CURRENT AFFORESTATION PRACTICE AND EXPECTED TRENDS ON FAMILY FARMS IN WEST HUNGARY

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ABSTRACT

The primary aim of the National Forest Strategy and National Development Plan in Hungary is to increase the ratio of forest cover from the current level of 19,7% to 26-28%. This means planting 700,000 ha of new forest plantation in Hungary between now and 2035. Around 90% of the afforestation[1] will occur on private land. So the simultaneous improvement of farming and forestry is critical.

Our survey sought to capture the current situation in western Hungary. Our aim was to research the possibilities for complimentary development of agriculture and forestry on family owned farms. Relatedly, we wanted to know about the motivations of farmers regarding afforestation.

We established that forestry does not have a favorable effect on the labour efficiency of agriculture and does not reduce the seasonality of agriculture. Most of the farmers consider afforestation could be a good investment or a potential source of better profit. However, the level of support available is what mainly motivates willingness to plant tree crops. They believe that the government should compensate short-term profit loss (due to land set aside for tree crops) with longer-term subsidies (according to established EU support practices)

KEYWORDS: afforestation, farming and agriculture, West Hungary, national development

[1] Forest crops established by purposeful planting on land not previously used for tree crops: in contract to reforestation – the replanting of trees on land previously used for forestry.

RÉSZLETES ÖSSZEFOGLALÁS

A Nemzeti Erdőstratégia és a Nemzeti Fejlesztési Terv egyértelmű célja, hogy Magyarország

erdősültségét a jelenlegi 19,7%-ról 26-28%-ra emelje. Ez 700 ezer hektár új erdő telepítését jelenti, a tervek szerint 2035-ig. Az erdősítések 90%-ka szükségszerűen magán tulajdonú földterületeken fog megvalósulni, elsősorban gazdaságtalan szántókon, mely tény felveti az agrárvállalkozásokon belül az erdőgazdálkodás egyidejű megjelenését és térnyerését ismét. A közös gazdálkodásnak jelentős hagyományai vannak a háború előtti Magyarországon.

Az új gazdálkodási forma jelentőségét tovább növeli az erdészet népgazdasági súlyán túl az erdő EU stratégiában is megfogalmazott társadalmi funkcióinak fontossága.

Szükségszerűvé vált, hogy megismerjük a magán agrárgazdálkodás jelenlegi helyzetét, hogy képet alkothassunk az összehangolt termelés lehetőségeiről és távlatairól.

Kvantitatív és kvalitatív kérdéseket is tartalmazó kérdőívek segítségével két dunántúli megye gazdálkodóinak adatait vettük fel. A vizsgálat célja a jelenlegi helyzet felmérésén túl annak a megállapítása, hogy miért és hogyan telepítenének erdőt a gazdák privát tulajdonú földjeiken.

A válaszadók jelentős erdő és mezőgazdasági területekkel rendelkeznek a múltban a két megye magán erdőtelepítéseinek jelentős hányadát végezték. Azt tapasztaltuk, hogy a gazdálkodók többsége idős de magasan képzett ember a fiatalok aránya nagyon alacsony. Az erdőtelepítések megvalósulásához a szükséges feltételek a magángazdaságokban rendelkezésre állnak. A gazdálkodók többsége tervez erdőtelepítést az elkövetkező két év során, főként a Magyar Erdőstratégia céljaival egyező fafaj típusokkal. A legtöbben magasabb jövedelmet várnak az erdőtől, mint a gazdaságtalan szántó művelésétől, illetve jó befektetésnek tekinti a telepítést. A leggyakoribb gátló tényező, pedig az, hogy a gazdák többsége a jövedelem pótló Uniós támogatások bevezetését várja. Az erdőgazdálkodás integrálása a mezőgazdasági munkaerő jobb kihasználását nem segíti elő.

A felmérés eredményei segítséget nyújtanak az erdőstratégia és a fejlesztési terv céljainak megvalósításához.

