

Possibilities of Afforestation of Farming Land and Social Acceptance

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SUMMARY

Augmentation of afforestation in Poland is one of the main priority in ecological policy of this country. Its realisation is strictly connected with conversion of around 600 mln ha of arable land into forest. The farming land to be used in this process has to have a lower level of usefulness in farming production. The whole planning of afforestation of the suitable land must be entered in writing in development projects. Only then farmers who are interested in afforestation can apply and ask for permission.

With Poland joining the EU changes were made to the plans and priorities of economical, ecological and social policies, especially in regards to countryside. According to the law and regulations (1257/1999-EU Council Directive), subsidies for farmers for development of a countryside take harmoniously into account the needs of multi-functions investment in Polish villages as well as obligatory priorities for growth from UE. One of the rules to receive subsidies for farming production includes: specified requirements which have to recognize ecological production but also will protect and shape country landscape.

However, farmers usually choose procedure which will give them the biggest financial advantage. In commune Cieszkow research was taken place which included: analysis of changes in use of ground, land inventory, etc.). The example of this commune presented evidence connected with problems with introduction of afforestation on private own arable land. Land which could have been afforested in 1994 was around 700ha, and at the next estimation the size was supplemented to further 570ha. Alltogether the area for afforestation was 21% arable land in this commune. Before 1st of May 2004 farmers applied for permission to start the process of afforestation, however at the end they cancelled their actions.

Although there is evidently lack of interest in afforestation from farmers, it is being said that this is only temporary. Direct subsidies, definitely help to increase the budget of farms, but still will not influence any massive increase in production. The forthcoming result will show that the process of modernisation of agrarian structure is much slower than needed, and that the Polish ecological policy is not coming into effect at this point in time.

SUMMARY IN POLISH

Zwiększenie lesistości Polski jest jednym z priorytetów polityki ekologicznej państwa. Jego realizacja związana jest z zalesieniem około 600 mln ha gruntów rolnych, które powinny charakteryzować się niższym stopniem przydatności do produkcji rolnej. Planowane zalesienie gruntów musi być zapisane w przestrzennych planach gminnych. Dopiero wtedy zainteresowany rolnik może wystąpić z wnioskiem o wyrażenie zgody na zalesienie.

Wstąpienie Polski do Unii Europejskiej spowodowało konieczność zweryfikowania planów i priorytetów polityki społecznej, gospodarczej i ekologicznej, w szczególności w odniesieniu do obszarów wiejskich. Działania wskazane do wsparcia finansowego, związane z rozwojem wsi, harmonizują zarówno z aktualnymi potrzebami inwestycyjnymi polskiej wsi w zakresie wielofunkcyjnego rozwoju jak i z priorytetami UE rozwoju obszarów wiejskich [Dyrektywa Rady UE 1257/1999]. Wsparcie skierowane bezpośrednio do rolników są to dopłaty do produkcji roślinnej, jasne sformułowanie kierunków rozwoju gospodarstwa rolnego w związku z produkcją ekologiczną oraz działaniami służącymi ochronie i kształtowaniu krajobrazu wsi (pielęgnacja zadrzewień, zalesianie gruntów, zakładanie stref buforowych, produkcja ekstensywna itp.). Rolnicy wybierają zazwyczaj takie działania, które na chwilę obecną są dla nich najkorzystniejsze finansowo. Jako przykład posłuży nam gospodarowanie gruntami przez rolników w gminie Cieszków, a w szczególności problemy związane z wprowadzaniem zalesień na gruntach prywatnych. Tereny, które mogą być zalesione wyznaczone były najpierw w 1994 roku (o powierzchni prawie 700 ha) a następnie uzupełnione w 2003 roku (uzupełnienie obejmowało ponad 570 ha). Łączna powierzchnia planowanych zalesień stanowi 21% obszaru użytków rolnych w gminie. Przed 1 maja 2004 roku rolnicy wystąpili z wnioskami o zalesienie, lecz zrezygnowali z tego działania.

Badania przeprowadzone w gminie Cieszków obejmowały analizę dotychczasowych zmian w użytkowaniu gruntów, inwentaryzację terenową oraz ankietyzację przedstawicieli rolników.

