

Family-Based Farming—Can It be Competitive? Dilemmas on the Farm-Size in Hungary—Successful Patterns in the World: Denmark and South Korea

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The goal of this study is to give an insight to and make a comparison between the agricultural co-operative systems of Denmark, - a success story of the family based farming even in the frames of the EU, - and of the Republic of Korea (South Korea), one of the Asian newly industrializing economies (ANIEs). Although Denmark and South Korea are quite far from each other, there are similarities between their farming model which can be summarized as follows. In both countries farmers receive huge amounts of subsidies, in lack of which they could not be competitive or even viable. Moreover, in both countries farmers are integrated to co-operatives which are their common properties and which operate on a non-profit basis towards their own members. Furthermore, farmers in both countries work individually, separately on their own (or rented) lands, while co-operatives play important role in other stages of the supply chain.

Besides the aforementioned similarities there are major differences which are as follows. The Danish model is a result of a long, organic development which looks back to the last third of the 19th century. It was not hindered by political events or military conflicts in a noticeable extent. In Korea, the land structure (miniature farms) and the co-operative system was developed from the late 1940's on the basis of a politically motivated land reform. Another difference is in the characteristics of the co-operatives, In Denmark they are commodity- or product-specialized, while in South Korea they are mostly work on territorial basis with a general

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agricultural profile. In addition, in Denmark, the export of animal products has always been the most important objective of the agriculture while in South Korea the main goal is to meet the domestic food demands and its main sector is the rice-dominated plant production. Furthermore, Korean farmers are more vulnerable, as their farmlands are much smaller than the same of Danish farmers, they receive even proportionally higher budgetary subsidies to their production. The author believes that the examination of this topic may serve with adaptable experiences and useful ideas for specialists and policy makers.

Keywords: *Agricultural Economy, Co-Operatives, Denmark, Republic of Korea, Land Reform*

I. Introduction

During that quarter of century which passed after the metamorphosis of the regime in Hungary – a continuous debate went on – and still goes on – in the issue of the desirable farm and property structure of farmlands, or with other words: the big estates or the smaller, family based farms should rather develop and get preference. The competitive advantages of big estates – deriving mainly from their scale of economy and capital assets – are clear. Even now several countries among those the USA has been relying on it. In Hungary, during the last two decades of the so-called socialist period (1970-1990) – with significant state subsidies – a high level agricultural production had been developed meeting even world standards. The radical shrinking of the former “Eastern” markets (meaning the former Soviet Union and other socialist countries) contributed significantly to the collapse of these big estates, however to the question “how to proceed further?” the answer was based on rather on historical conditioning than on rational consideration. The process of compensation (of the former land owners whose assets were previously nationalized by the communist regime) was failed, estates of medium size moreover big estates were created in private ownership. In parallel of this also farms of very small sizes emerged in mass (several hundred thousand units), being under one hectare, which could not be proven to be viable.

Following the change of the regime the production of the agricultural sector dwindled considerably, both considering its rate within the gross domestic product (GDP hereafter) and in absolute value. The major decrease in the production came about between 1993 and 2000 (Szabó and Zsarnóczai, 2004). The conceptual determination of family based farms was not at all synonymous in the period of the changing of regime. Several debated questions arose, for example what was the limit of the property size till it could be considered as “family based”; how many

family members have to work in the farm in person in full time. The answer was given to the question – among Hungarian circumstances – by the law – Act No. LV.03.05 of 1994 which determined the dimension of family farm up to 300 hectares (Act No. LV of 1994).

The process of the accession to the European Union (EU hereafter), moreover the EU membership which became a reality since more than one decade, have not brought a breakthrough in the issue that what kind of pattern should be followed by Hungary in the field of agricultural property structure. However the reassuring decision for the long run of this subject would be of great importance. Although EU subsidies (and the rational, efficient utilization of those) are not as important in any other sector as it is in the agriculture (Erdeiné Késmárki-Gally, Fenyvesi, and Takács-György, 2015).

Similarly, various approaches having been not always synonymous, moreover several definitions appeared about the issue that which enterprises, what kind of entrepreneurial models could be considered as “co-operative”.

Ihrig (1892-1970) who used to be one of the pioneers in the field of scientific examination of the practice and theory of co-operatives, in his work “A Szövetkezetek a Közgazdaságban” (Co-Operatives in the Economy) published in 1937, endeavoured to explore the essence of the co-operative farming form in details. He claimed that the co-operatives come to existence in order to reach economic purposes (it is true even then if they serve other i.e. social or national efforts, perhaps by indirect way) that several persons and several farms get associated. On this basis, the co-operative could be considered as one of the configurations of economic associations (Ihrig, 1937).

Szabó (2010) – partly following Ihrig’s researches - emphasized that in the agricultural co-operation two basic trends could be distinguished from each other, which considerably differ from each other. In the first case the basic material production (the classical agricultural production) is also a part of the co-operative

activity (like it used to be in the co-operatives during the previous socialist era in the Central and East European countries), while in the second case, the integration is not extended to the common use of lands and production equipment, but developed with its supporting services to nearly all other parts of the supply chain, e.g. common marketing, procurement, food processing, warehousing, etc. (Szabó, 2010). In the latter case the basic agricultural production is done by the farmers separately, individually, like it is done in many European countries, including Denmark.