INTRODUCTION

The benefits of simultaneous improvement of agriculture and forestry have always been highlighted by the agroeconomists. Hensh [1] emphasized the fact, that in the reconsideration economic significance of forests, to improve profitability of forestry, we have to look beyond financial considerations and consider general and nature-economic aspects as well. Reichenbach's [2] opinion was that the profitability of forestry makes it safer and steadier than other forms of farming. It can decrease the seasonality of farming work, and it can compensate the for the effects of loss in years of low yield. Where climatic and soil capability is more adverse, there tends to be a stronger relationship between forestry and agriculture. In poor regions the relationship between the two activities is so strong that they cannot exist without each other. Forestry, combined with game farming and wood processing has also been one of the most important activities in large manors because of the associated prestige with which these activities are viewed. The significance of forestry has been always less in small peasant farming because of their strong association with even lower quality arable lands and grass lands [6]. The statistical calculations and analysis of Juhos [3] and Solymos [4] show forest cover accounts for 3.3% of the total agricultural area across the small farms of West Hungary; and their share from the gross produce was 2.9%. These figures do not meet the 1 to 10% ratio achieved on the lowland, while in the North Highlands the respective figures are and there was 5.4% and 2.8%.

Forests are estimated to cover around 3.500 million hectares or 27% of the world's total land area. The European continent has nearly 215 million hectares of forests and other wooded lands, accounting in total for nearly 30% of the continent's land area. The EU has a total forest area of 130 million hectares, accounting for about 36% of its total land mass. Some 87 million hectares are considered exploitable forests[1]. Altogether, the EU forest-based industries production value represents close to 10% of the total for all manufacturing. These industries employ some 2.2 million people in all parts of the Union. [10] The EU has a directive to increase the ratio of forest-covered lands and decrease the volume of agricultural cultivation. [11]

Forestry contributes 6% to the added value of GDP for agriculture in Hungary. [7] The impact of Forestry not only comes from valuable production of timber materials but it is also seen in the strong contribution of forests to human development and sustainable environments.

Private forestry is extending among farmers in western Hungary. They integrate forestry into the practice of agricultural cultivation. Approximately 50% of the 1,9 million hectares of forest in Hungary is currently on private land. [8, 12]

A National Forestation Programme has been developed as a part of the National Agricultural Programme in Hungary. The primary aim of this is to increase national forest assets from the current level of 19,7% to 26-28% with afforestation of 700,000 hectares of new forests.

Half of this afforestation will take place in the lowlands and the remaining half in western and northern Hungary. This activity will not use economical arable land and grasslands. [5]

At present, the rate of afforestation is affected because the rules of government support tenders used by the Ministry of Agriculture and Rural Development are not clear enough. Instead of the planned 12.000 hectares of afforestation, only 9000 hectares will be planted in 2004, 10.000 hectares in 2005 and 11.000 hectares in 2006. This is similar to trends in previous years. For example only 9000 hectares were planted in 2003. [9]

The picture of afforestation is different in every region of Hungary. In South Transdanubia, the level of forestation is 23%. This rises to 28% in West Transdanubia, 30% in the Middle Mountains of Transdanubia, and 35% in the North Middle Mountains, dropping to only 10% in the lowlands [8]. So it is not surprising that the size of forests will grow mostly in the lowlands.

This aim is supported by the National Forest Programme through a multilevel support system. According to previous practice, normative support will remain. This support will be financed from the EU (75%) and National (25%) resources. However, a new support component has been added to the current system. This support compensates the profit loss caused by the lack of agricultural incomes of afforested agricultural land. Compensation can be given for a maximum of 20 years at around a maximum of 750 euros per year. [9]

The biggest ratio (90% - National Forest Strategy) of afforestation – which is needed to increase forestation to 26-28% - will be done on private land. Therefore, the ratio of private forest property will rise to 50% in Hungary.

MATERIAL AND METHOD

The key questions of our survey were: (i) why do people plant forest on their land and (ii) why they give up agricultural cultivation on a part of their land. To answer this question we also had to know more about the personal characteristics of farmers. For example, we needed to know how old are they, what kind of personal goals they have for the future, how are they farming, for how long have they been farming.

We used a semi-structured questionnaire with farmers in the following Shires: Győr-Sopron and Somogy. We administered the questionnaires in face-to-face interviews with the farmers. The questionnaire contained 17 quantitative and qualitative questions.

We were looking for farmers or agricultural firms that we knew were farming and foresting simultaneously. Unfortunately this information is hard to get because it has not been previously sought in Hungary. We accepted the help of colleagues from the Hungarian Forest Authority. They know every forest owner personally so they were likely to know if somebody is cultivating agricultural land as well. Unfortunately, we cannot give exact data about how many such owners exist as this kind of population is not identified in census data. However, the surveyed population owns 3,5% of the national forest property so we believe the sample is fairly representative.

