Science for Development — Policy Broker or Ivory Tower ?

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Abstract

Policymaking is a complex process influenced by a multitude of factors and effects which are not always transparent, and is executed by policy makers who do not always act rationally. Following the concept of evidence-based policymaking, science and research (S&R) should inform policy makers in such a way that the process of policymaking is rational, rather than opinion-based (Sutcliffe, Court 2006; Davies 2004).
However, the existence of evidence alone is not a guarantee that it will inform policy makers, as shown by today's realities in developing (as well as in developed) countries. Besides fulfilling quality standards such as credibility, problem specificity, solution orientation, and communicability, the given evidence has to be placed into the policy process which consequently, demands more action on the side of S&R institutions. Often, it lacks of formal or informal information channels and linkages between S&R institutions at national and international levels, and with other actors in the policy arena. Additionally, existing linkages are not fully used.
This paper presents network analysis as a tool to identify relevant actors, and the existing or missing paths and channels among them. It uses a case study in Burkina Faso as an example and examines the reasons for success and failure in efforts for evidence-based policymaking. The analysis is based on results of a two-year research on policy networks in Burkina Faso (2001–2003).
In particular, the role of an independent agricultural research network (focusing on land policy) will be examined. Its role as a policy broker in the arena of natural resource management indicates the importance of active networking to communicate scientific evidence, even though manifold obstacles are present, and the potential of such organisations is still not fully used.
The results show that network analysis can be a useful tool to support S&R's role (and responsibility) as a policy broker to avoid inaccessible ivory towers full of evidence.

1. Introduction

Policymaking is a highly complex process and a multitude of actors with manifold linkages are involved. Additionally, a multitude of factors affect the political context, and a multitude of evidence varying in quality, rooting out of different sources and being of different types is available. Transparency and rationality do not always dominate the process of policymaking. In the policy arena, the role of Science and Research (S&R) is to inform policy makers in such a way that evidence-based rather than opinion-based policymaking is possible. To achieve this over-all goal the quality of evidence but also its placement is of high importance.

 "Evidence-based policymaking"(EBP) is a key word on today's development agendas, even though the demand itself is nothing new to the development world (Court & Maxwell 2005). Over decades, a strong demand has been expressed for cooperation among researchers, policy makers, and development practitioners, to achieve sustainable evidence-based development

policymaking. There is a growing awareness for the topic in the research community for development (Court & Young 2004). National and international research and development organisations focus more and more on the question how to transfer high-quality evidence into the policy arena and how to measure their impact in the process (see for example the ODI Rapid program, development organisations like the German GTZ, CGIARs like ILRI, CIFOR). In most current research proposals this question is considered and tools (or activities, outcomes, milestones) are often mentioned like stakeholder conferences, inclusion of policy makers in early stages of the project design, etc. to reach and to achieve impact on the policy process. However, results of such efforts are still little visible.

This paper will focus on opportunities to transfer evidence into the policy process, and high quality of evidence is assumed as a prerequisite for evidence-based policymaking. First, a brief introduction is given into the concept of EBP, followed by a case study on the role of an independent agricultural research network which focuses on land policy. Network analysis is used as an analytical tool. Base of analysis are results of a two-year research on conflict management over natural resources, and the involved policy networks, in Burkina Faso (2001-2003).

2. The concept of evidence-based policymaking

Over the last decade there has been an increasing emphasis on the concept of EBP, particularly in the UK, where it is embedded in the policy reform process under the Blair government. EBP is seen as a set of methods to inform the policy process rather than to affect the eventual goals of policy. As Davies (2004) noted, there is a "shift to a more rigorous, rational approach that gathers, critically appraises and uses high quality research evidence to inform policymaking and professional practice". Evidence can be incorporated for each of the stages of a typical policy process, like the stage of agenda setting, policy formulation, implementation, and evaluation, as Sutcliffe and Court (2006) have underlined.

Following Davies (2004), evidence has many sources, e.g. hard data, soft data like traditional and/or indigenous knowledge, expert knowledge etc.. Further, he differentiates several types of research evidence: Impact Evidence, Implementation Evidence, Descriptive Analytical Evidence, Economic/Econometric Evidence, Ethical Evidence, Statistical Modelling, and Attitudinal Evidence (Davies, 2004). It should be noted that in general the decision on what source or what type of evidence is used should be related to criteria of appropriateness rather than following existing prejudices and disputes among the research community, e.g. on the relevance of hard and soft data. Varying scholars (Court, Hovland, & Young 2005; Court & Maxwell 2005; Shaxson 2005; Sutcliffe & Court 2006) have recommended a catalogue of criteria and standards which evidence should fulfil to be relevant to the policy arena: Accuracy, Objectivity, Credibility, Generalisability, Relevance, Availability, Rootedness, and Practicalities (Sutcliffe & Court 2006). However, evidence is not the only factor and researcher/scientists are not the only actors that try to influence policymaking. Among others, factors like actor's belief sets, judgments, available resources and institutional capacities, influence the decision making process right from the beginning of a political process: how a problem is perceived (if at all), will for example strongly influence the stage of political agenda setting. Additionally, scientists and researchers are in a continuous situation of competition with other actors in the policy arena, for example lobbyists, pressure groups, consultants etc. In some cases, besides being often better organised and being better linked to policy makers, these groups supply the policy arena with messages, which are easier to understand and delivered in-time.

