

**WHY AND HOW SHOULD THE GOVERNMENT FINANCE  
PUBLIC GOODS IN RURAL AREAS?  
A REVIEW OF ARGUMENTS**

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**Abstract**

This paper reviews three arguments why government should not directly finance public goods provision in the countryside: (1) sorting and voting of residents leads to efficient local public goods provision, (2) community governance may better cope with incomplete contracting in public goods, and (3) public provision drives out voluntary private provision of public goods. Theory and empirical evidence partly support these arguments. The adequate level of rural governance appears to be often below the European or national level, and policy should focus on the institutional premises of public goods provision rather than on centralized payments to public good providers.

**Keywords**

Rural areas, public goods, institutions, agricultural policy reform.

**1 Introduction**

Economists widely agree that the provision of public goods is a justification for government action. According to the orthodox view, the allocation of public goods, because they exhibit non-rivalry and non-excludability in consumption, cannot optimally be achieved by a decentralized market system and therefore requires some sort of policy mechanism (SAMUELSON, 1954). Recent reform of the European Union's Common Agricultural Policy (CAP) with its gradual phasing-out of direct market intervention and an emphasis on 'multifunctionality' has led to a re-focusing on the role of government in providing public goods in the countryside. Whereas the policy implications of largely environmental external effects of farming have

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been an issue since the 1980s (HODGE, 1991), the principal role of government in setting a favorable framework for the various dimensions of rural development has only more recently received renewed attention. For example, one of the general recommendations of the Scientific Advisory Board at the German Federal Ministry of Consumer Protection, Food and Agriculture concerning the establishment of the European Agricultural Fund for Rural Development (EAFRD) was that in the long term the European Commission should strictly limit 'rural development'-intervention to the financial support of public goods provision (WISSENSCHAFTLICHER BEIRAT, 2005).

But should the Commission really finance public goods provision in rural areas? And if yes, how should this be done? Recent research in public and institutional economics has improved the understanding of how the fundamental incentive, information and coordination problems inherent to public goods provision could potentially be addressed by public policy. In particular, the interplay between individual motivations to contribute to public goods and the appropriate level and extent of government activity has been a focus of interest. The aim of this paper is to review these insights, to ask which lessons can be learned for the formation of rural development policy, and to identify areas for further research on decentralized public goods provision in rural areas.

In the rest of the paper, I examine three arguments why a central government should not directly finance the provision of public goods in the countryside: (1) sorting and voting of residents may lead to a locally organized provision of public goods that reflects the true preferences of the residents, (2) community governance may be a more effective way to cope with the incomplete information and enforcement problems inherent in public goods provision, and (3) public provision may drive out voluntary private provision of public goods. I thus gradually move from the central government via the local community to the individual in order to explore whether these levels are better suited to provide public goods. To set the stage for the analysis, I present a taxonomy of public goods relevant to rural areas in the following section 2. Section 3 reviews some of the literature related to the three arguments and asks how it may inform rural development policy in Europe. Section 4 concludes.

## **2 A taxonomy of public goods in rural areas**

In the recent literature on public goods provision it has been argued that the traditional criteria characterizing public goods, namely non-rivalry and non-excludability, can and should be regarded as matters of degree (CORNES and SANDLER, 1996: 51-63).

Table 1 presents a taxonomy of public goods based on the idea that benefits may be excludable only to outsiders of a community or locality and that an intermediate stage between non-rivalry and full rivalry in consumption may be described as congestion, implying positive

crowding costs. In addition to the polar cases of *pure public goods* and *private goods*, this gives rise to five additional groups of impure public goods. Classifying goods as *local pure public goods* acknowledges that they are public only to the residents of a local jurisdiction. Because rurality has an important spatial dimension, many rural public goods are of a local nature. These include a positive public image of the region or locality, effective local governance institutions, low local taxes, and to a large degree also high levels of employment, human and social capital. Natural amenities are local public goods if there exist access barriers to non-residents. Only if these (local) goods are valued without being actively used (hence have a ‘non-use value’) do they exhibit characteristics of a (global) pure public good. For *open access* and *common property resources*, also called ‘common-pool resources’ by OSTRUM (e.g., 2005: 79), it is either impossible or costly to exclude users once the resource is provided by nature or created by humans, although there is rivalry in consumption. Examples include recreation in rural areas or groundwater resources. *Toll* or *spite goods* impose an exclusion restriction on users although there is no rivalry. This applies to a non-congested national park where access is restricted by a user fee. *Club goods* are characterized by a particular institutional arrangement involving voluntary membership and user fees, where positive crowding costs determine an optimal club size and goods provision level to each member (CORNES and SANDLER, 1996: 347-351). Some country clubs belong to this category.