Running farming and forestry simultaneously has a long tradition in Hungary. However this type of land use became the privilege of the state owned collective farms after the World War II. We can suppose with good reason that this integrated form of farming will expand again in Hungary. Due to governmental land sales in the nineties many farmers obtained forest and arable land property. Many farmers planted forest on their bad arable lands. The National Forest Strategy (not accepted by the ministry yet) and the directives of the EU are also driving these trends.

We surveyed more than 200 farmers and we got 183 completed questionnaires. The majority of respondents (144 individuals) are single farmers and 39 individual are associated companies. 52% of single farmers are small producer farmers, 27% are family farmers, and a small amount (21%) are personal enterprises.

RESULTS

We analyzed how old the farmers are and for how long they had been farming. The population is very old, 86% are older than 40 and 51% are older than 50. The proportion of younger farmers is very low; only 3% are younger than 30. Undoubtedly, this has adverse effect on farm development, but it has a favorable effect on collected farming experiences. The majority (58%) have been working in this field for more than 15 years and 81% have been working for more than 10 years. Only 3% of respondents were new entrants to farming.

The level of education is also interesting. 34% of the farmers have university degree, 43% have a Bachelors degree, 12% finished high school, and 12% have only elementary education. Among the degree owners only 5% are Forest Engineers.

Part-time, seasonal employment predominates on the farms of respondents. 74 farmers employ 303 seasonal workers and 39 have 209 full time employees. The average of full time workers is 1,1 per farm. The average

[1] Exploitable forests: managed to wood production and non-wood goods and services

number of part-time workers is 9 per farm. In addition, respondents are joined by 72 full time worker who are family members (an average of 3,5) and 121 part-time worker family members (an average of 2,9) on the farms.

The 183 respondent farmers have almost 14000 hectares arable land, 200 hectares of Vineyard, 3000 hectares of Grassland, 8500 hectares of forest and 200 hectares given to other uses.

The 183 farmer own approximately 14000 ha arable land, 200 ha vineyard, 3000 ha pasture, 8500 ha forest and 200 ha other type of land. Among the types of the forest management units the corporation of joint forest owners is dominant. 3% of the private forests are managed by cooperatives, 31% by corporations of joint forest owners, 9% by corporations, 22% by delegates and 33% by individual forest management units.

In traditional farming, forestry and agricultural cultivation went together. The purpose of this structure was to ensure better effectiveness of labour because forestry work could be undertaken in winter as well. Nowadays, this stabilization effect of forestry is no longer evident. The working peaks in forestry are the same as in agriculture, so it cannot have the same compensation role. (Figure 1)

The farmers own 8583 hectares of forest property. Within this there is a very strong dominance of acacia (2565 hectares) and oak (1444 hectares) among the tree species. The other species do not reach the 500 hectares area. Pine covers the smallest area (228 hectares). The distribution of age was very constant in oaks; however there are only 7% in the cutting age cohort. The distribution of age in acacia was more irregular, the majority is in the age range 20-30, and 10% is in cutting age.

The respondents planted 1392 hectares of new forest between 2001 and 2003. This represents 3% of whole national afforestation during this period. In 2001 670 hectares of new forest were planted, in 2002 this was 381 hectares and in 2003 341 hectares. The ratio of acacia was 58% and the ratio of oaks was only 18%. As native and natural races, the National Forest Strategy prefers oaks. Despite this, we discovered that among the one-year plantings 92 hectares were given over to oaks, and 328 hectares to acacia. This picture is repeated in the finished (6-10 year old) afforestation (181 hectares oak and 548 hectares acacia). The ratio of other species was smaller. Most of the forestation was completed on arable lands (1033 ha) a smaller amount in grass land (326 hectares) and in other soils (33 hectares)

The support provided to respondents covered the afforestation costs if the farmer produced the pleonastic material or they had not applied more than 20-30% to reforestation. However, most of the afforestation was completed on bad arable land so the forestation costs were 38% higher than the support available. There were a few situations when the farmer realized almost 60% profit on support. The most preferred applied pleonastic material was the sapling. Cuttings and seeds were almost never used for afforestation. 92% of soils used for afforestation were on slopes not more precipitous than 10 degrees. The actual work of afforestation was usually undertaken by farmers (65%) without hired contractors. This included, the construction of 50,400 meters of palisade against wild animals.

Before afforestation the land was used for agricultural cultivation. The fertility of these soils was worse then the national average. However, the cultivation costs were the same. The main crop on this land was maize and to a lesser extent, wheat. The proportion of other crops was not significant.

