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## Experiences with ecosystem services on farms; a pilot study towards CAP reform

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### Abstract

A reward system for ecosystem services was developed for a group of farmers in Winterswijk (NL). Most of these services are connected to multifunctional land use activities. A farmer earns points for a range of activities, depending on their importance for landscape and/or community these activities are valued with more or less points. All points together multiplied by a payment per point results in total payment. The local community has adopted this payment system, and in December 2008 launched a countryside fund to reward farmers for offering green-blue services.

Since spring 2011 the region is also a pilot area to study options for the reform of the European Common Agricultural Policy (CAP). Ninety seven farmers participate in the pilot study. From 2013 onwards CAP will focus on offering more services to the public, rather than just food production. Maintaining landscapes, employment, environment, climate change and biodiversity is a great and new challenge for farmers, and a necessary step to apply for some of the future EU payments. In the pilot study the farmers of Winterswijk will build up experience with the provision of these services. The Dutch Government will use the results of the pilot in the negotiations with the European Commission.

**Keywords:** ecosystem services, multifunctional grasslands, landscape conservation, European Common Agricultural Policy, regional development

### Introduction

Multifunctional land use is an option to increase economic and environmental sustainability of farms, and it makes a region more attractive for local inhabitants and visitors (Wiggering *et al.*, 2006). Between 2002 and 2004 a group of 14 farms was studied in the Winterswijk region (in the eastern part of the Netherlands). The area is a small-scale landscape with high nature and landscape values, consisting of a mosaic of grasslands, arable fields, hedgerows and woodlots. The farms differed in their activity, and comprised dairy-, beef-, young stock rearing-, arable-, pig- and mixed-farming. Four were organic farms, and they differ in their level of function combinations. The results indicated that a combination of agronomic, ecological and environmental goals is possible and that there are possibilities to combine high biodiversity with a rather high production level (Korevaar and Geerts, 2007). In most cases multifunctionality is not profitable for the individual farmer. However, for the region as a whole it offers good opportunities to create extra income from recreation and tourism. Financial deals between farmers and local community and tourism sector are necessary to reallocate this extra income and to achieve a more balanced division of costs and revenues. At the request of the same group of farmers a rewarding system for ecosystem services was developed and tested in 2007 and 2008. Experiences are presented and discussed in this paper. A driving force behind regional development in this area is the foundation WCL Winterswijk; a platform in which municipality, farmer's organization, owners of small estates, local nature and environmental groups, recreation and tourism sector, local industries and citizens groups of the different villages cooperate. WCL Winterswijk aims to maintain the

beautiful small scale landscape, develop the agricultural infrastructure and improve the ecological values of the region. Farmers play an important role in the maintenance of the landscape; therefore continuation of farming is essential for landscape conservation.

### **Rewarding ecosystem services**

Activities or ecosystem services (De Groot *et al.*, 2002) that should be rewarded are chosen at a local level, including a number of typical features for that region, like restoration of old arable fields and adjacent (steep) edges. The activities are valued with points, depending on their importance for landscape and/or community, and the acreage or intensity of that activity. Scores are multiplied by a payment per point which results in total payment to the farmer. The incentive is that farmers are rewarded for their effort instead of compensating them for production losses, which is the case in most agri-environmental schemes. WCL Winterswijk adopted this payment system and launched a countryside fund to reward farmers for offering ecosystem services in December 2008. It was agreed that in first years 75% of the budget should be supplied by the province and 25% by local and private funds, later on it would be 50-50%. Until now the success of this countryside fund is limited because the province is still debating about the terms under which the provincial budget could become available. In 2009 and 2010 the same group of farmers continued with offering green-blue services and got some payments from the countryside fund, but there were no funds to enlarge this group or to make long term agreements.

WCL Winterswijk was disappointed about the lack of progress, but found another way to stimulate farmers to broaden their farming system. The region applied to become a CAP-pilot area to study options for farmers in offering services to the community. One of the aims of the European Common Agricultural Policy (CAP) after the reform in 2013 is to make the policy fairer, greener, more efficient and more effective and more understandable so that it offers more services to the public than just food production (EC, 2011). The Dutch Government is interested in the possibilities of local collectives, like WCL Winterswijk, to offer high quality services in an efficient and cheaper way than the top down organization of the present CAP payments. Since spring 2011 97 farmers have participated in the pilot study.

### **Results and discussion**

Land use in Winterswijk is dominated by grassland (65%) and maize silage (24%). Other crops are cereals (4%) and potatoes (6%). Only 1% is used for horticulture, tree nurseries and fruit production. Ninety seven farmers participate in the CAP-pilot, that is 30% of all farmers in the region. Forty five of the participants are specialised dairy farms, 7 beef cattle, 3 pigs, 3 poultry and 3 arable farms. Nineteen farms have a mixed farm, 3 are small estates and 15 have another farm type. The average farm size of the participants is 33 ha, which is significantly higher than the average farm size in the region of 23.5 ha. Table 1 shows the number of farms that deliver a certain ecosystem service. The preservation of small fields and old meadows is one of the most popular services (Table 1) which contribute highly to the maintenance of the typical small scale landscape of Winterswijk. Rewarding farmers for maintaining these small fields fits into the new CAP policy; otherwise farmers would enlarge their fields due to a higher efficiency (Rienks, 2008).

In the pilot study the farmers of Winterswijk build up experience on the provision of services to the local community. Feedback from the farmers, WCL Winterswijk and the Ministry of Economic Affairs, Agriculture and Innovation is positive about the first results of the CAP-pilot study. There was a high willingness among farmers to participate. Taking care of landscapes, employment, environment, climate change and biodiversity is a great and new

challenge for most farmers. The project is inspiring. The results of the pilot study will be used by the Dutch government in the negotiations towards a new European Common Agricultural Policy after 2013 onwards. The region is waiting for the outcome of the further CAP negotiations.

Table 1. Green-blue services on the farms participating in the CAP-pilot in Winterswijk in 2011 (preliminary results)

Service/activity	Number of farms	Units	Area (ha) or length (km)	Payment (€) per unit	Total costs (1000 €)
<i>Biodiversity</i>					
Preservation of small fields	97 (= all farms)	ha	945.0	50 field 2-3 ha 125 field 1-2 ha 250 field 0.5-1 ha 400 field < 0.5 ha	20.3 49.0 28.8 12.7
Cleaning grassy field margins along forests and hedgerows	76	km	101.6	500	50.8
Reintroduction of cereals	19	ha	31.4	500	15.7
Sowing arable field boundary species	12	ha	5.5	2,000	11.0
Unharvest cereal crop	4	ha	1.8	1,400	2.6
Overwinter stubbles	7	ha	10.1	250	2.5
Reintroduction of species-rich grasslands	7	ha	9.4	1,400	13.2
Preservation of old meadows	62	ha	538.5	50	26.9
Sowing species rich margins along grasslands	2	ha	0.5	1,500	.8
Introduction of grass-clover swards	15	ha	36.4	250	9.1
<i>Landscape</i>					
Maintenance of woodlots < 0.5 ha	28	ha	7.3	5,000	36.3
Maintenance of solitary trees	28	number	110	50	5.5
Fencing solitary trees	14	number	47	100	4.7
Conservation of steep margins along arable fields	21	ha	1.8	5,000	9.0
Maintenance of sheltered fruit trees	21	number	315	20	6.3
<i>Water quality</i>					
Introduction of catch crops	21	ha	51.3	250	12.8
<i>Education and open farms</i>					
Education and farms open to visitors	22	hours	170	50	8.5
Footpaths over farm land	8	km	7.3	500	3.6
Total costs					330.1

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