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Politico-administrative scenario evaluation through quantitative network analysis: Using Measure 121 (modernization of agricultural holdings) of Axis 1 as an illustration

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Abstract

In Greece, there is a fostered policy for the modernization of agricultural holdings. This aims in order at improving productivity and environmental performance within a highly competitive international environment. The main research questions are to find what structural changes are desirable or possible to appear in the politico-administrative hierarchy from the 3rd to the 4th Programming Period. Issues of power centralization, information management, dogmatism and conflict are examined. The main method applied for this purpose is the Quantitative Network Analysis. Primary data were collected with standardized questionnaires. State officials have been interviewed. Three scenarios are extracted: a) the real situation of the 3rd PP, b) the desirable situation of the 4th PP, and the probable situation of the 4th PP.

Informal hierarchies are measured and visualized. The operationalization of the power dimensions and the other types of links is of crucial importance for the validity and reliability of the results. The results can be useful for policy consulting, if one compares the "probable" and "desirable" scenarios of the 4th PP with the past situation of 3rd PP and particular suggestions can be made. Greece is characterized by a top-down approach of rural development. The process of design and delivery is strongly centralized, and this leads to inflexibility. The bureaucratic procedures and the requirement of too many and possibly unnecessary documents are usual obstacles. The participants present ambitious desires but they also are realists rather than over-optimists concerning the simplicity of the procedures. They believe that the experience of the past can become a lesson for a realistic and not over-optimistic improvement.

Key words: Rural Development Programme, agricultural holdings, politico-administrative system

Introduction

With Measure 1.1 "Investments in agricultural holdings" it was intended to reduce the production cost, to improve production quantity and quality and to promote alternative income resources -apart from farming- in the countryside in the 3rd PP. It was also aimed to preserve and improve the natural environment, hygiene and animal welfare.

In the 3rd PP, Measure 1.1 was differentiated into two sections related to a) animal and b) crop production investments. In the section (a), the authorities which are responsible for the implementation were the Ministry of Rural Development and Food – Directorate of Programming and Farming Structures and the Special Service of Implementation of Co-financed Actions by EAGGF at national level. This management system was characterized by strongly formalized relations between stakeholders and great complexity. In the section (b) - investments in crop production- the politico-administrative structure was initially much more decentralized. Principal implementation bodies were the 13 Regional Authorities funded by the Regional Operational Programmes. While decentralization reduced the complexity of procedures, since 2005 the management of this section passed again to the Ministry of Rural

Development and Food at national level and ultimately funded by the Operational Programme for the Development and Reconstruction of the Countryside (2000-2006).

In the 4th PP (2007-2013), Measure 121 "Modernization of agricultural holdings" (equivalent to Measure 1.1), is the third most strongly financed measure (9.04% of the total funds of the Greek RDP). This measure aims at strengthening the competitiveness of agricultural holdings through a more effective use of inputs, including the development of new technologies, through diversification of agricultural holdings by encouraging investments for non-food and energy plants, by making the farms more "friendly" to the environment, by improving working safety, health and animal welfare. Emphasis will be laid on the animal production, while in the crop section, priority is given to investments for restructuring the production of the tobacco and cotton.

The main questions of this research are:

- What real hierarchies (not only formal but also informal ones) are shaped in the politico-administrative system regarding the issue of "agricultural holdings modernization"?
- What is the role of main power dimensions such as trust, pressure and financial incentives?
- What is the hierarchy in information flow and what is the role of information which is regarded as "scientific" in the network?
- What is the status of dogmatism (vs. flexibility and willingness for institutional learning) and susceptibility to conflicts?
- What is the real structure in the past and the most desirable and probable scenario in the 4th PP?

Methodology

Network analysis is based on the System Theory hypothesis that an actor's features, position, role and behaviour are not innate or to be taken "for granted", but are formed through the interaction with other actors within a network. The same actor may present different behaviour, attitudes, image and power status (influence or pressure potential) depending on its network environment and these behaviour patterns may well be changed in order to survive and prosper in different networks.

Network approach focuses on interactions between actors such as exchange of information and altered power relations (Skvoretz and Willer 1993, Cook and Emerson 1978, Jordan and Schubert 1992, Evans 2001). Power is a basic key for policy network analysis and is conceived in terms of trust, incentives and uniqueness: an actor can: a) exert influence (an informal subset of power relations) by gaining the trust of the other actors; b) affect their behavior (Pfeffer and Salancik 1978); c) exert control through becoming the unique authority for action, either formally (e.g. a mayor) or informally (e.g. middle man/gatekeeper) (Hartnett 1971). Although trust is, in general, a complex phenomenon, here it is operationalised as the willingness to adopt and follow views, advice or suggestions which are commonly believed to be useful for a programme implementation. In other words, trust is here used as a dimension of power synonymous with influence (cf. Vogt 1997, Etzioni 1975, Bachrach and Baratz 1962, Buskens, 1999).