Among respondents, 43% are planning afforestation in the next two years. However, most of them are waiting for support. They would like to see a clear support system and they are waiting for the profit compensating support mechanism (mentioned earlier). The farmers plan to afforest 1387 hectares of new forests in the next two years. Most of this is planned on arable land (936 hectares) with grassland planting on 427 hectares. In contrast to previous years there oaks will dominate (703 hectares). Only 427 hectares of acacia is planned. The farmers would like to do most of the afforestation in 2005 (692 hectares). They plan to afforest 262 hectares in this year and 413 hectares in 2006. The growing proportion of oaks can be explained by the bigger support for building palisades against wild animal in the following years. Oak is the most expensive species to cultivate so the oak afforestation has been set back by the extensive damage usually caused by wild animals.

We tested the respondents' motivations for pursuing afforestation. The majority seeks more profit from forestry than agriculture and many farmers consider afforestation to be a good investment. The emotional bond to forestry was also a frequent answer. (Figure 2) Most of the farmers are older than 50 and they do not want or either they cannot run farming in their old age. So they consider afforestation of their arable lands a good alternative of farming. It is a very sensitive question that occurs the migration out of rural areas. To stop this adverse tendency the farmers should to be inform about the circumstances of subsidy of early retirement.. This subsidy was designed for farmers of the EU as a tool of the rural development, and it is included by the new CAP and the National Development Plan. The subsidy is available from May 2004 in Hungary.