**Table 1: A taxonomy of public goods relevant for rural development**

	<i>Non-rival</i>	<i>Congestible</i>	<i>Rival</i>
<i>Non-excludable</i>	<b>Pure public goods</b> <ul style="list-style-type: none"> <li>- Landscape (non-use value)</li> <li>- Natural habitat (non-use value)</li> <li>- Biodiversity (non-use value)</li> </ul>	<b>Open access resources</b> <ul style="list-style-type: none"> <li>- Landscape (use value by visitors)</li> <li>- Recreation value (use value by visitors)</li> </ul>	
<i>Excludable only to outsiders of a jurisdiction or community</i>	<b>Local pure public goods</b> <ul style="list-style-type: none"> <li>- Positive image as an attractive place to live and work (‘quality of life’)</li> <li>- Effective local governance institutions</li> <li>- Low local tax levels</li> <li>- Absence of unemployment</li> <li>- High levels of human and social capital</li> <li>- Landscape (use by residents)</li> <li>- Natural resource protection</li> </ul>	<b>Common property resources</b> <ul style="list-style-type: none"> <li>- Groundwater recharge</li> <li>- Irrigation systems</li> <li>- Natural habitat</li> <li>- Biodiversity</li> </ul>	
<i>Excludable</i>	<b>Toll goods/spite goods</b> <ul style="list-style-type: none"> <li>- Natural habitat</li> <li>- Biodiversity</li> </ul>	<b>Club goods</b> <ul style="list-style-type: none"> <li>- Natural habitat</li> <li>- Biodiversity</li> </ul>	<b>Private goods</b> <ul style="list-style-type: none"> <li>- Regionally labelled products and services</li> <li>- Historical places, e.g. buildings</li> </ul>

Source: modified and extended from OECD (2001: 80).

As the subsequent analysis will show, varying degrees of publicness give rise to different forms of policy response. Often, the appropriateness of central government action will be questionable, and sometimes purely private arrangements appear to be the desirable solution. However, this brief discussion also shows that it may not always be possible to exactly classify certain public goods or services, and that goods may exhibit various degrees of excludability or rivalry, depending on which group of consumers is considered.

### **3 Why central government should not directly finance rural public goods provision**

#### **3.1 Sorting and voting of residents may lead to efficient local public goods provision**

TIEBOUT (1956) introduced the idea that local public goods could be provided efficiently by a decentralized system of jurisdictions which compete for residents by offering specific public goods/tax level packages. Contrary to SAMUELSON (1954), this view maintains that there indeed does exist a market-like pricing mechanism in which “spatial mobility provides the local public-goods counterpart to the private market’s shopping trip” (TIEBOUT, 1956: 422). In this model, local taxes have the same function as prices in a market, and mobile households, by ‘voting-with-the-feet’, make residential choices for public goods and the costs of services they consume according to their preferences (OATES and SCHWAB, 1999). Jurisdictions in the Tiebout-model may also be interpreted as offering a specific, homogenous club good (CORNES and SANDLER, 1996: 365-369). As Table 1 reveals, many public goods in rural areas are local in nature or of a club type, so that the Tiebout-model may be of direct relevance.

There is a vast and ongoing debate in the literature exploring whether and how ‘Tiebout-sorting’ could be consistently modeled, whether it can be empirically borne out and whether it indeed has desirable normative properties. According to ROSS and YINGER (1999), there has been particular dissent on how local public goods levels are determined given that residents have sorted into communities, an aspect that was treated only lightly by TIEBOUT (1956). Key problems in understanding these processes are the diversity of public choice mechanisms, the way how local taxes provide funding for public goods and its implications for housing and rental markets, and the technology of public goods production. As a consequence, models of endogenous community choice and public service provision have been scarce.