We base our analysis on the concept of social-policy networks (Buskens, 1999, Brandes et al., 2001, Knoke and Kuklinski 1982, Marsh and Rhodes 1992). A network is a system of interactions or relations between *actors* (agencies, interest groups, investors etc). These interactions happen on several different levels: trust (or distrust) relations; institutional identity – the degree to which participants identify with their organisation or group (network); provision of incentives (in form of money or other material support); information communication; attributions and perceptions.

Document analysis, literature review and primary data collection and processing were the main tools for the current research. Primary data were collected by personal interviews with people involved in the network. A structured questionnaire was designed for the needs of the research. Quantitative Network Analysis was implied and the primary data were processed by the use of VISONE and SPSS software.

The Quantitative Network Analysis and the statistical analysis can provide data about the real situation, the desirability and the possibility of centralization (or not), and which actors are mostly decisive for the management of the measure in both PP. Particularly, three scenarios have been examined a) the actual network under the 3rd PP b) the most desired as "optimal" network to be shaped in the 4th PP, and c) the expected as most probable network in the 4th PP.

The purpose of the scenario analysis through Quantitative Network Analysis is to depict the politico-administrative structures that are likely to be shaped during the implementation of the Measure and the ("desirable" and "probable").

These structures are composed of:

- Trust relations (as it is a quite important dimension of informal politico-administrative power)
- Institutional pressure (which is based on uniqueness and constitutes a dimension of power)
- Conflicts
- General and scientific information flow
- Ascription of dogmatism and expectance of flexibility

In this way, concrete changes can be suggested to the government in order to maintain the control and simultaneously the maximal acceptance. In other words, an optimal combination of effectiveness and legitimization can be achieved.

The participating actors in the implementation of the 3rd PP are the following ones (unnamed for reasons of discretion):

- 4 Ministerial departments
- 4 Farmer associations of 1st degree (local associations) and 2nd degree (farmer unions including the local associations) as well as the umbrella organizations of farmers at national level
- 3 Private consultant and development agent bureaus,
- 1 semi-state organization concerning financing in agriculture
- 1 Regional Authority
- 1 Prefectural department
- 1 Geo-technical chamber

In total, the network consists of 15 actors. It is also noticeable that no scientific actor like university or research institution has proven to possess any important position in the network. Even information regarded as "scientific", is not considered to be provided by such scientific actors. This gap between scientific community and policy arena which is depicted through network analysis is a usual situation in many countries of Europe (Hasanagas2004), and it is verified also in this case.

Results

The implementation of Measure 121 is about to start for the 4th PP (2007-2013), although we are in the middle of the period. The main reasonfor this delay is the fact that there are commitments from the 3rd PP (2000-2006).

Power dimensions

a) Trust relations

The Managing Authority of the Ministry (D.A. EPAAY) possesses the highest position in the hierarchy of trust in all scenarios (Figure 1). This means that this state actor has strongly gained the trust of the other actors. A single private actor (related to technical issues) is degraded in the optimal and probable scenario, while several private actors related to consulting, economic interest and non-profit interest lobbying are fostered in optimal and probable scenario. This can be interpreted that the private sector has also gained the trust within the network and transparency problems are reduced, if not eliminated.

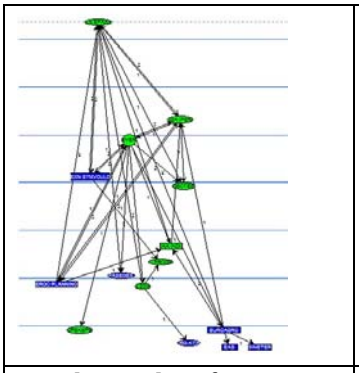
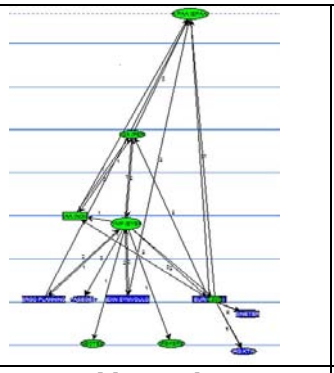
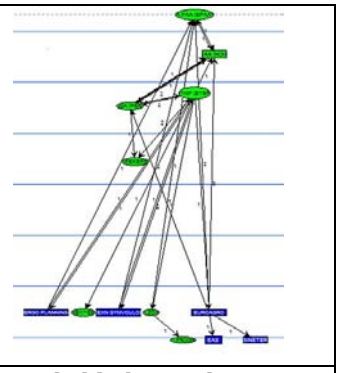
		
Past hierarchy of 3rd programming period (2000-6)	Optimal hierarchy for the 4th programming period (2007-13)	Probable hierarchy for the 4th programming period (2007-13)
Trust density=16%	Trust density=12.6%	Trust density=16%
Trust monopoly=1032.8	Trust monopoly=1074.17	Trust monopoly=1175.75
Blue: private, Green: public		

Figure 1: Trust hierarchy in comparison

It is also remarkable that the density of the trust relations is markedly reduced in the optimal scenario (12.6%), while in the past and in the probable scenario it remains stable (16%). This can be attributed to the fact the state actors are compulsorily trusted as they possess crucial administrative information, and sometimes, the “advise” cannot be clearly distinguished from the “guideline”.