Mimo braku zainteresowania wśród rolników działaniem zalesiania gruntów, przewiduje się, że jest to stan przejściowy. Dopłaty bezpośrednio znacząco zasiły budżety gospodarstw domowych, jednak w wielu przypadkach nie będą impulsem do intensyfikacji produkcji. Wskutek takiej działalności, należy się spodziewać, że założenia polityki ekologicznej państwa nie zostaną zrealizowane w terminie, również modernizacja struktury agrarnej będzie przebiegać w wolniejszym tempie.

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1. INTRODUCTION

Constant changes in the structure of land use reflect the development of civilization and technology. All the changes are influenced and conditioned with the needs of a human being [Mannion 2001]. People have always aimed at developing the land in the way that would bring them financial benefit. For the centuries the plough land (the most intensive way of agricultural development) has been developing alongside built-up areas, mines etc., helping to increase the capital. In the 20th century Europe there was introduced the idea of converting land into forest to avoid its complete and reckless destruction. In the second half of the century, the main idea was supplemented with the protection of agricultural areas. At the very beginning, legal acts introduced in Poland aimed at quantitative protection of rural and forest area but soon changed into qualitative protection. Such a direction in the environmental policy reflected in converting the unused land and low quality rural land (VIz soil quality class) into forests. Generally, the agricultural structure needs an urgent increase in afforestation that is described in details in “National program of augmentation of afforestation” (KPZL). On the other hand, it is also necessary to create balance between the development of rural areas and the improvement of agricultural structure. Mannion [2001] indicates one more principle for the use structure that results from the requirements and ecological conditionality. Works aiming at augmentation of afforestation are the example of realizing this principle.

The program of converting rural areas into forests is also an element of restructuring the countryside and the whole agriculture. It is a very important part of the current Program for the Development of Rural Area 2004-2006 and a part of the Operative Program for the Development of Rural Area 2007-2013 that is still in a project phase. The main aim and priority in shaping the plan of converting rural areas into forests is the increase in afforestation that would bring long-lasting ecological benefits. What is more, the economical and other specific elements should also be taken into account when finishing the realization of the project (after planting the trees). At this point, one also cannot forget about the people connected with the land: ecologists, foresters, farmers who use the land, and other recipients such as for example tourists. These problems are even more visible when trying to follow the principles of balanced development. The directions of the district policy concerning the transformation of rural area are written down in the Study of Conditionality, while the directions of spatial development and their realization are recorded in the local plans of spatial development of a given district. Unfortunately, many districts do not have their own local spatial development plans. Moreover, both the Study of Conditionality and the spatial development plans do not consider agricultural and forest areas as composite unities when regarding the possibilities of their restructuring [Akinca and Dzikowska 2005].

The realization of agricultural policy and the restructuring of the countryside carried out by central authorities do not always correspond with the policy and plans of local units. The situation in the examined Cieszków district, where the introduction of afforestation requires also social acceptance and submitting applications from landowners, may serve here as an example.

2. MATERIALS AND METHODS.

Area of Cieszkow commune (situated in northern part of lower-silesian province) is the subject of following analysis. Southern part of commune is under protection - Landscape Park "Barycz-River Valley" – "Dolina Baryczy" (1351 ha – 13% area of commune). Structure of use of grounds (Land Registry, April 2005) indicates superiority of agriculturally developed grounds (58,53% area of commune). Total amount of forests -33,68% area of commune. Qualities of arable lands and greenlands are formed on average and a low level and their totals are 42,17 points/ha and 40,85 points/ha in 100 - punctual scale of the Institute of Soil Science and Plant Cultivation.

Natural and economic conditions, and development of tourism and recreation were main reason in choosing Cieszkow commune for detailed analyses. Moreover, these elements perfectly mark out the district to the augmentation of afforestation.

2.1 Structure of Land Use

The operation called "afforestation of rural areas" [1257/1999-EU Council Directive] is connected with changing the structure of land use. We can examine the transformation of existing arable land into forestland. However, only the lowest quality rural areas should be assigned for afforestation if possible.

The farming land to be used in this process should have the lowest level of usefulness in farming production. Grounds that are classed as V and VI soil quality class. According to given Directions regarding decision for afforestation plan of rural areas, grounds of these classes should present prevailing surface. Taking into consideration the occurrence of "mosaic" qualities of rural grounds makes it sometimes impossible to implement this principle. In that case sometimes soils of better qualities are given for afforestation.