Szabó (2005) following Barton (1989) refers also to that American terminology, which is also reflected by the Dutch conception like: “The co-operative is such a form of enterprising form the employers of which are the owners of it at the same time and simultaneously managing it, further they have a share from the benefit on the basis of the utilization to.” The so-called three unities existing is essential: the *owner* (who bears the risk) – the *manager* (who makes the main decisions) – and the *user* (who makes use of the services of the co-operative, in the sense of which the members are simultaneously the owners of the co-operative thus they run the risk, make the major decisions concerning the (common) undertaking, put in circulation of goods with the co-operative which means that they utilize the co-operative which is the basis of economic activity of the venture (Szabó, 2005). According to Bogetoft and Olesen (2007) co-operatives are such enterprises in which the users (and not the investors) are the owners and the managers of the venture (Bogetoft and Olesen, 2007).

In Hungary, from the point of the definition and functioning of the co-operatives the Act No. V of 2013 on the Civil Code, Part IV, is determinant. It defines the notion of co-operatives as follows.

- (1) A cooperative is a legal person founded by contribution of the members of capital, operating according to the principles of open membership and changing capital, to meet economic and social needs of the members' activities, in which the obligation of the member against the co-pecuniary

contribution of the supply and the statutes personal involvement set out cover. The cooperative obligations of the member is not obliged to stand.

- (2) The activities of the cooperative may be oriented to sales, purchasing, production and services. (Act No. V of 2013, §3:325.).

The subject is supplemented and specified by Act. No. X of 2006 on the co-operatives as well – which defines the notion of the co-operative in its §7 as follows: “The cooperative, formed in the amount of capital share specified in the statutes, the organization’s legal entity operating under the principles of open membership and changing capital aimed at members of the economic and other social (cultural, educational, social, health) needs to promote” (Act No. X of 2006).

Although it was insisted with predilection at the level of fundamental declaration by all the Hungarian governments in power, that they support the development of the small family based farms, however effectively this intention was not always visible, since sometimes it strongly appeared that the major farms being considered as more and more competitive could rather get priority. Looking back even to the period since 2010 it is not completely clear whether the Hungarian government intended to assign determinant or only supplementary role to the family based farms. The answer to that question is also hard to have by what means and economic organizational methods could the family based farms be also competitive. The author considers that the sustainable development of the rural areas, the prosperity of the rural society on the long run is such a complex social issue which cannot be examined only from economic point of view. Besides the bargaining power of the big agricultural farms and the considerations about their economy of scale it should also be taken into account that people who live and work in the countryside should participate in the food production rather as real owners than just employed workers. That is why the international outlook is very important to see whether in Europe or even overseas there are countries where family based farms are dominant in the agricultural production and they are able to operate successfully, therefore they examples can be considered as models for other countries.

There are a lot of such countries in the world where small scale, family based farms produce the basic materials of the food industry. But this is not enough for the success in itself, since for example in several African countries, in spite of the existing lack of foodstuffs, a lot of farmers gave up farming, abandoned farmlands and flew to bigger cities to search for better livelihood. However, we can find examples among the more developed countries, that family based farms, in spite of their small dimensions could create modern and competitive agriculture. What could be the secret of it? The success of these models seems, that it is due in a significant extent that the producing forms functioning on the basis of private ownership co-operate with each other in an extensive way, moreover with the other actors of the supply chain and one of its frequent form is the co-operative. The present and future importance of the co-operative model of management is well symbolized by the fact that the United Nations declared 2012 as the International Year of Co-operatives. The present paper examines the form of co-operative farming system in case of one European and in one Asian country where the co-operative system based on family farms has been functioning successfully for a longer time.

II. Material and Methods

The study is mainly built on results of secondary research from bibliographic sources and international databases. The goal of the study is to overlook those good international practices, methods which might have adaptable lessons for other countries. This, from the latter aspect, following the changing of the regime, has remained a sensitive issue and the establishment of the appropriate agricultural property structure is still an open question, which means the choice of the development tendencies between the big farms pursuing professional production over against those farms which are built on family ownership and labour force co-operating with each other in a coherent (loose) or closer way.

The study presents the case of two countries – Denmark and the Republic of Korea (South Korea) – in which the vertical, moreover the horizontal co-operation of small agricultural producers proved to be effective – in spite of the strongly differing cultural and historical background which exists between them. It is worth mentioning that the author used to live and work in both countries for years, thus beyond the secondary information the author integrated his primary, local experiences as well. The main point of the paper was formed by a descriptive-analytical exploration of the co-operative movements of the two countries moreover the economic, geographic, social and political factors promoting it by attempting to present methods, experiences which proved to be successful and which might be applicable elsewhere too.

III. Denmark

In the course of the past hundred years in the West-European food economy, in several countries and sectors (for example dairy, beef, pork, vegetables and fruits), the co-ordinating and integrative types of organizations established by the farmers came into the limelight and got strengthened. The production of the agricultural basic materials is running mainly in the frames of family based farms. Therefore, to enable the farmers to produce them in an economical way, by which they could increase their incomes, there was a need for co-operatives. The successfulness of the Danish (and the Dutch) agricultural co-operatives (their significant market share) their remarkable role in the management of agricultural producers, their efficiency and their flexibility to react on environmental challenges engender that they show internationally acknowledged example. These co-operatives perform only one single activity attached to the process of production (i.e. either only procurement or only sales) (Szabó, 2007). Vadász (1980) pointed out that it is a special feature of the Danish agriculture that more than 95% of the arable land had remained in the farmers' property through generations (Vadász, 1980).