Moreover, the monopoly is also increased from the past situation (1032.8) to the optimal scenario (1074.17). Apparently, the actors desire a stronger order and higher feeling of security. They want to feel sure of the advice they receive. However, they do not desire so sharp monopoly of trust (and knowledge) as this which is regarded as mostly probable (1175.75). Thus, a balance between trust and knowledge-based control is desirable by the most actors.

The trust hierarchy (Table 1) seems to vary between the PPs. Enough of the trust relations are maintained between the past real situation and the scenarios, as the correlation coefficients are about 0.500. However, considerable changes are also expected in the real politico-administrative structures, as the coefficients are quite different from the unity. Thus, the officials should be prepared for noticeable changes, based however on existent personal and institutional infrastructure. Simultaneously, the lobbyists can be hopeful for new chances but also should be prepared for new threats (e.g. stronger “order” than desired, as discussed above).

Table 1: Correlation of trust relations between past programming period (2000-6), optimal and probable scenarios for the running period (2007-2013)

Kendall	Trust / Probable	Trust / Optimal	Type of actors		
			State actors	Interest groups	Economic orientated
Trust / Past PP	**,541***	**,531****	,435	-,066	**-,487***
	,016	***,008***	*,056*	*,772*	***,032***
Trust / Probable		**,593****	,345	-,072	**-,510***
		,010	*,183*	*,782*	***,049***
Trust / Optimal			,083	-,363	-,222
			,723	*,122*	*,345*

The state or private character does necessarily assure high trust status, while the economic interest groups seem to lose in trust, both in the past real situation (-0.487) and in the probable scenario (-0.510). In the optimal scenario, though, the economic orientation of an interest group is not regarded as strongly negative (-0.222, insignificant).

b) Institutional pressure potential

Private actors appear to be slightly upgraded in both optimal and probable scenarios in the 4th PP, while all were at the lowest level in the past. However, the institutional power will mainly be concentrated at public actors such as in the past period. Although a slight thinning of the relations which are based on institutional pressure is desired in the optimal scenario (9.5% to 10.9%), an increase of the institutional pressure potential (up to 15.9%) is however considered to be the most probable scenario. As far as the power concentration (monopoly) is concerned, an increase from 1149.11 in the past to 1328.4 would be desired in the optimal situation. Thus, the need of stronger institutional order seems to be desirable as a factor of secure procedures and greater transparency. However, the most probable situation seems to be characterized by lower monopoly (1255.44).

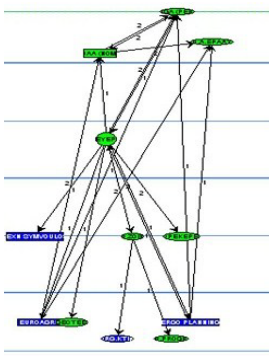
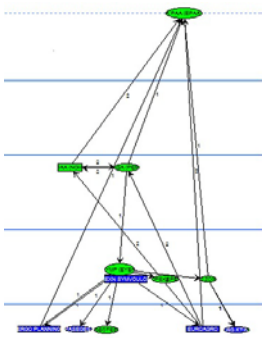
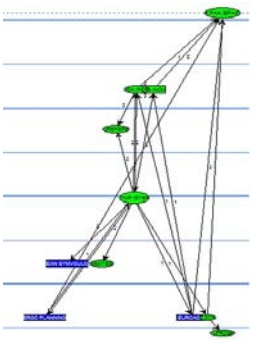
		
Past hierarchy of 3rd programming period (2000-6)	Optimal hierarchy for the 4th programming period (2007-13)	Probable hierarchy for the 4th programming period (2007-13)
Institutional pressure density=10.9%	Institutional pressure density=9.5%	Institutional pressure density=15.9%
Institutional pressure monopoly=1149.11	Institutional pressure monopoly=1328.4	Institutional pressure monopoly=1255.44
Blue: private, Green: public		

Figure 2: Hierarchy of institutional pressure potential in comparison

The hierarchy of institutional pressure (Table 2), in the past is almost identical with the probable institutional pressure (0.922) and quite close to the desirable one (0.894). The desirable hierarchy is also quite close to the probable one (0.900), as expected.
It is also noticeable that there is a strong correlation between the character of an actor (public or private one) and its status in the institutional hierarchy. Once again, the private actors seem to lose in institutional power, though they play an active role in the network.