There are certain factors which influence the dynamics of changes (eg. the speed of afforestation) of the structure of usage of grounds:

- financial or surface afforestation limits;
- farm workers interested in operation in "rural grounds afforestation" which means resignation from agriculture and change to forest business;
- quality of rural grounds and related with it profitability of rural production.

On base of location of grounds assigned for afforestation (surfaces, kind of usage and qualities of soils) incoming structure of use is defined. List of such grounds is problematic for Local plan of spatial developing.

2.2 National Program of Augmentation of Afforestation (KPZL)

The modernization of National Program for Augmentation of Afforestation was finished in 2003. The level of afforestation in Poland is low and equals 28.7 %. The main priority is to increase the level to 33% by 2020. The program includes diagnosis of natural conditionality with reference to the possibility of afforestation of unproductive land (abandoned, uncultivated and waste lands) and agricultural land with low usefulness for agricultural production. According to the findings, about 33.7 thousand ha should be afforested by 2020 year in Lower Silesia province. The factor, which influenced the stipulating value index of afforestation preferences the most, was the resignation of local farmers from agricultural production encouraged by district authorities. The moderate level of interest in afforestation among the inhabitants of rural areas in Lower Silesia province results from the fact that there are high quality agricultural lands with lower level index of afforestation; but still with a high level in agriculture production for sale against the background of the whole country.

2.3 Sponsorship of Afforestation of Rural Grounds.

In Poland, there is a huge diversity of forestland ownership structure. Most of public and state land is under control of the “State Forest” enterprise. According to the EU Council Directive 1257/1999, communal land does not come under the sponsorship of the EU. However, afforestation in Poland is carried out both on private and public land. In 2004 in Lower Silesia province about 52 ha of private land was subsidized and 1760 ha of public land became afforested. In Cieszków district it was 3 ha of public land. Source of sponsorship for this operations are following funds (which are related with environmental protection):

- Fund Forest - it exists from 1998 year and it has extra funds for private investments in lower-silesian province also (only 3 persons for area of 21 ha have used these help in period from 1998– 2004),
- National funds of environmental protection and water economies,
- Ecofund.

The main task of forest economy is to make a detailed plan for the cultivation of forests in the whole area under forestry management (economic units and administrative enterprises such as “State Forest”). Limits on converting private land into forest must take into account the capability of State Treasury. Till 1st May 2004, the whole operation was financed with public funds. Between 2002 and 2003, Lower Silesia province got the limit on 1700 ha, of which 80% was used. The inefficiency in forest cultivation was the reason of such a poor result. The farmers had to pay the subsidies back when they did not care of cuttings. Then the subsidies were spent on planting the trees and their cultivation.

The PROW--Program for the Development of Rural Area--started the sponsorship of afforestation on 1st September 2004. However, the program met much smaller interest among local community than it had been predicted before adhesion to the EU. There were submitted only 103 applications concerning over 750 ha of the area.

2.4 Determination of Perspective Changes in Use of Grounds

The task was accomplished with the assistance of the analysis of statistical data, registry files and planning files like the Local Plan of Spatial Development of Cieszkow district, the Study of Conditionality and the directions of spatial development of Cieszkow district, and the Afforestation program for rural areas. Statistical data reflected current changes caused by the changes in Polish law. New acts aim at the realization of the National Program for the Augmentation of Afforestation (KPZL) and adapting to the UE regulations.

2.5 Importance of Planned Afforestation for Economic Development of Commune

While forming the afforestation plan for rural areas, one should take into account other users of these areas. A lot of tourist and recreation area in the northern part of Lower Silesia may be converted into forest. The literature on this subject [Buchwald and Engelhardt 1975] proves that tourists most eager visit the outer parts of forestlands. Consequently, the plans for developing the districts should mark forest borders and routes for the tourists. It is needed to calculate the surface area of a forest and use the indicator of the "length of a border"- R -, e.g. the diameter of the area compared to a similar surface area and a circle form, theoretically, the smallest length of a border $R=1$.

To establish detailed calculations, there were carried out the surveys concentrating on the quality and surface area of the roads, interesting landscapes, existing and prospect viewing points, bicycle routes, etc.