The Danish laws protect by now the peasant-farm and the status of land ownership which is the basis of family enterprises. After 1945, according to the several times amended land law, in Denmark such a person could be a farm owner who lives in his farmstead, accomplished the relevant professional courses which comprise not only agricultural but also farm-managerial, computer and other skills. Only such a part of land which lays not more than 15 km distance from the farmstead could be acquired to the farmer's property. In case of land ownership the farmer needs a qualification gained by the accomplishment of a minimum two-year full time course, the so-called "green certificate" or holding a university or college degree with a justified professional practice. The higher limit of land property is 125 hectares (Csobán, 2012).

The Kingdom of Denmark has a highly developed economy now, where the services sector represents 76.3% in GDP (in 2015) and 77.1% in employment (2011). Agriculture has only 1.3% in GDP and 2.6% in employment (Central Intelligence Agency, 2015). The territory of Denmark extends to 43 thousand km² (without Greenland and Faeroer islands), and by this and also on the basis of its 5.6 million population Denmark can roughly be compared to Slovakia. Denmark, which is just slightly bigger than half of Hungary in the latter terms, is geographically fragmented. Besides Jutland (Jylland) peninsula, which is directly connected to the European continent, her territory consists of several hundreds of islands.

Denmark is one of the top-ranking agricultural producer and exporter of Europe and able to provide 15 million people with foodstuffs – nearly three times more people than her population is. Denmark has 2,621,000 hectares arable land – 61% of her territory. In 2013, 18.6 million pigs for slaughter, 5.1 billion litre milk (by a 582 thousand dairy cattle stock), 9 million tonnes of grain and significant amount of vegetables were produced (Danish Agriculture & Food Council, 2014). The advanced Danish agriculture and its co-operative structure looks back to a historical past of at least one and half century, as in Denmark the agricultural co-operatives were established before the end of the 19th century.

For example, in the dairy sector, by the initiative of local farms, the first co-operative had been established already in 1882 it was followed by the formation of many others and the spread of similar types of co-operation throughout the country. In 1888 there were already 244 co-operatives which – beyond the simple collection and sales of milk they started to develop to processing as well (butter manufacturing and sales). From the beginning of the 1880's – as a response to the increasing demand in Great Britain for bacon – the breeding of pigs became gradually more common at Danish farmers, a sector which could well utilize some of the by-product of the dairy industry as fodder. In 1887 the first co-operative based slaughterhouse had been established which was followed by nine further ones. These ten slaughterhouses – which can be considered as forerunners of the present Danish “bacon factories” supplied around one third of the Danish bacon export (Gutiérrez, 2005). Laczó (1990) emphasized the role of the unions and associations of Danish agricultural producers which played important role in the development of the uniformed Danish food economy, mentioning that such association used to exist even in the 17th century (Laczó, 1990).

The Danish farmers fully possess with their own farms where they grow their own plants and breed their own livestock. They do all this without sacrificing their own, individual freedom, but these independent farmers developed much stronger co-operation ties among each other than it is typical for farmers in other countries in general (Manniche, 1969). Ihrig (1937) pointed out that in 1932 the Association of Danish Co-operative Slaughterhouses received monopoly for the export to Britain which was extended also to the slaughterhouses in private propriety, setting quotas for each slaughter-houses and also for the management of the price compensation funds. In his work considered the Danish dairy co-operatives also as exemplary models and also claimed the butter industry organized by co-operatives as one of the fundament of the country's economy. He also pointed out that it was a major contribution of the results that farmers recognized the importance of the quality-based and “standardized” production. By all this they could establish their good

reputation at the British market (Ihrig, 1937). Győri (1985) stressed also the correct relation which had been established between the co-operative based dairy plants and the producers for a long time referring to the fact that the producers themselves formed the co-operative membership. Since 1931 the milk processing farm carried out various examinations on milk and this was the basis on which the producers received their payments. In order to be impartial, the Danish Association of Milk Processing Plants established six neutral central laboratories between 1963 and 1968 (Győri, 1985).

From the beginning of the 20th century the co-operatives gradually gained ground in other sectors as well. It mainly derived from the fact that the individually acting farmers' bargaining position - should it be in sales or in purchases - would have been very weak comparing to other players of the market. The amount of their sales or purchases would be small, their products in many cases would be perishable and they could not guarantee uniformed quality standards, they don't have appropriate information to overview the whole market and after all they are too small and weak individually to exercise any kind of influence on the market and on the prices. Farmers meet concentrated industries and suppliers in strong position whose economic power is much bigger. There would be no real competition at the market as both suppliers and customers had dominant position against the farmers (Szabó, 2007).