In a survey of the empirical literature on Tiebout-sorting, DOWDING et al. (1994) list several testable implications of the model and show that many of them tend to be supported by the evidence. In particular, tax/service packages of alternative localities seem to have empirical relevance for moving decisions. This view has recently been contested by RHODE and STRUMPF (2003), who argue that other motives for residential choice are dominant in their investigation of long-term moving trends in the US.

Normative analysis has focused on the question whether the efficiency claims made by Tiebout could indeed be confirmed in a formal General-Equilibrium framework. As ROSS and YINGER (1999) and various other authors show, the assumptions to be made for a Pareto-efficient sorting and voting outcome are very strong and often do not match empirical evidence. Among the major sources of inefficiency are the ‘misallocation’ of households to communities because it is impossible to devise an allocatively neutral, uniform head-tax. Furthermore, an inefficient level of local public goods provision may result from property taxes and the capitalization of public goods in land prices, as well as from local policy processes that do not represent the interests of the citizens. In addition, it has been noted that Tiebout-sorting leads to significant differences in incomes and taxbases between jurisdictions, which might make redistributive policies on a higher level of government desirable (WELLISCH, 2000).

Despite these shortcomings, the Tiebout-hypothesis has provided several stimulating insights and its efficiency perspective has had much appeal to economists. Related to the recent discussion of constitutional reform in the European Union, FREY and EICHENBERGER (1999) have proposed a ‘New Democratic Federalism for Europe’ that is directly inspired by the Tiebout-hypothesis. They propose to establish political bodies whose size and spatial extension corresponds to the public goods they provide. These bodies are called ‘Functional, Overlapping and Competing Jurisdictions (FOCJ)’ and are characterized by four properties (p. 4): (1) A single jurisdiction is determined by the function to be fulfilled, i.e., its size has to match its task. (2) Each function requires a corresponding geographical extension, which leads to an overlap of bodies. (3) FOCJ compete for communes and citizens and they are subject to democratic political competition, e.g., via popular referenda. (4) FOCJ are jurisdictions with the power to raise taxes to fund their activities. According to FREY and EICHENBERGER, FOCJ emerge because they are desired by the citizens and can be controlled and monitored by them. Contrary to the Tiebout-model, the extension of jurisdictions is *not* taken as a given. But similar to TIEBOUT, the authors rely on the idea that most public goods are local and non-payers can be excluded. FOCJ are aimed to introduce a fifth freedom (beyond free mobility of goods, services, labour and capital), namely to choose membership in a FOCJ. The major expected benefit of such a system is a more efficient provision of public goods and services, because increased exit and entry options foster competition between FOCJ and induce innovative behavior, flexible sizes allow the exploitation of scale economies, and direct democratic control inhibits political rent seeking.

Although it seems unlikely that FOCJ can be an immediate template for political reform on the EU or national level, the proposal illustrates the crucial importance of the institutional dimension of public goods provision. DE SPINDLER (2001), by drawing on experience with Swiss federalism, asks how FOCJ speak to the current reform debate on federalism in Ger-

many. He stresses the need for a greater variety of public bodies which focus on specific tasks, obtain the power to tax, and are subjected to direct democratic control. Above all, he recommends a stronger devolution of the financial competencies of administrative bodies. Similar proposals are made by WELLISCH (2000: 194-199), in particular with regard to strengthening the tax autonomy of local governments.

There is a considerable literature on rural in-migration due to consumptive preferences of residents ('counterurbanisation') in human geography and rural planning (see, e.g., BOYLE and HALFACREE, 1998). Economists, however, seem to have paid little attention to the interplay between residential decisions and public goods provision in European rural areas. A number of researchers have begun to analyze the possibilities for decentralizing agri-environmental policies in Germany (EGGERS et al., 2004; ROBERT BOSCH STIFTUNG, 2000). One outstanding finding of these studies is the stark discrepancy between the spatial extension and relevance of the public good on the one hand, which is usually local, and the funding competence for its provision on the other hand, which is on the national or European level. EGGERS et al. (2004: 25) also point out that EU regulations do not provide for legal decision making competence beyond the *Länder* (i.e., state) level, which appears still much too centralized for many problems. The authors of ROBERT BOSCH STIFTUNG (2000: 84) conclude that a fundamental redistribution of competencies within the German federal system will be required to achieve a more efficient provision of environmental goods.