2.6 Estimation of Acceptance of Local Community

Activity of local farmers was the subject of debate from the moment of joining the EU. Representatives of individual farm workers were questioned in May 2005. Pollsters collected answers for following questions:

- Did farm workers apply for rural grounds afforestation before joining European Union?
- Did farm workers apply for afforestation according to EU Council Directive 1257/1999?
- Has application from farm worker been accepted for realisation?
- Do farm workers have any intention for changing from rural production into forest production in the future?

The questionnaire has been verified by the Agency for Restructuring and Modernization of Agriculture according to the Program for the Development for Rural Area.

3. RESULTS AND DISCUSSION

3.1 Current and Perspective Structure of Use of Grounds.

Economic development of commune is related with transformation of grounds. The lowest quality of rural grounds has effected their planning allocations of big areas for building (residential, service and productive) and for afforestation. Realisation of that intentions will cause significant changes in manner of use of grounds (Fig. 1.). Agricultural function will be

limited for area around 40% surface of commune. It is forecasted simultaneously, that builded-up area will grow about over 5%, and acreage of forest grounds will include surface near 4600 ha, in total 48%. In planning process they implemented afforestation by liquidation of enclaves of rural grounds in forest grounds and perspective afforestation rural grounds of low quality. However among the rural grounds designed for afforestation there are soils of average quality. Yet only 53% soils classed as V and VI are foreseen to be taken into process of afforestation. The afforestation plans should happen on state grounds (in management of Agency of Rural Estate) as well as on private lands. They are outlying from builded-up areas and usually they concern parcels of individual rural farms. The researched areas included recorded parcels, which as whole or partly were to be transformed for usage.

3.2 Possibility of Development of Tourism in Cieszkow Commune

One major aspect for the increase in afforested lands lay in predispositions of country's tourism development. If we take into consideration this operation in planning afforestation as important for commune development, the mosaic of grounds applications should be properly fitted. From among 25 forest complexes (Fig. 2.) they are 3 the biggest with the surface over 3 800 ha. Their characteristic feature has the highest degree of indicator R (mentioned above) which is over 6 times of contour of surface comparable circle. This is a significant diversification for ramblers. This is an important phenomenon in development of commune in last 10 - years. Flowing in population takes advantage from interesting site of commune near Landscape Park "Dolina Baryczy" and situates here summer houses. Weekends tourism is blooming. Among buyers of small estates (very often there are rural estates) it also appears that there are lots of constant inhabitants from cities (mostly from Wroclaw). Here are newcomers, who give contribution to the country life, using by the same time clean environment (without pollution, noise and hasten).

Lack of farm tourism and problems with accommodation limit the increase in the number of visitors. Farmers living in Cieszkow district can also benefit from the Program for the Development of Rural Area offering ecologic and environment friendly farming. Active participation in the protection of environment and the establishing of legal protection of the land are equally important.

3.3 Social participation in accomplishing the “Afforestation of rural land” program.

First signs of interests from local community about afforestation program appeared with moment of establishing Afforestation plan of rural areas in 1995 (annex 2003). During works over formulating this document, farm workers applied and together with planner and employee of commune office they discussed about natural conditions of fields of Cieszkow commune and capabilities of afforestations. That was a planning period, where population expressed their own plans for incoming future. Period of realisation has started in 2001 with moment of entering in place act about assigning rural grounds for afforestation (currently Act deviated).

Analyzing the engagement of local farm workers in their realisation of program in augmentation of afforestation, it is not possible to allude operations undertaken by them before Poland joined the European Union. From 2001 some farmers applied for afforestation of grounds. This became very popular, which presented the foreman with limited availability at his disposal in districts. Before the adhesion to the European Union, on 1st May 2004, ca. 40.86 ha of the land became afforested. Other farmers, who did not get the permission for afforestation, decided to wait 4 months to benefit from the Program for the Development of Rural Area; however, most of them soon withdrew their applications.

To sum up, the interest in afforestation suddenly decreased in the beginning of 2004. After the adhesion to the European Union, farmers chose the easiest way to receive subsidies and they resigned from afforestation plans.

4. CONCLUSIONS

Current programs for the development of rural area take into account the problems of ecology; however, there appears serious financial discrepancy between ecology and economy.

Another problem is that currently the direct subsidies for agricultural production are much more higher than the subsidies for afforestation; thus, this difference needs to be minimized in order to arouse farmers' interest in afforestation.