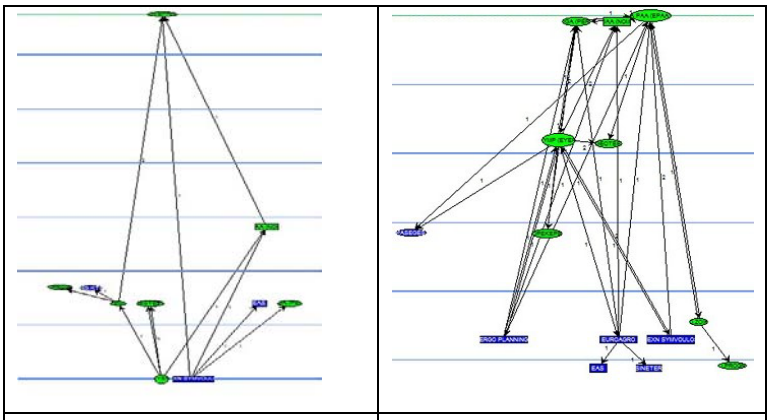
Table 2: Correlation of institutional pressure relations between the three scenarios

Pearson	Institutional pressure Probable	Institutional pressure Optimal	public1.private 2
Institutional pressure Past	**,922(**)**	**,894(**)**	**-,672(**)**
	,000	***,000***	***,006***
Institutional pressure Probable		**,900(**)**	**-,690(**)**
		,000	***,004***
Institutional pressure Optimal			**-,569(*)**
			,027

General environment of interactions

a) Conflicts

The public actors were conflict-receiver rather than conflict-makers (Figure 3). In the past, the Managing Authority was the main receiver of conflicts. In future, other pubic actors like the Regional Authority and the Prefecture and many private actors such as consulting and development agent bureaus remain at the bottom of the conflicts. Certain public actors like the chamber and ministerial bodies appear in the middle of conflict status and also present conflicts between each other. The probable scenario in the future seems to be characterized by more conflicts than the past. In general, the density of conflicts is increased from the past (13.3%) to the probable situation (15.9%). Also, the private actors involved in conflicts proliferate.



Past hierarchy of 3rd programming period (2000-6)	Probable hierarchy for the 4th programming period (2007-13)
Conflict density=13.3%	Conflict density=15.9%
Blue: private, Green: public	

Figure 3: Status of conflict reception

b) General information

"General" information is expected to be disseminated by public actors in all three scenarios. However, in the optimal scenario private actors related to technical consulting and farmer' interest groups appear to play a more critical role in the optimal scenario. Scientific actors (universities and research institutes) which were involved in general information network of the past, are not included in the optimal and probable scenarios.

The optimal network of general information is denser (16.6%) than the past network (13.3%). Thus, the participants seem to need more intensive communication. However, this need does not seem to be covered completely in the probable network (only 14.7%). The private actors also remain as isolated as in the past. The general information seems to be more centralized to public actors (Figure 4). In optimal scenario, it is more centralized than in the past and in the probable scenario, the centralization becomes higher. Thus, despite the higher need of more intensive communication depicted above, the need for a central "valid" advisor is also evident.

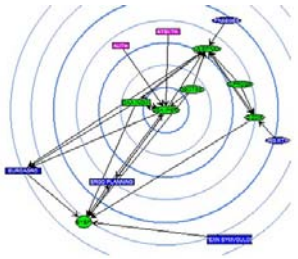
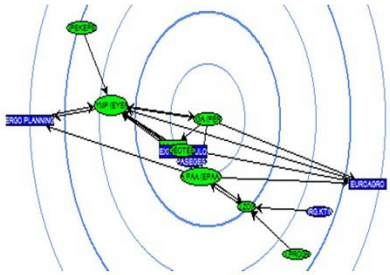
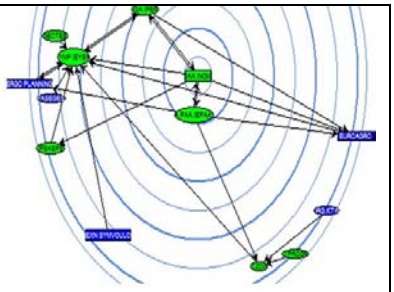
		
Past hierarchy of 3rd programming period (2000-6)	Optimal hierarchy for the 4th programming period (2007-13)	Probable hierarchy for the 4th programming period (2007-13)
General information density=13.3%	General information density=16.6%	General information density= 14.7%
Blue: private, Green: public		

Figure 4: Closeness centrality (importance) of general information

Concerning the control of general information, the strongest "postmen" seem to be public actors (mainly the Managing Authority) and not the private ones, in all scenarios. Even in the "optimal" scenario, the role of the plain "postman" is desired to be played only by public actors. The universities are isolated in the control of general information (Figure 5).