In summary, the literature demonstrates how intriguing the analogy is between the competition for residents among local jurisdictions and the conventional market mechanism. Although the strong normative implications of this model hold only under partly implausible or empirically challenged theoretical assumptions, its general idea has led to a number of policy recommendations. Among the most important is that the local provision of public goods can be a desirable arrangement if administrative devolution is accompanied by a strengthened tax autonomy and sufficient control rights for local citizens.

### **3.2 Community governance may be an efficient way to cope with incomplete information and enforcement problems**

Many environmental resources are public in the sense that users cannot be excluded from consuming them, whereas the limited availability of the resource may at the same time lead to congestion and rivalry. This coordination problem lies at the heart of environmental and resource policy and applies to the open access and common property resources listed in Table 1. Economists have modeled it as a 'prisoners'dilemma', in which overexploitation of the resource or underprovision of the public good is the Pareto-inferior equilibrium strategy (for a recent overview of the literature see BOWLES, 2004: 127-166). Traditional proposals to avoid

coordination failure include *privatization* of the resource, leading to a market-based allocation, and *state intervention* via legal regulation or taxation. However, these two coordination mechanisms are subject to important limitations: market allocation may work poorly in the presence of technological non-excludabilities or when contracts are incomplete and difficult to enforce, e.g., due to information asymmetries. State regulation faces similar information problems and imperfect public choice mechanisms may lead to rent-seeking and a lack of accountability. Moreover, shifts between property regimes may entail difficult decisions about equitable property right assignments. For these reasons, *communities* as a third form of governance have received increasing attention from social scientists (BALAND and PLATTEAU, 1996; WESTHOLM et al., 1999; AOKI and HAYAMI, 2001).

Based on extensive field studies and literature review, OSTROM (2005) has provided a list of attributes of resources and appropriators in successful self-governing associations. Many of these support the underlying hypothesis of the economic literature that “decentralization to communities is favored where complete contracting is precluded but where low levels of conflict of interest within the community and other aspects of community structure facilitate the transmission of private information and mutual monitoring among community members” (BOWLES, 2004: 493). In particular, OSTROM (2005: 244-245) found that community governance tends to be viable if (R1) resource conditions allow feasible improvements, (R2) reliable indicators on the condition of the resource system exist, (R3) resource unit flows are predictable, and (R4) the spatial extent of the resource is small. Moreover, favorable conditions exist when (A1) the resource represents a high economic, social or religious value for appropriators, (A2) appropriators have a common understanding of the workings of the resource system, (A3) they display a low discount rate in relation to future benefits from the resource, (A4) community interaction is characterized by trust and reciprocity, (A5) appropriators are autonomous from external authorities and (A6) possess prior skills of organization and leadership. On the other hand, she identified the following threats to sustainable community governance (p. 272): (1) rapid exogenous changes, (2) intergenerational transmission failures with regard to the operational principles on which community governance is based, (3) relying on blueprint thinking combined with easy access to external funds, (4) corruption and other forms of opportunistic behavior, and (5) the absence of large-scale institutional arrangements related to information collection, processing, and dissemination; fair and low cost conflict-resolution mechanisms; educational and extension facilities; and safety-net arrangements when natural or other major disasters occur at a local level.

THEESFELD (2004) analyzed a Bulgarian irrigation area where the threats indeed dominated the conditions for community-based management of water. She gives several reasons why local self-governance has not been successful. First, individual water users behaved opportunist-

tically by deliberately misusing the uncertain water appropriation rules that emerged in the Bulgarian transition process. Moreover, information policies of the local elite concerning the formation of water user associations were highly selective and intransparent. Both of these resulted in high levels of distrust and envy among the local population. Reinforced by the pace of transition and partly unsuitable arrangements imposed from outside, opportunistic behavior of single individuals apparently destroyed any existing trust and reciprocity on which successful collective action was dependent.