Fici (2012) in his study pointed out that in Denmark, the law applicable to cooperatives is the Consolidate Act on Certain Commercial Undertakings, No 651 of 15/6/2006. The article 4 of this act provides a definition for the notion of co-operatives: "a co-operative (a co-operative society) means an undertaking [...] whose objects are to help promote the common interests of the members through their participation in the business activities as buyers, suppliers or in any other, similar way, and whose profit, other than normal interest on the paid-up capital, shall either be distributed among the members in proportion to their share of the turnover or remain undistributed in the undertaking". This

definition contains some basic elements of co-operative identity, highlighting some peculiar characteristics of it, like the unity of membership and ownership, the profit distribution constraint (“normal interest”) and the obligation to distribute the surplus in proportion to member activity with the cooperative (e. g. patronage refunds) (Fici, 2012). Szabó (2007) also underlined that the co-operatives could comply with their duties if they were able to guarantee the quality standard with major supply moreover able to increase the value of the goods with warehousing, processing, packaging, etc. and through all this to move the market towards the pure competition. By this way, co-operatives fulfil a kind of countervailing role at the market. The most important practical, economic importance of the co-operatives in the last third of the 20th century can be summarized in this countervailing power which enabled the improvement of farmers’ competitiveness and profitability (Szabó, 2007).

Zsarnóczai (2003), in his study on the Danish (and Swedish) farmers’ co-operatives stated that the main characteristics of the co-operatives are: “the right and option of voluntary joining and quitting the co-operative, the functioning of the democratic principle of “*one member - one vote*”, the limited amount of interest (dividend) on the financial contributions of the members, the refunds after procurements and sales in proportionality of the member’s direct participation”. He pointed out that the major advantage of the co-operative system is that according to the rules of the EU co-operatives are considered non-profit organizations therefore the law of competition would not be applied on them (Zsarnóczai, 2003).

Although there is a continuous concentration process which goes on in the production of basic agricultural materials, in the meantime, the farmers do not cultivate their land commonly (however in case of need they often help each other, the author could personally witness it many times). It is characteristic that the products moreover the farmers’ co-operatives dealing with the processing of animals are in the property of the farmers and it is typical that they produce ready or semi-finished products in which the value added is much

higher. Not only the finished products, but at the input side it is also typical, that the common procurement is based on co-operative frames, since the farmers meet concentrated industrial branches and salesmen having strong economic power. After all, this is the way how farmers can produce their commodities competitively. Although the basis of the agriculture in Denmark is formed by family based private farms, today and it will be like this in the foreseeable future, in the past decades significant concentration of farms took place.

Szeremley (2005) pointed out that it is the farmer who stands in the epicentre of the Danish agricultural economy. The farmers' unions and associations, their education and training, the supply of them with services and the way how their products – in the possible highest level of processing – reach the market, all these formulate a well functioning system which is called as Danish model (Szeremley, 2005). The central institution of this model is the Danish Food and Agricultural Council (Landbrug og Fødevarer) which covers nearly the entire Danish food and agricultural sector. It was established in 2009 by merging the formerly existing Danish Agricultural Council, the Bacon and Meat Council, the Council of Dairy Producers and some other professional associations.

Reenberg (1984) emphasized that the present structure of the Danish settlements in rural areas has been developed for centuries. In his study he examined the formation of the numbers of Danish farms back to 1800 found that till 1925 a gradual growth had happened, then after a 20-year stabilization period came, but especially after 1960 it started to rapidly decrease (Reenberg, 1984). Vadász (1980) assumes that there is a direct relationship between the impacts of the technological development and the acceleration of the farm concentration, highlighting the period of 1960 – 1975, when the number of farms smaller than 30 ha decreased with 75 thousand while the number of farms bigger than this size grew with 6,000 (Vadász, 1980). The latter is confirmed by other sources as well. According to the Nations Encyclopedia, since 1950 the average size of

Danish farms has been growing while the number of farms has been decreasing. From the 1990's till the 1990's every year around 2,600 individual farms ceased or merged into other, bigger farms. While at the beginning of the 20th century there were around 200 thousand private farms in Denmark (with 16 ha/farm average size), by 1997 only 60,900 farms remained with an average size of 43.6 ha/farm (Nations Encyclopedia, n.d.). The concentration process of land properties still has still going on. Nowadays, on the arable land of Denmark (approx. 2.6 million hectares) there are about 38-39 thousand family based farms and the average size of the farms rose to 67.7 ha in 2013 (see Table 1).

Table 1. Breakdown of the Danish arable land and farmsteads according to sizes

Size	Agricultural land				Number of farms			
	2000	2010	2012	2013	2000	2010	2012	2013
Without arable land					800	1,980	1,535	1,668
Under 5 ha	4	4	3	3	946	1,099	900	764
5 – 10 ha	60	58	58	56	8,457	8,031	8,097	7,803
10 – 20 ha	164	112	112	99	11,188	7,785	7,752	6,928
20 – 30 ha	161	106	80	98	6,531	4,304	3,220	3,973
30 – 50 ha	353	191	189	170	9,017	4,896	4,881	4,392
50 – 100 ha	763	426	397	389	10,891	5,925	5,516	5,400
100 – 200 ha	715	702	657	657	5,351	4,981	4,667	4,616
Over 200 ha	421	1,048	1,149	1,157	1,360	3,098	3,348	3,285
Altogether	2,647	2,646	2,644	2,628	54,541	42,099	39,916	38,829
Average size (ha/farm)					45.5	62.9	66.2	67.7

Source: Own compilation on the basis of Danish Agriculture & Food Council (2014-2015).

