

# GOVERNANCE STRUCTURE WITHIN THE COOPERATIVE “RES-GROUP” IN SUPPLY CHAIN MANAGEMENT OF APPLE PRODUCTION IN PRESPA REGION, REPUBLIC OF MACEDONIA

*Short Scientific Article*

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*Apple production in Republic of Macedonia is an important sector that highly contributes to the economy in terms of employment and income, especially for small-scale farmers in Prespa Region. Thus, producing around 67 percent of the total apple yield in the country in 2012 year is. Therefore, apples are mostly sold at local green markets, which are still dominant points of marketing left by the old socialist system. The rationale is that, the governance structure affects other decisions (directly or not) taken by farmers with regard to the membership status and choice of transaction partner. In apple production, traders are other transaction structures besides the cooperative that operates in the apple supply chain in R. Macedonia. With respect to each set of decisions, hypotheses were formulated as study guides. Specifically, these hypotheses relate to determinants associated with different trading partners (cooperative, traders and combined) and commitment factors in the governance structure of the cooperative.*

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**Key words:** Supply chain management, governance structure, management mechanism.

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## 1. INTRODUCTION

*A*GRICULTURE IN REPUBLIC OF MACEDONIA IS A significant sector in the national economy. In comparison to EU Member States revenue from agriculture, it could be said that, the sector accounts a lot for the country. Proportionally, Macedonian agriculture's contribution to the gross domestic product (GDP) is approximately five times higher than the EU-27 average (SSO, 2013). Generally speaking, the Macedonian domestic market is somehow limited in its size and diversity; which led the country to be a net importer of agri-food products.

Nowadays, the Government of Macedonia (GoM) encourages farmers to join cooperatives and increase their competitive and export power. But, still their fruits are mostly sold at local green markets or exported through local "middlemen". Consequently, there is no need for most fruit producers to join cooperatives, because they usually run small businesses mostly family heritage. Also, an increase in sale of fruit to supermarkets and unlimited power of the "middlemen" become a barrier for motivation of producers to join cooperatives. In case of apple production, cooperatives still are not defined models of organization. Farmers cannot recognize their benefits yet. For instance, in the Region of Prespa, which is cradle of apple production, nowadays, there is only one cooperative "Res-group" facing many difficulties, driven by internal and external factors.

In the literature (Grandori and Furnari, 2008) empirically observed markets, hybrids and companies embody varying mixes of four ideal mechanisms: market-like (highly powered incentives and capacity of coordinating action with minimal communication), hierarchy-like mechanisms (predictability, transparency and accountability through formal rules, procedures and evaluation system), community like (infusing cohesion and homogenizing interests through knowledge and value sharing), and democracy-like mechanisms (infusing voice and integrating different interests through diffusion of ownership, decision and representation rights). These above mentioned mechanisms are in strong correlation, because all of them coexist, at least, at a minimum level, but depending on the performance objectives of the cooperative, and on the business environment, some trade-offs between them are likely to arise, which makes them substitutes.

Advantages of hierarchy are basically a higher capacity of controlling performance of the other party in the transaction, compared to markets and mitigate costs associated with the holdup problem, arising when one party in the transac-

tion has non-redeploy able assets. The hierarchical mechanisms as closely monitoring system to member`s production processes and long-term relationships and agreements with members for that specific transaction, would play an important role, therefore reducing the control costs in cooperatives (Bijman, 2009).

Main advantage of market-mechanisms is freely allowing of independent adaptation and tendency for a low level of communication. Thus, we have less cost when there are no specific investments at stake and when the performance of measurements and attributes of the products are relatively easy. Cooperatives generally pay “market” prices to their members for the delivered products. “Production activities of farmers and processing and marketing activities of the cooperative are coordinated through the price mechanism according to Bijman (2009)”. In this case, discounts for lower quality products than the required in the agreement, is also market-mechanism.

Hierarchies are spectrum`s extremes of the institutional arrangements/governance structures. Here markets and organizations play key roles such as: the market makes use of market`s incentives/prices, and organizations are coordinated through planning, command and control, thus, the decision-making is hierarchical and based on authority. However, there is theoretical overlapping between those two pillars, specified as hybrid-mechanism. These pillars work with both, market incentives and modalities of coordination (Williamson, 2005). Hence, examples of hybrid-mechanism forms can be cooperatives, contracts, franchising, etc. According to Williamson (1991), he treats hybrids as “intermediate of coordination and intermediate of capacity, to align interest through incentives and behavior control”.

