



Communicating plant genetic resources for food and agriculture to the public—A study of grant-receivers with demonstration-projects in the Danish Rural Development Programme

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ABSTRACT

The Danish Ministry of Food, Agriculture and Fisheries has supported demonstration of plant genetic resources for food and agriculture through an EU grant-scheme in the years 2008–2013. This paper evaluates the individual as well as the collective potential of the grant receivers to promote public education about plant genetic resources. All grant-receivers are regarded as Informal Learning Environments, though the institutions are very diverse and include research institutions, museums, private companies, municipalities, pometa, local groups, and NGOs. The results show that the institutions had a high individual potential to promote education of plant genetic resources to the public. The potential was increased by many institutions with the same purpose disseminating the same core message with many different angles in different geographical places at the same time. This gives a possibility to reach more target groups in different ways with knowledge of plant genetic resources. The results are discussed and compared to the implementation of the Rural Development Programme in other countries.

1. Introduction

The landscapes in Europe have over the decades been the object of a range of agricultural and environmental policy reforms and planning initiatives from both the European Union and the individual member states (Primdahl, 2014). The Rural Development Programme was introduced in 1992 and formally emphasized an environmental move of European agriculture policy and practice. With a range of voluntary environmentally subsidy schemes and the organic farming support measures the programme was put in place to enhance environmental friendly farm practices and focus on biodiversity and quality of the products within the agricultural sector (Primdahl, 2014), for example management agreements (Kleijn et al., 2001) and afforestation programmes (Duesberg et al., 2014; Marey-Pérez and Rodríguez-Vicente, 2009; Madsen, 2001).

Research has studied effects and consequences of these subsidy programmes both in relation to the barriers for uptake (e.g. Burton et al., 2008; Wilson and Hart, 2000), their environmental impact (Davey et al., 2010; Hodge and Reader, 2010; Kleijn, 2003) and the used implementation models (Primdahl et al., 2010). A number of the subsidies have what could be termed communication obligations to act as e.g. ‘stewards of knowledge’ of old agricultural practices (e.g.

haymaking, grassland management), as public good (e.g. urban afforestation) and some have either implicit or explicit dissemination of knowledge to the public as part of their requirements. Research of these communication obligations has to our knowledge been very sparse, and we are still left with uncertainties of how knowledge is communicated to the broader public as a result of the agricultural and environmental subsidies under the Rural Development Programme.

To address the research gap concerning the subsidy programmes’ communication obligations this paper analyses the communication potential of the ‘Grant for demonstration projects about conservation and sustainable use of plant genetic resources’ (Grant PGR) implemented in Denmark as part of the Danish Rural Development Programme 2007-13 (The Danish Ministry of Food, Agriculture and Fisheries, 2012). The grant subsidizes demonstration of food plants and aims to broaden public knowledge about plant genetic resources for food and agriculture (PGR) through demonstration projects.

A precondition for successful communication of knowledge will be that the communicators have the same definition of, what is to be communicated. Therefore our first research question will be:

RQ 1: How do the grant receivers define PGR?

Following this we will assess their potential to communicate the knowledge of PGR to the public by asking the following two research

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questions:

RQ 2: Do the grant receivers' activities to communicate knowledge of PGR fit the grant receiver's objective, the target-groups they try to reach, the media they use, the communication environment, and their wanted effect?

RQ 3: Does the grant receivers' communication of knowledge have a high learning potential for the public?

The results are compared to the implementation of the same scheme and to comparable schemes in the Rural Development Programme. However, first we need to establish why communication of PGR is important and how it relates to the Rural Development Programme.

1.1. Why raising public awareness of plant genetic resources?

As stated by The Food and Agriculture Organization of the United Nations (FAO) mankind depends on having access to suitable plants for food by preserving the broadest possible variation. This will ensure a varied food supply now and in the future and thus promote health, provide a variety of nutrients and flavors, and enhance our quality of life (FAO, 2009). As the diversity and variation in these food plant resources is mainly based on different genetic combinations, preserving the broadest possible variation means that we need to conserve: "any genetic material of plant origin of actual or potential value for food and agriculture" (FAO, 2009: Article 2).

The worldwide work of developing effective and sustained conservation and utilization practices of PGR is organized through FAO and stated in the International Treaty on Plant Genetic Resources for Food and Agriculture (FAO, 2009). All countries which have signed or ratified the treaty are responsible to conserve and use their PGR in a sustainable way (FAO, 2009) as well as to raise public awareness. This has been stressed by FAO in a number of ways including:

Raising public awareness of local crops and varieties can help build a broader base of support. This can be achieved in many ways, for example, through personal contacts, group exchanges, diversity fairs, poetry, music and drama festivals and the use of local and international media (Commission on Genetic Resources for Food and Agriculture, 2010, p. 42).