Moreover, it has been proved that farmers' engagement in the operation is much higher at the planning stage than during the realization of the plan. Consequently, some measures should be taken to increase the activity at the realization stage.

Finally, it is also very important to raise the farmers' ecological awareness organizing trainings and seminars for them.

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APPENDIXES

Table 1. Characteristic of forest grounds and possible grounds assigned for afforestation in Cieszkow commune

<i>No</i>	<i>Detailed list</i>	<i>Value of feature</i>
1.	Surface of existing forest grounds	3388 ha
2.	Surface of grounds assigned for afforestation	1270 ha
3.	Forest complexes: - Amount of complex - Average surface - Maximum surface - Minimal surface	25 183 ha 2176 ha 0,4 ha
4.	Structure of use of grounds assigned for afforestation: - agricultural land - abandoned (unused) lands - other	1253,8 ha 2,9 ha 13,3 ha
5.	Quality of grounds – participation (in percentage) of surfaces classed V and VI in afforested surfaces on rural grounds	53,1 %
6.	“Length of border” of incoming forest complexes: - Amount of complex for $1,0 < R < 2,0$ - Amount of complex for $R > 2,0$ - Average value for R	18 7 2,24

Source: Own study based on Study of conditionality and directions of spatial developing of Cieszkow commune, Afforestation plan of rural areas in 1995, Annex 2003, Land registry, April 2005.

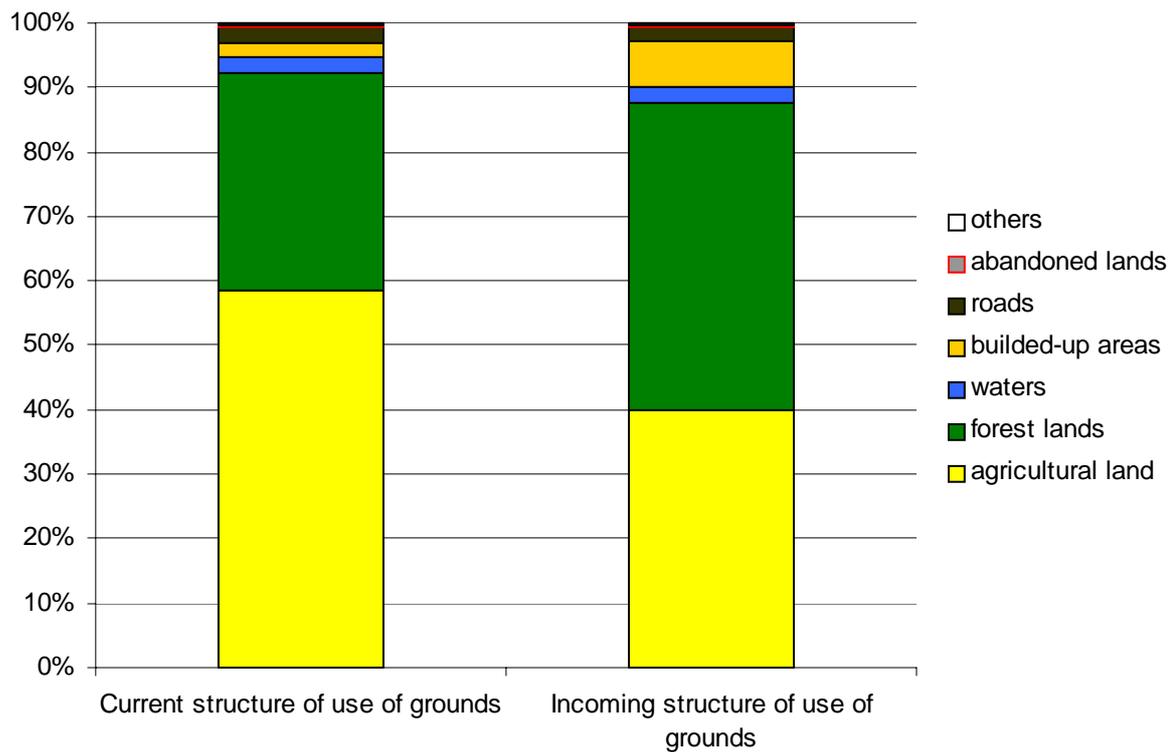


Fig.1. Dynamics of structure of use of ground in conclusion with afforestation works carried out in Cieszkow Commune.