When bilateral dependency sets in as in the case of hybrids and hierarchies, the intensity of incentives reduces, but administrative controls arises (Williamson, 1991). In comparison with the market-mechanisms, internal incentives in hierarchy-mechanisms are low powered, which means that changes in effort expended have no immediate effect on compensation. Therefore, the high-powered incentives of markets are unavoidably compromised by internal organization. Hybrid mode shows intermediate values of incentive instruments and administrative controls: as it preserves ownership autonomy, there are strong incentives.

This paper has a significant importance for R. of Macedonia in many aspects. Since, GoM has not yet distinguish F&V as a special sector and does not has a special cooperative regulations for them, it is important to figure out farmer`s problem and benefits which can be contributed dealing with it.

## **2. MATERIALS AND METHODS**

For this paper the researchers were used several techniques to get the required data such as literature research, discussion with key informants, deep interview survey and observation of the participants as well as administrative authority specialized in this sector.

Discussions with key informants were useful to collect as much as possible information about the research area, apple sector and the cooperative as well. Informants were the staff from the regional office of the National Extension Agency (APRZ), specialized in field of apple production, Associated Professors dealing with Development and Organizational Management studies from Faculty of Agriculture Science and Food-Skopje, regional apple producers, the manager of cooperative ZZ "Res-group", Local Authority bodies, traders, retailers, and fruit exporters. A total of 60 farmers from Prespa Region were interviewed with a formal questionnaire structured on close-ended and open-closed questions.

Selection of the cooperative and individual farmers was performed in a multi-stage sampling process. First stage was an in-depth study with purposely selected cooperative ZZ "Res-Group". Second stage covers selection of 20 farmers with more than 3ha under apple production and 20 farmers with less than 3ha (both group are nonmembers). On the other hand, researchers selected 20 farmers who are members of the cooperative "Res-group".

In correlation with the above pattern of research approach, the researchers formulated the following hypotheses:

Supply chain management differs according to the membership status;

The choice of transaction partner depends on the membership status and governance structure towards the cooperative; and

In generally farmers' income is higher within the cooperative than individuals.

## **3. RESULTS AND DISCUSSION**

### **3.1. Apple sales in Res-Group**

36 Common biggest problem for apple producers is market oriented synergy, as well as quantity and quality offer facing market's demand. Price per kilogram fluct-

tuates during the whole season. From the beginning of harvesting season, when speculations are driven by traders as called “middleman” and external wholesale buyers from consuming demand countries, till the end in the spring when the apple reduce its weight and quality influenced by lack of modern storage capacity.

From the results (See Table 1.) quantity of sold “Idared” is higher among nonmembers influenced by the yield. Price is non-factor that influence on the income, as we can see that income is similar comparing with the amount. Differences are occurs only in the produced amount among farmers driven by their land size. In case of the varieties, members have higher income than non-members, with main reason that price of selling through the cooperative is higher even the total of produced amount is almost equal with nonmembers. Amount of produced apple mainly depend on weather conditions and fertiliser’s quality. Price is influenced by local wholesale exporters or so called “middle-man”, and mainly is influenced by the regional market price and production season among EU States.

Cooperative members are trying to get quality and quantity as well and carefully chose their transaction partner with placed emphasis on payment date. Characteristic for nonmembers are that they tend to quantity with less investment and zero days delay in payment. But common for both categories is that they are not powerful in bargaining price at all. Traders are collecting their fruits from each farmer’s storage place in most cases in their households.

In average both membership categories earn less or more the same amount for “Idared”, but not in the cases of the varieties where member’s income is higher than non-member for the same amount of products, because varieties were sold through the cooperative.

*Table 1: Yield and income from both varieties within membership status (2013)*

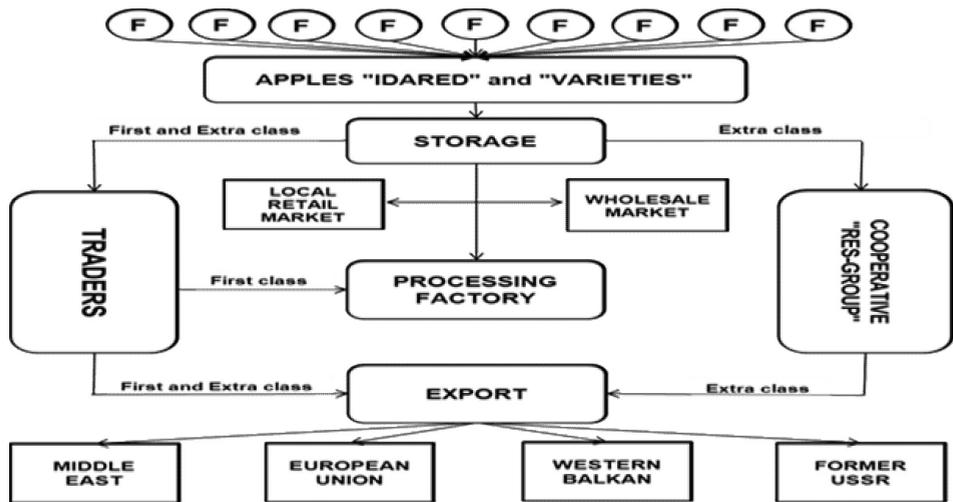
	N	Member	St. dev.	Non-Member	St. dev.
Quantity of “Idared” (Kg)	60	64,100	33,368.15	73,400	35,771.73
Income from “Idared” (MKD)	60	684,400	422,895.68	765,750	443,816.80
Quantity of “varieties” (Kg)	60	16,900	9,677.59	16,950	11,138.95
Income from “varieties” (MKD)	60	289,000	182,642.33	264,175	172,858.57