In the past decades, several common enterprise came about which were functioning on co-operative basis. The internationally best known example if it is DLG Group (Dansk Landbrugs Grovvarerelskab a.m.b.a.), which developed by now to be one of the major agricultural companies in Europe. It is present

in 20 countries. It was established in 1969 by the unification of three former enterprises functioning since the turn of the 19-20th century. Farmers gave rise to it, today it is in the common property of about 29 thousand farmers. Its main objective is the trading with production assets and agricultural products, and its activity extends to several other fields too. In 2014, its turnover was 59.2 billion Danish Krone (DKK) (about 7.9 billion EUR). The turnover of the co-operative enterprises, due to their extensive servicing and other activities reached 10% of the GDP (Dansk Landbrugs Grovvareselskab a.m.b.a., 2014).

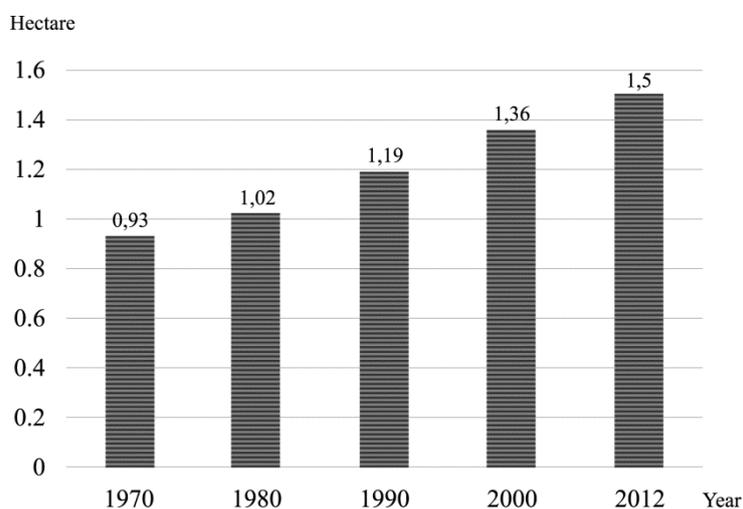
IV. The Republic of Korea (South Korea)

The Republic of Korea has similar size of territory to Hungary (cc. 99 thousand km²) but her population is five times bigger (around 50 million people). Moreover its territory is almost three times bigger, and its population is a bit more than twice as much as the same of Taiwan. The results of her dynamic economic development can be explained with her successful industrial branches and services while the agricultural sector used to be lagging for long time. The contribution of the agricultural sector to the GDP is nowadays around 2.3% (Central Intelligence Agency, 2015). The endowments of the country – comparing to Denmark or even to Hungary – cannot be considered favourable for agricultural production. Only one third of her territory is arable land, and in reality even less land is under cultivation.

The main characteristics of the South Korean farm structure is, that there are very small, in average 1-2 hectare size, and fragmented farmlands with little livestock. This is the fundamental framework where around 2.5 million farmers produce agricultural goods. All this can be explained mainly with historical reasons. The Korean farmers – if they needed to act on the market individually – would be even in a more vulnerable position than Danish farmers.

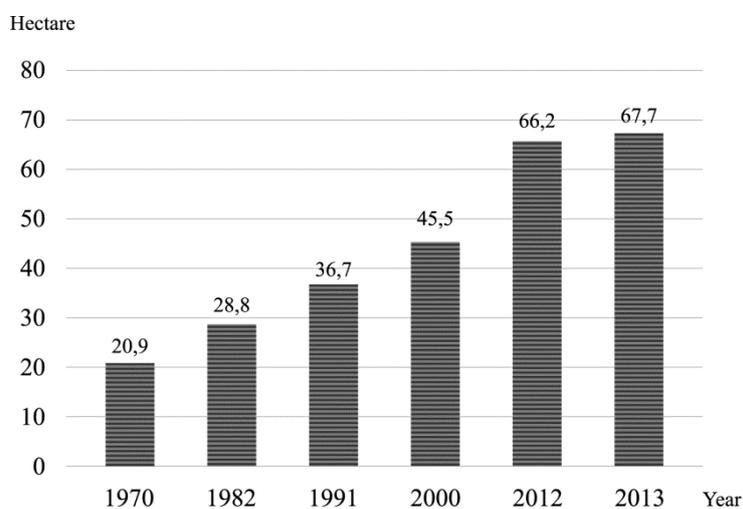
These miniature farms emerged as a result of a mostly politically motivated land reform in 1949, when the main goal was the radical elimination of the previous (Japanese colonial) latifundial system and also to provide a piece of arable land to possibly everyone from the masses of landless people in rural areas, under the “Land to the Tiller” slogan. As the amount of the arable land was limited and with regard to the fact that rice production demanded much manual work a ceiling of 3 hectares of land acquisition was set for family farms. During that period the Republic of Korea was considered as typical agrarian country, in 1949 60% of the population lived in farming households. However, later on, the massive industrial development absorbed the majority of labour forces and during the 1970-80’s period, significant migration took place from rural areas to cities. In spite of this, the land acquisition ceiling remained for long time and only around the early 2000’s it was lifted higher to 20 hectares (Neszmélyi, 2004).