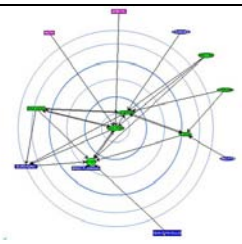
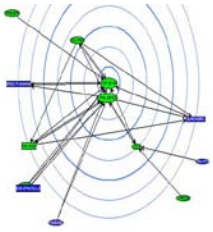
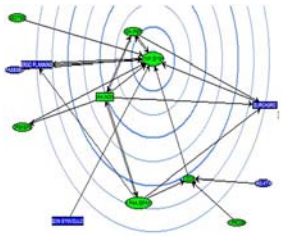
		
Past hierarchy of 3rd programming period (2000-6)	Optimal hierarchy for the 4th programming period (2007-13)	Probable hierarchy for the 4th programming period (2007-13)
General information density=13.3%	General information density=16.6%	General information density= 14.7%
Blue: private, Green: public		

Figure 5: Betweenness centrality (control) of general information

c) Scientific information

A usual but still noticeable result in networks of information which is considered to be "scientific" is that the "scientific" actors like universities or research centers do not belong to the central ones and often they are even excluded. Thus, what is regarded as "scientific" by the policy makers is an open question for further research. The absence of universities in such networks does not mitigate the weakness of the lack of organizational learning which necessitates a research-based systematization of knowledge nor the knowledge transferability between academic and politico-administrative arena, nor the transdisciplinary learning.

In the past, the Managing Authority and the Directorate of Animal Production were considered to possess the most important scientific information (Figure 6). The Managing Authority is still considered to be the most capable provider of scientific information in the optimal scenario. However, the most probable provider is considered to be a prefectural Directorate of Rural Development. In other words, though the Managing Authority has convinced of its reliability and communication capacity regarding scientific issues, the information which is regarded as scientific is this which is most directly related to the implementation taking place at prefectural level.

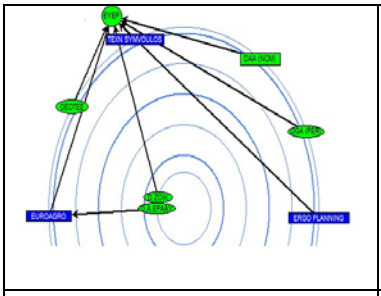
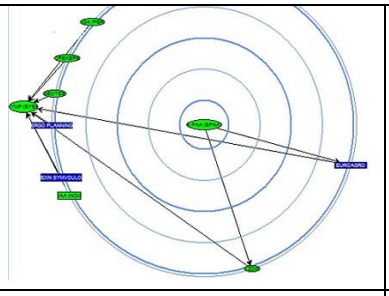
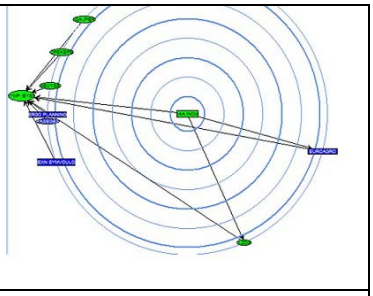
		
Past hierarchy of 3rd programming period (2000-6)	Optimal hierarchy for the 4th programming period (2007-13)	Probable hierarchy for the 4th programming period (2007-13)
Scientific information density=13.8%	Scientific information density=11.1%	Scientific information density= 12.2%
Blue: private, Green: public		

Figure 6: Closeness centrality (importance) of scientific information

In centralization of scientifically important information seems to be almost stable between the past, the optimal and the probable scenario (Figure 7).

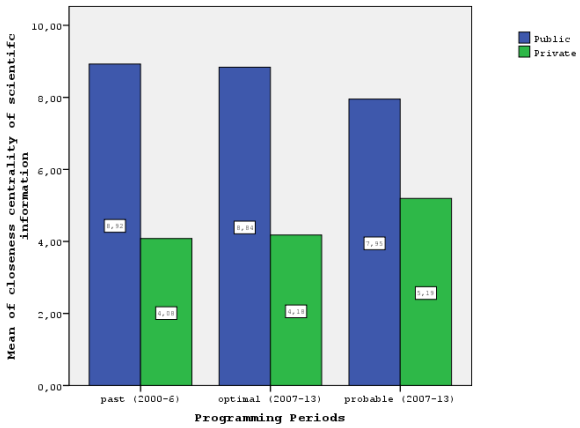


Figure 7: Closeness centrality (importance) of scientific information in comparison

Only in the probable scenario the information seems to be slightly decentralized from public to private sector. This however should not be attributed to a restructuring of the information

management mechanism but rather to the fact that prefectural public actors gain in importance and all other ones are marginalized.

The constellation of the actors in the past seems to be similar to this depicted in the case of importance (Figure 8). However, in the optimal and probable scenario, a sharing of control potential appears. Thus, a decentralization of control of the scientific information seems to be desired and expected.