A positive example comes from a local development association in Northwestern Poland. This region is endowed with national parks and an attractive landscape, but affected by high levels of structural unemployment due to the dismantling of former state-farms and a military base. GRAMZOW (2006) traced the success of a local public-private partnership, which developed the recreational potential of the region by creating a bike trek, established a brand mark for regional products and services, and offers workshops in arts and crafts to the local population. This led to a number of business start-ups, increased numbers of tourists, and a strengthened self-image of the region. According to the author, the success of the association critically rested in the close cooperation between the local government and a private association, the active participation of local inhabitants, and the engagement of a respected and trusted leader. A number of differences to the Bulgarian case stand out: the level of conflict of interest was lower, because the partnership concentrated on the provision of local pure public goods rather than congestible common property resources, and it utilized a range of institutional complementarities between community, local government, and market-based approaches to public goods provision.

In summary, there are serious theoretical arguments and empirical evidence why local approaches may be well-suited to address local coordination problems in rural public good provision. However, not always are conditions conducive to such attempts, and community governance might be in need of being complemented by state and market arrangements.

### **3.3 Public provision may drive out voluntary private provision of public goods**

Recent experimental evidence has widely supported the view that individuals value their personal contribution to a public good (ANDREONI, 1993). This is an important modification of the traditional assumption of purely self-interested behavior in economics and also different to what has been called ‘pure altruism’, where the individual values only the overall level of the public good. The so-called ‘warm-glow’ model takes into account that the level of *one’s own contribution* to the public good, for example in the form of giving away time or money, plays an important role (ANDREONI, 2005). This insight raises a number of policy questions pertinent to the topic of this paper: How is individual provision of public goods affected by government

provision? Will there be crowding-out? Which policy instruments stimulate private contributions?

Given warm-glow preferences, PAYNE (1998) found that an additional dollar of government grants to US charitable organizations crowds out private donations to these organizations by about 50 cents. This can be taken as evidence that givers regard their tax-financed donations as a partial substitute for voluntary donation. Likewise, private organizations that provide public goods were found to significantly reduce their fundraising activities if they receive government grants (ANDREONI and PAYNE, 2003). This has led researchers to examine the relation between income taxation and voluntary giving based on warm-glow preferences (DIAMOND, 2006).

On a more fundamental level, economists have begun to ask how institutions and policies induce or evoke preferences and behavior, a major step beyond the traditional assumption of exogenous and stable preferences (for an overview see BOWLES, 2004: 93-126). FREY (1997) has put forward the hypothesis that “a constitution for knaves crowds out civic virtues”. In other words, imprudent governance may destroy the existing individual willingness to contribute to public goods. Based on insights from social psychology, FREY (1997: 1044-1045) argues that a ‘hidden cost of reward’ appears when an external reward reduces individuals’ intrinsic incentives to undertake an activity for its own sake. According to the author, two kinds of processes lead to such behavior: (1) Individuals reduce the motivational factor under their control when they perceive the external intervention to be ‘controlling’ in the sense of limiting the extent to which they can determine actions by themselves, and (2) an external intervention undermines intrinsic incentives if it carries the notion that the actor’s intrinsic motivation is not acknowledged. The individual feels that his competence is not appreciated which in turn impairs his self-esteem. For example, there is empirical evidence that offering financial compensation by a governmental agency reduces individuals’ willingness to contribute to a public good. FREY hence maintains that external regulations or commands but also rewards can impair intrinsic motivation. However, they can also crowd-in intrinsic motivation if they are perceived to be supporting, prevent free-riding of others, or establish fairness and equity.

Relatively little is known about how these processes affect the voluntary provision of the particular public goods in rural areas described in the previous section. Based on farm-level data from Pennsylvania field crop producers, WEAVER (1996) estimated models explaining environmental effort, including conservation tillage, management of excess manure and animal waste management. The author did not implement a warm-glow specification, but tested the somewhat polar cases of an ‘egoistic hedonist’, who only values his own contribution to the public good, and a ‘pure altruist’, who is only interested in the overall level of the public

good, against a model of a 'selfish hedonist' with no preferences for the public good at all. WEAVER finds that individual profit motives strongly influence environmental effort, but also that "substantial evidence points to the importance of egoistic and altruistic motivation as a determinant of environmental effort" (p. 245). He interprets this environmental effort as private giving to a public good. Related to this finding is the evidence cited by DURAND (2003: 139), who describes French farmers' motives for adopting a specific environmentally friendly stewardship scheme as being related to farmers' perception of their "function in society" and not only to "rational economic calculations".