In the course of the recent 50 years the ratio of agriculture shrank not only in the GDP but also in the structure of employment too, in 2015 it was only around 5.7% (Central Intelligence Agency, 2015). As the land acquisition was strictly limited there could not be a significant farm concentration process, however the average size of farms still grew slightly: from 1970 (0.94 ha) to 2012 (1.43 ha), as it can be seen at Figure 1. It is worthwhile to make a comparison between the farm concentration processes in South Korea and Denmark. Even in absolute figures the concentration was much stronger in Denmark (see on Figure 2, the increase in the average farm sizes was 42 ha between 1970 and 2010, while in South Korea it was less than 0.6 ha by 2012. Regarding the proportional values it can be also said that the Danish concentration process was more significant, it was almost triple while in South Korea it was only 62%.



Source: Own edition on the basis of data published by Im and Jeong (2014).

Figure 1. The changes in the average sizes of South Korean farms between 1970 and 2012



Source: Own compilation from data published by – for 1970: Chand - Prasanna – Singh' (2011); for 1982, 1991: De Walle & Sevenster (1998); for 2000, 2010, 2012, 2013: Danish Agriculture & Food Council (2014-2015).

Figure 2. The changes in the average sizes of Danish farms between 1970 and 2013

The mentioned differences in the intensity and extent in the farm concentration process of the two countries can mostly be explained with the fact, that there were no territorial based upper limits of the farm concentration and land acquisitions in Denmark. The number of farms and also of the employees in agriculture decreased in both countries, however the efficiency of production – by mechanization and by the application of modern chemicals – significantly improved. Another phenomenon to be mentioned is the aging of the rural society. In 2005 30% of Korean farmers were more than 65 years old. This trend has still been continuing.

The main crops and commodities of the South Korean agriculture: rice, vegetables and fruits. The livestock is mostly beef and dairy cattle, pigs and poultry. Even though the Republic of Korea reached the level of self-sufficiency from her major crop, the rice, but from most of the other agricultural commodities significant import is needed in order to cover the domestic food demands. Besides the dominant position of rice, during the recent two decades a noticeable diversification of cultivated crops could be seen. Endless queues of greenhouses became a typical part of the landscape around smaller or bigger cities, where various kinds of vegetables and fruits are grown through the whole year, and the production of these crops seem to be more beneficial for the farmers than rice.

It is also important to have a look at the issue of agricultural subsidies as well. It is a well known fact, that agricultural subsidies mean the biggest part of the budget of the EU, it means that without subsidies many European farmers would face profitability problems. But it has to be pointed out that Korean farmers receive proportionally even much higher subsidies than Europeans. The Korean government spends around 20 billion USD annually to farmers as subsidy, and within this frame – from the beginning of 2015 – rice producers receive one million Korean Won (KRW), which is around 1,000 USD per hectare (Food and Agricultural Organization of the United Nations, 2014). The next

sheet (Table 2) shows the most important data of agricultural subsidies in the EU (which is applied to Denmark) and also subsidies in the Republic of Korea between 1986 and 2015.

Table 2. Agricultural subsidies in the Republic of Korea and in the European Union

Year	Republic of Korea		European Union (28)	
	Estimated value of the producers' subsidies together (PSE)	The ratio of subsidies to the gross incomes of the producers (GFR)	Estimated value of the producers' subsidies together (PSE)	The ratio of subsidies to the gross incomes of the producers (GFR)
	Million USD	%	Million USD	%
1986	9,299.99	64.49	84,936.10	38.58
1990	19,155.64	74.32	105,262.38	32.88
1994	22,062.85	72.96	105,947.58	35.65
1998	12,427.50	56.85	109,429.11	35.41
2002	16,045.62	59.74	92,759.37	33.90
2006	22,988.48	58.48	124,753.42	29.13
2010	16,967.88	44.55	104,901.85	20.04
2014	21,774.73	49.27	108,213.78	18.11
2015	20,117.93	48.93	89,986.99	18.92

Source: Own compilation on the basis of data published by Co-Operation and Development (2016).

From the figures of Table 2 it can be seen that subsidies represent almost half share in the total gross incomes of Korean farmers nowadays (previously this ratio was even higher) while in case of the EU the ratio – around 20% - has not changed much since 2010. It is also visible that there has been a shrinking trend in the ratio of subsidies for the recent 10-15 years. (In case of the EU the increase from 2002 to 2006 can be explained with the enlargement in 2004.) As a result of the growing incomes of the population and as a peculiar “cultural” impact of globalization the Korean dietary habits tend to shift towards the

protein-rich foodstuffs (e.g. meat). It means there is an increasing demand for livestock breeding and in connection with this, also for grain fodder, the latter of which Korea needs import as the self-sufficiency ratio was around 30% at the turn of the millennium. Contrary to Denmark, in the Republic of Korea the agriculture is not an export-oriented sector, but the main role has always been to cover – at least partially - the domestic food demands.

V. Historical Background of the Development of Farmers' Co-operatives in the Republic of Korea

The majority of the Korean farmer-society has been organized into co-operatives for decades. In these, family based farms, the farmer families individually work on their own lands, but as members of the co-operatives they receive advantageous services from it (like consultancy, product processing, marketing, banking, etc.). It is worthwhile to mention that – due to profitability reasons – a significant proportion (around 25-30%) of the farmer families do not live exclusively from agricultural activities. Among Korean producers, within the frames of the village communities, various forms of collaboration has been developed for long times, like mutual assistance with labour force (mainly during the periods of planting rice seedlings and harvesting), furthermore savings and credit banks (Rotating Savings and Credit Associations – ROSCA).