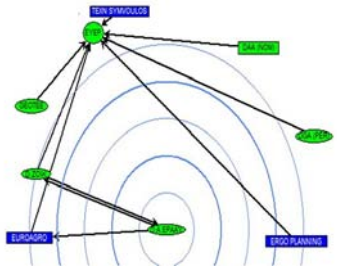
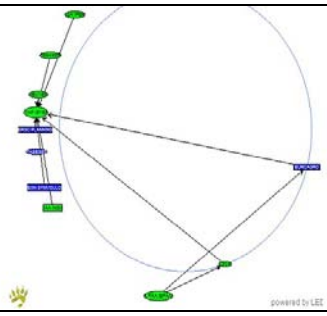
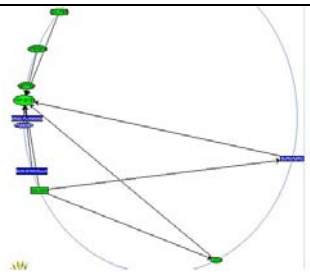
		
Past hierarchy of 3rd programming period (2000-6)	Optimal hierarchy for the 4th programming period (2007-13)	Probable hierarchy for the 4th programming period (2007-13)
Scientific information density=13.8%	Scientific information density=11.1%	Scientific information density= 12.2%
Blue: private, Green: public		

Figure 8: Betweenness centrality (control) of scientific information

In contrast to the considerable gab of control capacity observed in the past, strong decentralization of this capacity appears in optimal and probable scenario (Figure 9).

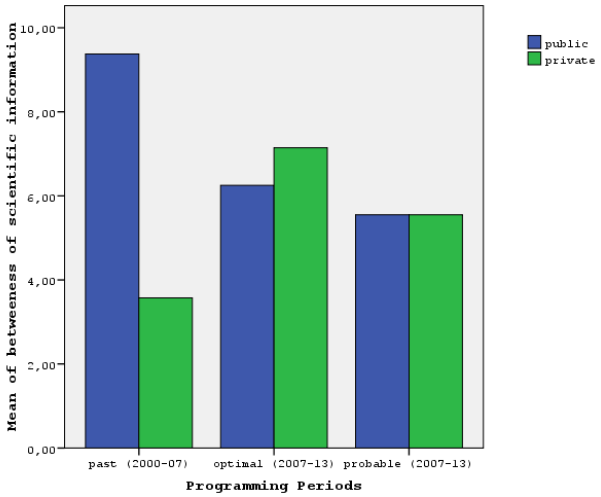


Figure 9: Betweenness centrality (control) of scientific information in comparison

This discloses a tendency to hope that the reliable actors such as the Managing Authority should continue to be the main scientific advisers, but the most probable situation is directly related to regional settings of implementation which have an accidental character. The same accidental character also characterizes the control mechanism, as the network of scientific information is relatively restricted in comparison to the general information network. Thus, it is crucial who controls the dissemination.

d) Ascription of dogmatism and expectance of flexibility

Both in the past and the probable network, the Managing Authority appears to be at the top of dogmatism. In general, mostly public actors appear to be more dogmatic than the private actors, because they are more powerful and a powerful actor does not need to reconsider its attitudes and strategies. In the flexibility network (optimal scenario), the public actors are desired to be more flexible (Figure 10).

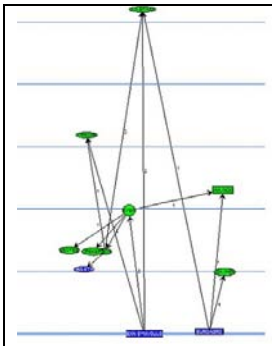
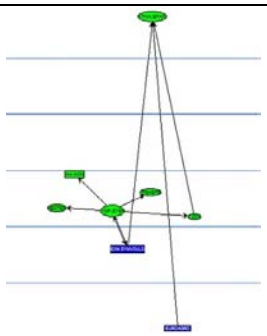
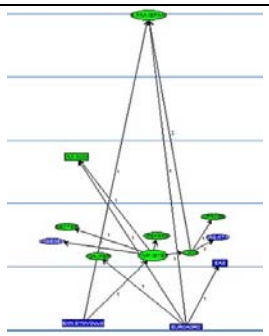
		
Past hierarchy of dogmatism 3rd programming period (2000-6)	Optimal hierarchy of flexibility in the 4th programming period (2007-13)	Probable hierarchy of dogmatism in the 4th programming period (2007-13)
Blue: private, Green: public		

Figure 10: Dogmatism and flexibility status in comparison

The difference between public and private dogmatism (9.55=11.12-1.57) seems to be mitigated in the probable scenario (7.06=9.96-2.9) (Figure 11). This shows a chance on the part of the private actors to keep more fixed strategies, based on acquired experience of the past and on better awareness of rules, strengths and weaknesses.

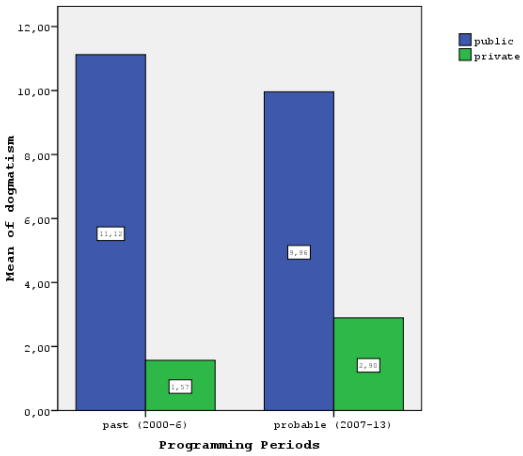


Figure 11: Dogmatism status in comparison

The more dogmatic appears to be an actor in the past, the more flexible it is desired to be in the optimal scenario (0.711), but also similarly dogmatic it is supposed to remain in the probable scenario (0.898) (Table 3). There is, namely, a realistic separation between the "desirable" and "probable". Additionally, the dogmatism is a "luxury" of the powerful actors as the public ones, and these are desired to be more flexible.

