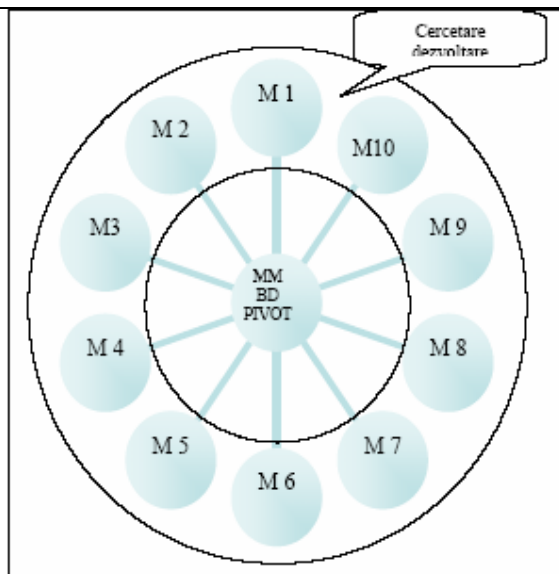


Fig. 1 The integrated and modular structure of the conceptual integrated consultancy model in apiculture

Each module requires the existence of a consultant in the specific module area, a procedural protocol and a specific instrumentation.

The expert consultant must hold specialty knowledge's tested by recognized publications and relevant experience. This can be an employee of the company supplying integrated consultancy services or an external consultant.

The procedural protocol requires the delimitation of each work stage, internal regulations, work methodology and the set of result indicators.

The module specific instrumentation comprises: pilot apiaries, analysis instruments (if any), vehicles, computer hardware and common and specific software elaborated by the company board.

#### The beneficiaries of consultancy services

The economic consultancy in apiculture addresses all beekeepers, but especially the representatives of apiarian exploitations with a commercial purpose.

**Module 1 Consultancy in the administration of meliferous resources** has the following attributions:

1. The quantification of the meliferous potential available to apiarian exploitations by volume, evolution, variability

aspect for which a set of indicators, maps of meliferous resources and meliferous resources evolution scenarios are realized. The utilized methodology comprises field determining techniques, GPS and ImageSAT functions, as laboratory analysis.

2. The identification of the means of increasing the economic efficiency in utilizing the meliferous resource for which adapted models of efficiency of the fructification of meliferous resource is realized.
3. The elaboration and administration of specific interactive databases which hold information regarding the size of the meliferous resource on micro-zones.
4. The administration of the section of the website for public use with general information about the structure of this module.

**Module 2 Consultancy in supply** has the following activities:

1. The identification of inputs suppliers: apiarian inventory, supplies, transportation services etc.
2. The elaboration and administration of the specific interactive database that hold information regarding suppliers;
3. The conclusion of collaboration conventions with agreed suppliers;

**Module 3 Technological consultancy** has the following activities:

1. Providing maintenance models of bee families on various technological variants;
2. Adapting the technological models for each beneficiary depending on the internal environment and internal situation of its exploitation;
3. The elaboration and administration of the specific

interactive database regarding the utilized method and their results;

4. Verifying the reference technological solutions in the pilot exploitations;
5. Elaborating and updating the breviary with adapted technological solutions.

**Module 4 The brokerage and counseling of bee pollination services** holds:

1. The promotion of bee pollination services;
2. The identification of potential beneficiaries;
3. The conclusion of collaboration protocols;
4. The administration of the database with potential beneficiaries of bee pollination services;
5. The elaboration of optimal pollination routes..

**Module 5 Legal counseling** holds:

1. Providing updated legal information;
2. Legal assistance.

**Module 6 Marketing consultancy** has the following activities:

1. Identifying the distribution channels for apiarian products;
2. Identifying potential buyers for apiarian products;
3. The administration of the database with potential buyers of apiarian products;
4. Providing information regarding the market situation.

**Module 7 Technical-economic design** consists of:

1. Realizing initial or modernization investment projects from own resources or financing funds;
2. Insuring the project management;
3. Insuring the counseling after the finalization of the investment project;
4. The elaboration and administration of the specific

database with investment project models.

**Module 8 Consultancy in apiarian management** holds:

1. The elaboration of the diagnosis of the apiarian exploitation management;
2. Providing the instruments for improving the managerial performance;
3. The elaboration and administration of the specific and interactive database that holds information about the management of apiarian exploitations and instruments for improving its efficiency.

**Module 9 Financial and accounting consultancy** assumes:

1. Insuring the bookkeeping;
2. Realizing the documentation for obtaining credits.

**Module 10 Technical-economic consultancy.**

1. Elaborating the technical-economic diagnosis application;
2. Elaborating the technical-economic solutions breviary;
3. Elaborating the informatics applications for simulating the implementation of technical-economic solutions;
4. Verifying the reference technical-economic solutions in apiarian exploitations;
5. The elaboration and administration of specific database that holds information regarding the economic performances of apiarian exploitations and the adopted technical-economic solutions.

**The information management and the interactive „PIVOT” database** represents the integrating component of the system holding as a purpose the administration of information from the specific modules [1]. This allows accessing of all information in an efficient manor and updating them in real time. Thus, at any time, information about a beneficiary, a beneficiaries group or all

beneficiaries can be accessed. Also, the information in the specific databases of each module will be easily updated.

The transfer of information from PIVOT to the module is controlled by the database manager depending on the necessity and the particularities of each module.

This flow of information will be used also for the transfer of obtained results from the research and development activity, common or realized by each module. These results must hold a practical character and must be verified in the pilot exploitations so they can be utilized effectively in the modules activity.

## CONCLUSIONS

1. The integrated apiarian consultancy model is a complete consultancy services package, integrated and adapted to apiarian exploitations.
2. The integrated apiarian consultancy model elaborated has the following characteristics: realizes the diagnosis of meliferous resources and provides solutions for its optimal

administration; realizes the technical-economic diagnosis of the apiarian exploitation depending on its objectives and identifies its optimal administration means; manages the local pollination services market; realizes viable investment projects and insures their implementation management; elaborates aggregated indicators as efficient instruments of analysis and utilizes a software application of apiarian management useful for realizing the specific objectives of apiarian exploitations; integrates the technical, economical and legal consultancy services.

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