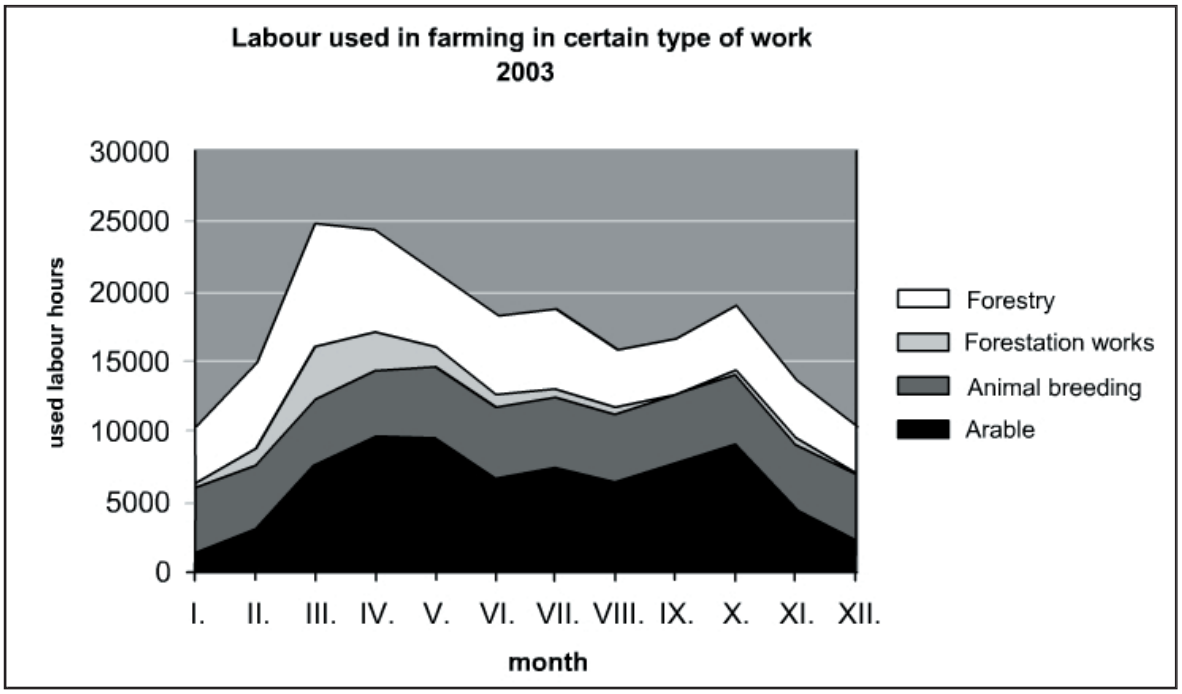

Figure 1

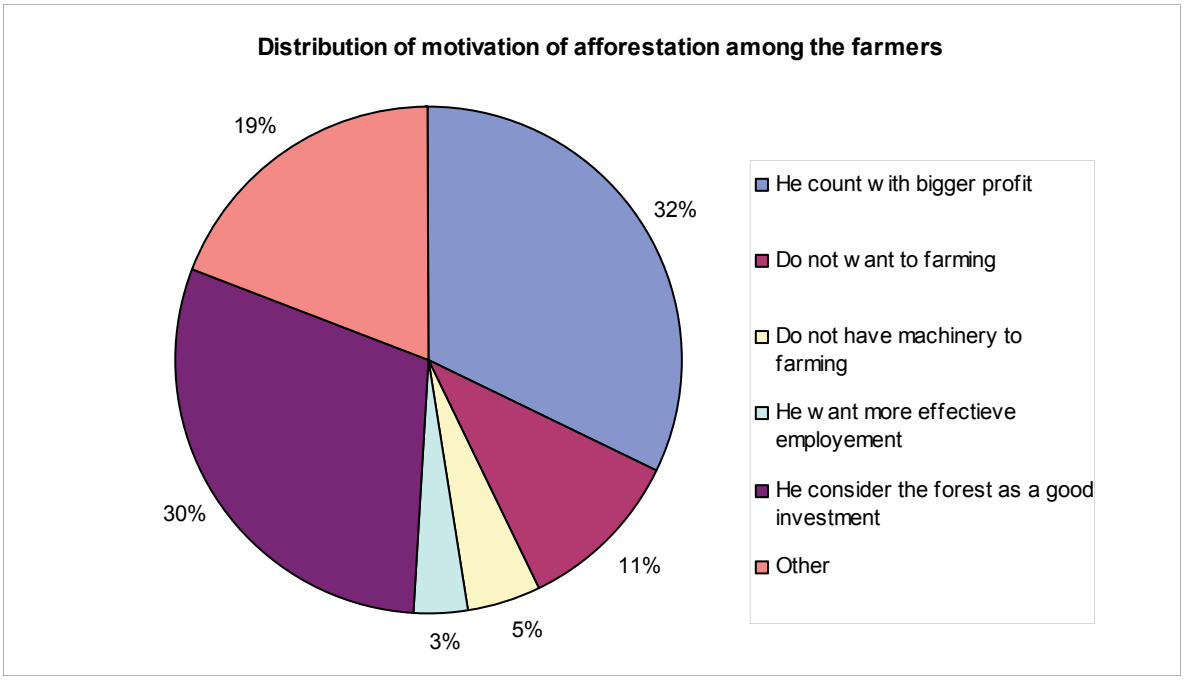

Figure 2

CONCLUSIONS

i. The level of afforestation planned by the National Forest Strategy has not been achieved yet.

ii. Hungary has to increase the ratio of forest covered areas to 26-28% (even it is lower than the EU average)

iii. Afforestation will be undertaken mostly on private land, so the significance of mixed farming (forestry and agriculture) is increasing strongly again

iv. Most of the farmers are old but have a high level of education and they are strongly motivated to plant new forest on their land.

v. Forestry is not likely to increase employment in farming significantly any more because of the high technical level of forest machinery

vi. The farmer's primary motivation is to seek more profit from forestry than agriculture.

vii. The respondent farmers plan a significant amount of afforestation in future years but they are currently hesitating until appropriate support is available.

viii. All the right circumstances (motivations, lands, tools and subsidies) are in place on farms in west Hungary to enable the aims of the Hungarian National Forest Strategy and the National Development Plan to be achieved.

REFERENCES

[1] Hensch Á.: Jószágberendezés és kezeléstan. Csák S. Könyvnyomda, Magyar-óvár, (1895)

[2] Reichenbach B.: A mezőgazdasági üzem berendezése és szervezése- Pátria RT, Budapest, (1930)

[3] Solymos R.: Erdőtelepítési programok Magyarországon – Egy sikertörténet. In. MTA Agrártudományok Osztályának 200. évi tájékoztatója. Budapest, (2001)

[4] Juhos L.: Kisgazdaságok jövedelmi eredményei az 1929-ik évben. Márai-nyomda, Keszthely, (1930)

[5] National Forest Strategy, Budapest (2002)

[6] Mihálovits A.: Állami tölgy, magánakác. Erdőgazdaság és Faipar. (2003. szeptember)

[7] National Accounts Hungary, HCSO (2003)

[8] Official Annual Report of Hungarian Forest Authority, Kaposvár (2004)

[9] National Development Plan, Budapest (2004)

[10] EU Forest Strategy, COM(1998) 649, 03/11/1998

[11] EU Forest Strategy II., Council Resolution of 15 December 1998 on a forest strategy for the European Union (1999/C 56/01)

[12] Economic Accounts for Agriculture, 2002, HCSO Budapest, (2003)