Table 3: Correlation of dogmatism and desired flexibility between past programming period (2000-6) and probable scenarios for the running period

	Simplicity Optional	public1.private2

Pearson	Flexibility Optimal	Dogmatism Probable	public1.private2
Dogmatism Status Past PP	**,711(**)**	**,898(**)**	**-,670(**)**
	,003	***,000***	***,006***
Flexibility Status Optimal		**,757(**)**	**-,549(*)**
		,001	***,034***
Flexibility Indegree Optimal		**,775(**)**	**-,535(*)**
		,001	***,040***
Dogmatism Status Probable			**-,552(*)**
			,033

e) Simplicity

The participants are markedly disappointed of the simplicity of the past (0.182) (Figure 12). They believe that complexity was the main feature of the procedures. They also consider simplicity to be of great importance for the period 2007-13 and they expect a rather moderate degree of simplicity in effect (0.909).

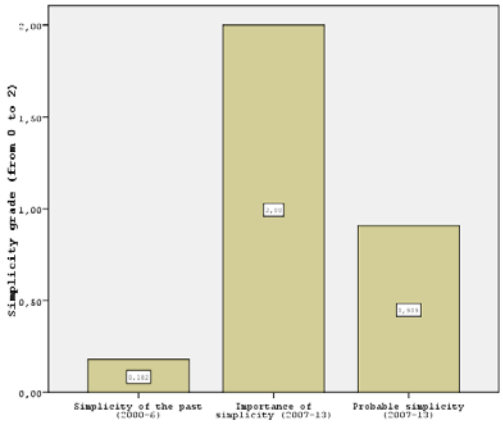


Figure 12: Simplicity in comparison

Thus, the participants present ambitious desires but they also are realists regarding the simplicity of the procedures. They believe that the experience of the past can become a lesson for a realistic and not over-optimistic improvement.

It is also noticeable that at individual level the expectance for improvement in 2007-13 is independent of the personal experience in the past (3rd PP) (0.083, insignificant) (Table 4). Thus, there is a relatively objective attitude free of overwhelming disappointment and prejudices. This attitude may also be represented both by public or private actors (insignificant co-efficients, -0,067, 0,471).

Table 4: Correlation of simplicity grade in the past with the expected simplicity in the running period (2007-2013)

Simplicity Past PP	,083	-,067
	,808	*,875*
Simplicity Optional		,471
		286

Conclusions

Greece is characterized by a top-down approach of rural development. Bureaucratic procedures and, in many cases, requirement of too many and possibly unnecessary documents are usual obstacles for all the people who are involved in rural development (these who design the RDP, these who implement it at EU, national, regional and local level and the possible final beneficiaries and stakeholders. Permissions and other legal or administrative obligations can prevent possible beneficiaries from applying for a particular action of a measure of the Rural Development Program.

The balance between trust and knowledge-based control is desirable by most actors which don't favor single type of power gathering. Simultaneously, the lobbyists can be in part hopeful for new chances but also should be prepared for new threats.

The need of a stronger centralization of institutional pressure seems to be desirable as a factor of secure procedures and greater assurance of transparency, despite the existence of trust and high grade of acceptability. That can be also in order for stakeholders to avoid different-origin contradictory directives which as a rule tend to confuse them.

Analyzing the in- and outdegree of conflicts as a measure of received and practiced conflicts, it becomes evident that the public actors receive more conflicts than the private ones, while they tend to be as "aggressive" as the private ones in the probable scenario of the period 2007-13. Namely, a decentralization of conflict tendency is observed. That is because as they gathered merely all the network power in the past PP, the public sector actors did not feel the need to clash with the other actors. But as the probable scenario indicates less power for the public sector actors, they react to that by turning more "aggressive" at an attempt to retain their vested interests.

Also, the participants seem to need more intensive communication and thereby a greater dissemination and decentralization of general information. However, this need does not seem to be covered completely in the probable network. The private actors also remain as isolated as in the past. However, despite the higher need of more intensive communication, the need for a central "valid" public advisor is also evident. The advisory function tends to remain centralized. A central "postman" is most likely act as an assurance to all actors that they will always know who to turn to when in need of information or advice, releasing them from a great deal of uncertainty.

Moreover, everyone seems to have realized that the crucial determinant for the policy result is the one who imposes information as "important" and not so much the one who controls the information flow. For this reason, there is no disagreement about the optimal and the probable scenario concerning control of the flow. This is the reason that practitioners would be advised to bond strongly to decision-makers rather than "postman" actors in order to get the most out of the information flow mechanisms.