In addition, a number of studies show that the successors of former state-farms in transition countries intentionally maintain high employment levels on their farms and actively engage in social and cultural activities, even for many years and despite economic pressure to rationalize production (see BIESOLD, 2004, for Ukraine, and CURTISS et al., 2006, for the Czech Republic). One interpretation of this is that private provision of public goods in rural areas may arise spontaneously and persistently, if central government supply of vital goods and services is interrupted.

Researchers have paid increasing attention to the voluntary group formation by farmers and other stakeholders to address environmental problems in rural areas (OECD, 1997; HAGEDORN, 2002), a phenomenon related to community governance described in the previous section. Examples from Australia and The Netherlands comprise spontaneously formed, community-based associations such as land-care groups, conservation clubs, or environmental cooperatives. According to OECD (1997: 88), the motives for group formation include concerns about declining farm profitability, an increasing awareness of links between ecological and financial sustainability, and a fear of central imposition of regulations combined with confidence in self-regulatory capacity (described as "taking 'ownership' of issues"). The authors of the latter study point out that a policy environment that assures adequate returns to farming through direct market intervention or generous disaster relief may discourage private initiative to ensure sustainable farming practices.

In summary, there is evidence that individuals are willing to contribute voluntarily to the provision of public goods in rural areas. However, this seems likely to be discouraged not only by 'command and control'-regulation, but also as a result of generous compensation by a central (and distant) authority. On the other hand, if issues are locally important and the required individual level of contribution is not too high, spontaneous private solutions may emerge.

#### **4 Conclusions**

Based on the previous review of theoretical arguments and empirical evidence, two major conclusions emerge from the analysis:

1. The adequate level of rural governance to stimulate public goods provision in rural areas appears to be often *below* the European or national level.
2. An appropriate policy should focus on the *institutional premises* of public goods provision in rural areas rather than on centralized payments to public good providers.

The survey has shown that promising decentralized allocation mechanisms exist for the entire spectrum of rural public goods depicted in Table 1. Centralized arrangements often lack the information necessary for effective policy design, create problems of monitoring and enforcement, may crowd-out individual initiative and fail to utilize the relatively incorruptible allocation mechanism of competition. Efficiency-oriented policy-making will therefore require a careful analysis of the specific characteristics of a certain public good, such as its spatial extension and the potential conflicts of interests between users, and should rely on principles of institutionalised competition and incentive-compatible self-regulation at the appropriate level (PETRICK, 2005).

However, decentralized arrangements do not work in all situations. Central government has a comparative advantage in producing rules that compel individuals to interact cooperatively if other arrangements fail. Furthermore, it can implement redistributive policies more effectively to meet fairness standards that market-based or other decentralized arrangements cannot achieve. Finally, if jointness in production precludes to address each public good at the optimal territorial scale, or if spillovers in the form of spatial positive or negative externalities are significant, there may be a role for central government coordination.

After all, the question is not whether the state should provide public goods or not, but how complementarities between different institutional arrangements, notably various layers of government, market and community, can be combined best to achieve this end (BOWLES, 2004: 487; HODGE, 2001, makes this point for rural environmental governance). Against this background, the European Community Initiative 'Leader' has offered a new perspective on rural development policy (EUROPEAN COMMISSION, 2000). Its 'Local Action Groups' (LAG's) are based on regional partnerships between governmental and private actors in order to create local development strategies by using local capabilities. Their decentralized management is financially supported by a system of global grants, while being embedded in a European network of development associations (WESTHOLM et al. 1999: 188). LAG's thus combine governance elements of competition (among LAG's for grants and among regions more generally), community (by utilizing the advantages of local participation and co-operation), and state (by involving representatives of local governments). Widely positive experience with 'Leader' in the EU-15 suggests that this may be an effective governance mechanism for rural development in Europe that is fundamentally different from traditional top-down approaches.

One purpose of the previous literature review was to identify research gaps concerning decentralized rural governance. Questions to be addressed in the future include how important rural amenities and other public goods are for residential choice and how residential decisions affect public goods provision in rural areas, which rural public goods are best suited for community governance, how charitable and environmental organizations affect public goods provision in rural areas, under which conditions individuals are willing to contribute voluntarily to these goods, and how policy could optimally support this.

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