At the same time the real co-operatives based on private capital, in the sense of today began to spread during the Japanese colonial period, by the end of the 1920's. The first farmer co-operative was established in 1927 and by 1930 their number grew up to 200. The Japanese authorities did not impede the establishment and the spreading of these co-operatives because they thought, that through the co-operatives the Japanese capital inflow would have been even stronger. This time, besides the guidance of the government, other organizations e.g. the Financial Association and the Industrial Association were established.

The Financial Association played role in the financing of the agricultural production while the Industrial Association was involved in the buying up, processing and trade of crops and products. There was also a Farmers' Association which covered the technological development of (rice) production, the trade and warehousing of crops and commodities and also the procurement of agricultural chemicals. After the liberation of Korea from Japanese rule in 1945 the role and functions of the co-operatives significantly changed. The Korean War (1950-1953) and the political instability of the country caused delay about the Act on agricultural co-operatives, that was finally adopted in 1957. The former Financial Association was transformed to a new institution, the Agricultural Bank, which became the exclusive institution of financing agricultural production. From the former Farmers' Association, the National Agricultural Cooperatives Federation (in Korean: NongHyup) was founded in 1958 with the view of providing farmers with a broad scale of services with the exception of loans. The Agricultural Bank and the National Agricultural Cooperative Federation (NACF hereafter) was merged in 1961 in accordance with an amendment of the Act (Lee and Lim, 1999). Subsequently, with several further organizational changes the agricultural co-operative structure was established on territorial basis and became characteristic in nationwide extent. This was characterized by a three-level hierarchic structure: the basic level means the farms themselves functioning at local (village) level, the second one is the level of primary co-operatives functioning at regional level, while the top of the organizational pyramid is the national centre, the NACF.

5.1 The Structure of the Primary Co-operatives in the Republic of Korea

The basis of the South Korean co-operative structure is the primary co-operative. It is characteristic that the share of the financial contribution of the individual farmers is relatively small, compared to the total amount of the capital

of the co-operative. The leader of the co-operative is the president who is elected for four years, and the main decision-making bodies are: the general assembly, the conference of representatives and also the board of directors. The regulations allow members of one farmer-household to be members of not only one, but more co-operatives, even the same person can have multiple membership in several co-operatives. Besides the regular membership it is possible to get a “quasi membership”. Organizations dealing with agricultural activity or farmers within the same district belonging to the business activity of the co-operative can ask their admittance to the co-operative as quasi members, they can use the services of the co-operative, but cannot take part in decision-making activities. Quasi members do not need to pay property contributions as owners, but they would be charged with membership and occasionally with project operation fees. There are groups being specialized by sorts of crops and commodities. These groups are subordinated units within the organizational framework of the co-operative being established by farmers on voluntary basis and they are involved in the production and common sales of the respective crops/commodities. In 2014 there were 1,155 primary co-operatives in the Republic of Korea, the majority of which (1,075) had general agricultural profile, and were organized on territorial basis while the remaining 80 co-operatives were specialized ones by certain crops and commodities (NACF, 2015). In case of the organization and the operation of co-operatives with specialized profile, the principle of territorial competency is not applied (Park, 2014).

The law currently in force on co-operatives in the Republic of Korea is the Framework Act on Cooperatives (FA, Act No. 11211) of 2012, but there are eight special cooperative laws regulate cooperatives, including agricultural cooperatives, forestry cooperatives, fisheries cooperatives, cooperatives of tobacco producers, small and medium enterprise cooperatives, credit unions, community credit cooperatives, and consumer cooperatives (Jang, 2013). The Framework Act renders instructions about the distribution and utilization of the

surplus (net incomes balance) which is – in case of regular co-operatives – stipulated by its Articles 50 and 51, as follows:

“§ 50 (1) When a cooperative has a surplus after the settlement of accounts for a fiscal year, it shall set aside not less than 10/100 of the surplus (hereinafter referred to as "legal reserve") until the amount reaches three times its equity capital.

§ 50 (2) A cooperative may set aside a business reserve and other reserves (hereinafter referred to as "voluntary reserves"), as stipulated by articles of association.

(3) Except where the legal reserve is appropriated for the compensation for losses, or where a cooperative is dissolved, no cooperative shall use the legal reserve.

§ 51 (2) A cooperative may distribute a surplus to members, as stipulated by articles of association, after it appropriates the earnings for the compensation for the loss under paragraph (1) and sets aside the legal reserve and voluntary reserves under Article 50.

§ 51 (3) When a cooperative distributes a surplus pursuant to paragraph (2), the dividends of earnings from the use of the cooperative's business shall be not less than 50/100 of the total amount of dividends, but the dividends of paid-in contributions shall not exceed 10/100 of the paid-in contributions.” (Framework Act on Cooperatives).