Source: Author’s based on primary data, 2014

### 3.2. Main actors in the supply chain of apples in Prespa Region

A general presentation of main actors participating in the apple sector in Prespa Region is made through analysing of the supply chain. Hereafter, it is followed by a specific emphasis on structures acting as direct partners to farmers in their products sale, namely "middlemen" and "Res-group" cooperative. Main supply chain is divided in three categories according to added value on their products (See Figure 1.).

Figure 1: Apple supply chain in Prespa Region



Source: Based on farmers interview and group discussion, 2014

After farmers harvest their apple they make separation on classes to "consumption" or Extra Class and "industrial" or First Class. Usually, Extra Class is going to the storage places majority owned by farmers, calculating and waiting for the best purchasing price. There are exceptional cases where farmers are selling their products directly from the field. On the other hand, First Class apples are going directly to local processing factories (juice, jam, powder, chips) or have been exported to our neighbour's countries as a raw material for additional processing.

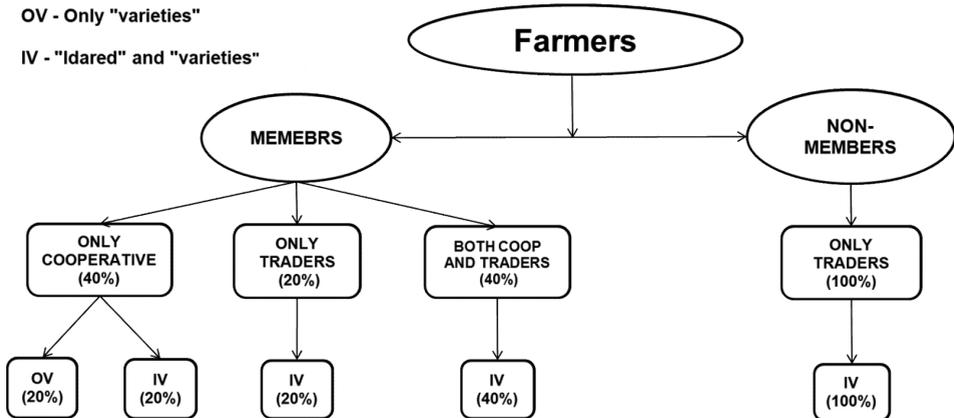
Transactions done by the cooperative mostly placed emphasis on "varieties" Extra Class but without exception of "Idared" as well. Final destination is export to third countries. Traders are dealing with all varieties and classes, depend of price fluctuation and favorable profit making, they are trading up between 4-6 months after harvesting. Transportation and packaging are arranged by the traders or cooperative on its own costs, depend on contractual pre-agreement. Target export

countries are: Western Balkan, former Soviet countries, EU Member States and Middle East. Main export goes through Serbia, enabled of favorable tax conditions and close relation with former Soviet countries. There are cases when farmers on their own arrangement selling part of their yield on the local markets around the country or deal with wholesale market as well.

### 3.3. Traders in apple sector of Prespa Region

Traders represent first and most influenced group in the apple sector. They drive the price and quantity demand on internal and external markets. In apple transactions, traders act as intermediaries on behalf of larger operators. These are themselves exporters or dealing with external processing companies as a “middleman” (See Figure 2)

Figure 2: Farmer`s transaction partner per variety of apple



Source: Authors based on primary data, 2014

Traders are most interesting in “varieties” rather than “Idared”, because of the market demand, the quality of “Idared” and its demand on the global market. Always, traders firstly try to deal for the “varieties” because of good price on the globe market, and on other hand, lack of cooled warehouse capacity from the farmer side as opportunities to extend product`s shelf-life, thus to increase their bargain power for better price. Also, traders are interesting in “Idared”, but demand and price on globe market are not so attractive for them, thus, their shown interest has lower intensity and ability to increase the purchasing price.