Raising public awareness of PGR is often mentioned together with 'training', which is traditionally understood as education in the school system to enhance the understanding of PGR (e.g. Commission on Genetic Resources for Food and Agriculture, 2010; FAO, 2018a) However, NordGen (the Nordic Gene Bank) has recently started to regard dissemination of knowledge about PGR taking place in museums or comparable places as training as well. This means that they see dissemination of knowledge about PGR on these sites as a possibility to reach an audience, which has not had the opportunity to get this knowledge in school, because it has not been part of the curriculum (Personal communication with a representative from NordGen, 21.10.2014).

Hence, an important part of preserving PGR is to disseminate knowledge in order to secure public interest and understanding of their importance.

1.1.1. Raising public awareness of PGR in Denmark

In Denmark, raising public awareness has been addressed at the political and planning level through a strategy and a series of three-year action plans in the Ministry of Food, Agriculture and Fisheries (the Ministry of Food) (The Danish Plant Directorate and the Danish Institute of Agricultural Sciences, 2004). The Grant PGR has been part of the action plans, and disseminating knowledge to the public was an obligation in the grant's demonstration-projects.

Since the introduction of the EU-programme in 1992, protection of genetic diversity has been one of the focus areas. The background for this was a concern that varieties of useful plants were threatened with genetic erosion because they were not competitive against the modern

high-producing varieties (European Commission, 1998). Continued in the Rural Development Programme 2007–2013 conservation of genetic resources should be given specific attention to combat genetic erosion and through this enhance biodiversity in agriculture. This was part of the focus on encouraging farmers and other land managers to introduce or continue "to apply agricultural production methods compatible with the protection and improvement of the environment, the landscapes and its features, natural resources and the soil" (European Commission, 2005: 35). There were no obligations to communicate PGR to the public.

A representative from the Ministry of Food, which was taking part in the design and implementation of the Danish Grant PGR said about this:

We could see that PGR were mentioned in the Rural Development Programme, but subsidies were meant for those, who still cultivated them, in for instance Austria and Italy. They could be compensated. But we were not in that situation in Denmark. At best we had PGR in gene banks (Personal communication, 8. Oct, 2014).

Hence, in Denmark PGR were included as a grant scheme for demonstration projects: "with the participation of both farmers and several public institutions" (The Danish Ministry of Food, Agriculture and Fisheries, 2012, p. 377). The projects should test: "the use of existing plant species in an agro-environment and disseminate knowledge about the importance of genetic plant resources within agriculture and food production" (ibid: 377), and at the same time help Denmark to fulfil its obligations according to the FAO treaty (The Danish Ministry of Food, Agriculture and Fisheries, 2012).

The programme was executed as The Danish Law on Development of Rural Areas with the purpose of contributing to the sustainable development, where growth is based on sustainable use of resources, and where local participation at the same time contributes to create attractive living conditions and local jobs (The Danish Ministry of Food, Agriculture and Fisheries, 2007, § 1). The protection of genetic plant resources through demonstration projects was included in the law as part of § 2:

The Minister of Food, Agriculture and Fisheries can provide grants for the following schemes...4) schemes for sustainable use of farmland, which includes c) environmentally friendly agriculture, including organic farming (ibid. § 2).

2. Materials and methods

The empirical data consist of applications from all the receivers of the Grant PGR in the period 2008–2013. The grant was launched in 2008, and in total 28 receivers have been awarded through the six applications rounds from 2008–13. The grant has not been awarded in 2014, and in 2015 a new setup was made.

Selection of informants for qualitative interviews has been done in the following steps: first all 28 grant receivers were divided into eight categories, based on document analysis of their original grant proposals. The document analysis outlined the characteristics of the receivers' different focus, including focus on communication and target-groups. Secondly, ten receivers representing all eight categories were selected for qualitative interviews. Two institutions were chosen from each of the categories 'Companies and producers' and 'Museums' as they were expected to be very different. In the selection, receivers using different media were preferred, if possible, to establish the broadest potential effect of the communication. Also the broadest geographical spread was chosen (see Fig. 3). Table 1 summarizes the characteristics of the eight categories and gives short descriptions of all receivers selected for qualitative interviews (named with "i").

Qualitative interviews (Kvale, 1997) have been made with 9 receivers of the grant (with the leader of the institution or the leader of the demonstration project in the institution). All concept maps were made sitting together with the informant, but two of the interviews

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