5.2 The Characteristics and the Organizational Structure of the National Agricultural Cooperative Federation (NACF)

Similarly to the primary co-operatives, the NACF is headed by president, has board of directors and general assembly, however the latter can rather be

considered as assembly of envoys as it consists of 291 elected presidents of primary co-operatives. The general assembly of the NACF has its regular sessions once in a year, however in case of necessity it can held extraordinary sessions. The NACF provides services for its members in a broad scale, form among which two kinds of activities are the most typical: agricultural marketing and financial services (banking and insurances). Besides these services the professional consultancy (extension), education, training, supplying production inputs and instruments (agricultural chemicals, machines, etc.) also belong to its profile. Besides the NACF's head office in Seoul there are 16 regional directories, 156 district offices, 724 branch-banks, 14 affiliated firms and four representations abroad. The 1,155 agricultural co-operatives – which belong to the umbrella of NACF have altogether 2.35 million members (NACF, 2015), the latter compared with the rural population of cc. 3.5 million people means roughly a ratio of two thirds.

VI. Conclusion

The farmers of the examined two countries do their agricultural activities mainly in the frames of small scale, family based farms, and they developed wide-scale forms of collaboration through various types of co-operatives. By this way these farmers could develop and become viable in terms of profitability. In their characteristics the Danish and the South Korean co-operatives models show a number of similarities, common factors, but at the same time they also differ from each other in some of their features. From among the similarities it has to be pointed out that in both countries farmers can work successfully only at a significant level of state subsidies, however in case of Korea they are much more dependent on the subsidies. Farmers in both countries - as members – are co-owners of the co-operatives which act towards them as non-profit organization. It is also worthwhile to underline that in both countries farmers do their job

individually, they do not work commonly or they do not unite and merge their own (or rented) lands with each other. The role of co-operatives can be seen only at other stages of the full supply chain (crops processing, marketing and logistical services, production inputs supplying, etc.) but at those stages co-operatives may play exclusive roles. Besides similarities, there are several meaningful differences between the farming and co-operative model of the two examined countries. The development of the co-operatives system started much earlier in Denmark than in (South) Korea, furthermore the present Danish model is a result of an organic way of development, it was not hindered by political or economic constraints during the recent one and half century. In South Korea the present co-operative model looks back only a shorter period and the way of development which was a result of political decisions and not of a natural, organic process.

In Denmark, the co-operatives are usually specialized by crops and commodities while in South Korea it is typical only for a smaller fraction of the co-operatives, the majority of them are of general agricultural profile and organized by the principle of territorial competence. In case of the main objective of the agricultural production there is also a main difference: in Denmark the export-oriented animal products, while in South Korea the domestic supply is the main goal with basically plant production (with a special importance of rice). Finally, even if farms are of relatively small in both countries there is a significant gap in sizes: while nowadays in Denmark an average farm size is about to 65-70 hectares, a South Korean farm does not even extend to 2 ha.

The farming experiences and managerial models of the two examined countries showed that a production structure based on small, family farms can even be successful for long term if it is coupled by a tight and institutionalized collaboration of producers. By the farmers' co-operatives, the activities of which extend to most stages of the supply chain, the final product can be competitive

even at the global market. It can well be seen in case of Danish dairy and meat products which are well known and popular in many parts of the world. In case of the Republic of Korea it is not that spectacular as the main goal is the domestic supply and the reduction of imports, but even there, in case of some products, e.g. vegetables, fruits are produced for exports. From the point of the Central and East European agricultural economies and for the future of their rural societies it is still very important to prove the viability of the model based on family farms. Therefore, it is not only interesting but may also be useful to study the good practices, adaptable elements being used in other, successful countries.

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家庭農場有競爭力嗎？

—匈牙利家庭農場的矛盾—借鏡丹麥與南韓的成功模式

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本文的主要目的是比較在歐盟（EU）架構下，一個丹麥成功家庭農場的範例，與屬於亞洲新興發展工業化經濟體的南韓之農業合作體系之異同。丹麥與南韓這兩個國家相距極遠，然這兩個國家在農耕模式上有相似之處，比如兩國的農民均接受極多的來自政府的補貼，如缺少這些補貼，兩國的農業將無以為繼、甚而是極為脆弱的；尤有甚者，兩國的農民均參與農業合作社，此一非營利組織的是會員的共同資產；此外，這兩個國家的農民均在各自所擁有或是租來的農地上耕作，此時，農業合作社對於農產的銷售管道即辦了極重要的角色。

除了前面所提及關於丹麥及南韓兩國農耕方式的相似點之外，這兩個國家的農耕亦有不同之處。第一個差異是，丹麥的農耕模式主要是源自於 19 世紀後半期的有機發展模式而來，此種模式並不因期間的政治事件或是均是顯著的軍事衝突而受影響；至於南韓的小農的土地結構與合作社體系則是源自於 1940 年代的土地改革基礎之上；又兩國的另一個差異是兩國農業合作社特質的不同，丹麥的合作社主要是產品與特定產出的體系，而在南韓則大部分是以領土為基礎的一般農業體系。除此之外，畜產品出口在丹麥向來是農業最重要的目標，而在南韓的首要目標則是滿足國內糧食需求，因而南韓農業最重要的稻米的生產。最後，南韓的農民因為耕地面積遠小於丹麥農民所擁有或是耕種的面積，即便整體而言領取相對於丹麥農民較高的政府補貼，然相較於丹麥農民、南韓農民是更易受害的。作者相信經由本文對丹麥與南韓二國家庭農場之檢視，可以將可行的經驗與構想提供給相關專家與決策單位。

關鍵詞：有農業經濟、合作社、丹麥、南韓、土地改革

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