Although certain actors, such as the Managing Authority, have convinced of their reliability and communication capacity regarding scientific issues, the information which is regarded as "scientific" is this which is most directly related to the implementation taking place at prefectural level and is thereby connected with regional peculiarities.

"Dogmatism", appears to be a "luxury" of the powerful actors as the public ones, as only the powerful have the potential to insist on their attitudes neglecting all others whilst the private actors that do not enjoy an equivalent status of power are finally "forced" to compromise. Such weak actors would like the network to become more flexible.

The participants present ambitious desires but they also are realists regarding the simplicity of the procedures. They believe that the experience of the past can become a lesson for a realistic and not over-optimistic improvement as everyone appears to be in fond of more simplified procedures and network relations, but they are well aware that this is not likely to

change overnight. So everyone is rather prompted not to expect great changes at this field, but only a small improvement. The actors' opinion about the need of more simplicity is independent of any personal experiences and thus it can be regarded as relatively "objective".

A proposed strategy for the management of information flow and complex political-administrative system of Measure 121 is to establish a special processing Centre of Information based on software and methods of Applied Socio-Informatics.

The creation of a centralized, integrated and updated database which will manage the information flow is well-needed. The current Integrated Information System is overloaded with a large and heterogeneous quantity of inappropriately processed or unprocessed information which impedes its effective use during the implementation. The staff training and motivation are basic key 'ingredients' to improve efficiency. Human and institutional capacity building should be promoted between different levels of management and governance.

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More information at: http://www.rudi-europe.net.

References

Bachrach, P. and Baratz, M. S. (1962). Two Faces of Power. *American Political Science Review* 56. 947-52.

Brandes, U., Raab, J. and Wagner, D. (2001). Exploratory network visualization: Simultaneous display of actor status and connections. *Journal of Social Structure* 2 (4) (October 19, 2001).

Buskens, V. (1999). *Social Networks and Trust.* Netherlands.

Cook, K. S. and Emerson, R. M. (1978). Power, Equity and Incentive in Exchange Networks. In: *American Sociological Review*. 1978, 43, 721-739.

Etzioni, A, (1975). The active society. A theory of social and political processes. Westdeutscher Verlag. Opladen.

Evans, M. (2001). Understanding dialectics in policy network analysis. *Political studies* 2001, 49, 542-550.

Hartnett, R.T. (1971). Trustee power in America. In H.L. Hodgkinson and L.R. Meeth (Eds.) Power and authority (25-28). San Francisco: Jossey Bass.

Hasanagas, N.D. (2004). Power factor typology through organizational and network analysis. Using environmental policy networks as an illustration. Ibidem. Stuttgart.

Jordan, G., Schubert, K. (1992). A preliminary ordering of policy network labels. In: *European Journal of Political Research* 21, 7-27.

Knoke, D. and Kuklinski, J. (1982). Network Analysis. Sage Publications. Beverly Hills, London, New Delhi.

Marsh, D. and Rhodes, R.A.W. (1992). Policy Communities and Issue Networks. Beyond Typology. In: *Policy networks in British government*. (Ed.) Marsh, D. and Rhodes, R.A.W. Oxford. 249-268.

Operational Programme for the Agricultural Development and Reform of the Countryside 2000-2006.

Pfeffer, J. and Salancik, G.R. (1978). The external control of organizations: A resource Dependence Perspective. 2nd ed. Stanford, CA: Stanford University Press.

Rural Development Programme of Greece "Alexandros Baltatzis" 2007-2013.

Skvoretz, J. and Willer, D. (1993). Exclusion and Power: A test of four theories of Power in Exchange Networks. In: *American Sociological Review*. 58, 801-818.
Special Service of Implementation of Co-financed Actions by EAGGF.
Vogt, J. (1997). *Trust and control in transactions. An institutional-economic analysis* (orig. in German). Betriebswirtschaftlicher Verlag. Wiesbaden.

APPENDIX A

Explanation of abbreviations that have been used in the Quantitative Network Analysis	
DA EPAAY	RDP Managing Authority
EYEP	Special Service of Implementation of Co-financed Actions by EAGGF
D.PROGR	Direction of Programming and Farming Structures
D.ZOIK	Directorate of Animal Production
DGA (PER)	Regional Agricultural Development Authority
DAA (NOM)	Prefecture Authority of Rural Development
GEOTEE	Greek Geotechnical Chamber
OPEKEPE	Paying Agency
TEXN SYMVOULOS	Technical consultant
ERGO PLANNING	Private consulting agency
EUROAGRO	Private consulting agency
ORG.KTIN	Livestock Production Association
PASEGES	Pan-Hellenic Confederation of Unions of Agricultural Cooperatives
SINETER	Cooperatives
EAS	Agricultural Cooperatives Union
AUTH	Aristotle University of Thessaloniki
ATEI.Th	Alexander Technological Educational Institute of Thessaloniki