Despite the problems in trading arrangements, traders cannot altogether be labeled as unimportant in apple sector. They in fact, constitute a form of mar-

ket structure which has been in the business much longer than the cooperative. Nowadays, they are faced with difficult position in the supply chain, due to the government policy of promoting cooperatives and foreign investments in processing companies, which disrupts traditional ways of transacting in the society. A comparison of "Res-group" cooperative and traders provides more explanation on their relationship within apple producers. Following the Transaction Cost Economics Theory, the cooperative can be described as hybrid, while traders as spot market key players.

#### **4. CONCLUSION**

Summarizing the literature review can be remarked that, a governance practice of "Res-group" cooperative brings not only individual benefits but mutual as well, by improve security, reducing supervision and control costs. Furthermore, the image and strengthening of the cooperative spirit of participation, collective action and belongingness as well.

A governance structure in the cooperative is a complex and undefined system, where policy makers and manager still don't have clear perception and strategy based structure. As the researchers stated in the literature review citing Grandori and Furnari (2008), those mechanisms that reveal in "Res-group" are match-mixed and overlapping each other. However, in general this cooperative has a hybrid-mechanism attributes where market-orientation and organizations play crucial roles such as: market incentives and organized coordination through planning, commanding and controlling. Thus, the decision-making is hierarchical and based on managerial decisions. According to Williamson (1991), where he treats the hybrids intermediate of coordination and capacity to align interest through incentives and behavior control, hereafter, the limitation on marketing and bargaining led the cooperative to low powered incentive which may lead to non-stimulation in gaining the maximum effort of the cooperative. Common assets are exceptions for "Res-group" and exclude it from the hybrid mechanism as Menard (2007) mentioned that "hybrids sustain distinct and autonomous property rights and their associated decision rights on most of the assets". However, in the case of the cooperative, customers demand are non-observable or costly to measure the attributes of apple products, In particularly markets exist the demand for

mechanisms. Thus, they can closely monitoring member`s production processes, and assume unified quality products, which is not case of “Res-group”.

Characteristics that distinguish markets, hierarchies and hybrids, also can be contract law, incentives intensity and administrative control instruments (Williamson 1979, 1991). In case of “Res-group” occur “classical contract” where cooperative or its members are irrelevant, because the financial institutions cannot recognize as a personal entity. Their agreement is based on ideal (spot) market transactions because usually parties do not bear dependency relation to each other. In some cases also “relational contract” occur between non-members and traders, but without exceptions when members are transacting with traders as well. Therefore, reflections came with low-powered incentives, which mean that changes, in effort expended have no immediate effect on the transaction, but administrative controls arise. Vice-versa happen in case of nonmembers where incentive is strong, but administrative costs are high because of the specificity of the apple products and “middlemen” as well.

However, in this paper`s finding “Res-group” have strong market-hierarchy behavior according to the distinguishing attributes of governance structure, at the same time it seems to operate as a hybrid with hierarchy organized management. Based on this, it can be said that “Res-group” is a multi-complex mechanism, dealing in divergent ways, depending on the environment and conditions which arises in given case.

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**Rezime:**

***Upravljačka struktura zadruga „Res grupe” u nabavnom lancu proizvodnje jabuka u prespanskoj regiji***

Proizvodnja jabuka u Republici Makedoniji predstavlja važan sektor koji značajno doprinosi privredi u pogledu zaposlenosti i prihoda, posebno za male farmere u prespanskoj regiji. U 2012. god. oni su proizveli oko 67% od ukupne proizvodnje jabuka u ovoj zemlji. Jabuke se najviše prodaju na lokalnim zelenim pijacama koje su ostale dominantna tačka prodaje još od socijalističkog sistema. Racionalno je to što upravne strukture utiču na ostale odluke (direktno ili indirektno) koje su doneli farmeri, poštujući status članstva i izbor transakcionog partnera. U proizvodnji jabuka, trgovci predstavljaju transakcione strukture koje pored zadruga posluju u lancu snabdevanja jabukama u Republici Makedoniji. Uzimajući u obzir svaki segment donošenja odluka, u tekstu su oformljene hipoteze kao vodič kroz studiju. Hipoteze se posebno odnose na determinante vezane za različite trgovinske partnere (zadruga, trgovce i njihove kombinacije) i obavezne faktore u upravnoj strukturi zadruga.

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***Ključne reči:*** upravljanje nabavnim lancem, upravne structure, upravljački mehanizam

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