Additionally, to focus on developing countries, in some of these countries conditions may exist, which aggravate the difficulties evidence-based policymaking faces. Sutcliffe and Court (2006) mentioned among other issues:

- Weaker economic conditions
- Difficult political environments

- Accountability, participation, corruption, lack of incentives/capacities often barrier evidence in the implementation component of the policy process
- Academic freedom, media freedom civil society strength is often problematic
- Capacity is often limited regarding rigorous evidence and formulating policy
- Conditions of conflict

Under such conditions a successful transfer of evidence into the policy arena needs well linked researchers and scientists. The following section presents a case study from Burkina Faso to identify reasons for success or failure of EBP. As mentioned before, this paper will not focus on the question of quality standards for evidence (for example credibility, transparency, problem specificity, solution-oriented, etc.), but it will focus on the actors in the policy arena, existing research networks and opportunities to place (high-qualitative) evidence in the policy process.

3. GRAF: A research network in Burkina Faso

In this section an independent research network in Burkina Faso (GRAF) which focuses on land tenure issues, will be presented as an example for success and failures in regard to bringing evidence into the policy arena. GRAF (Groupe d'Action et de Recherche sur le Foncier) was created in 1998 and became legally known in 2001. The organisation's members work at national and international levels as researchers, politicians, development practitioners, etc. GRAF puts a strong emphasis on dissemination activities. The group has a newsletter and a webpage, organises workshops and conferences. Additionally, a strong awareness for the question of evidence-based policymaking could be identified during the research. For example, the establishment of a subgroup "influencée le politique" was discussed. Most of the interviewed members work in ministries, research organisations, or as consultants.

Method

The presented case study is a result of a research on conflict management between farmers and herders at local/regional level and on the dynamics in the accompanying institutions and policies related to natural resource management at macro level. An actor-oriented multilevel approach was chosen for the research. It is based on a case study of conflict management done by a multi-disciplinary team from October 2001 to June 2002 in six villages in the respective area. It was followed by investigations at the regional and national level in Burkina Faso from October 2001 to June 2003.[1] Networks were analysed, which influence (1) conflict management between farmers and herders and (2) policymaking with impact on NRM. This led to a network analysis at different spatial levels, local, regional, and national. In total, 38 actors were identified by snowball technique and were investigated; thereof 24 interviewees in the focal set, 8 in the second zone and another 6 in the third snowball zone. These actors were representatives and experts at the meso-level (Prefects, High Commissioners, Technical Service, Development and Research Projects, NGOs) and macro-level (national government, Parliament). In-depth interviews with these representatives and experts were conducted. An important part of the interviews were questions concerning the actors' belief sets, their problem perception, and involvement in conflict management or in the surrounding policymaking, as well as questions regarding the actors networks of competence/contact, information, and advice. The variable competence/context (which actor was estimated as competent depended on the topic and with whom the informant was in frequent contact) was used to identify the second and third set of actors. All actors were questioned regarding their networks of information and advice. Not all mentioned actors could be interviewed. Therefore, the presented network may not completely

represent the targeted global network in Burkina Faso, though it has relevance as crosschecks showed.

Network analysis was chosen as the analytical tool for this research. Different from classical empirical social research the relations between individuals and not the individual itself are the centre of this research. The social network analysis data, in general, is treated more mathematically rather than statistically since the observations are seen less as a 'sample' of some larger population but as the population of interest itself (Hannemann 2001). Even if a clear demarcation line is not always identifiable, the network analysis can be differentiated into two approaches: a quantitative (formal network analysis) and a qualitative (structural).

In this paper the focus lies on analytical steps which pertain to the formal network analysis and include: the characterization by attributes which can be visualized in graphs (i.e. affiliation with a certain group of actors or membership in a certain association); and the characterization by measures. The actor-level measure 'degree' is most frequently used in this analysis. It is simply defined as the number of connections an actor has. This indicates to some extent the role the actor plays in a network. In this study, in- and out-degrees have to be differentiated because the investigated relations are asymmetric and directed. When an actor may be a receiver of ties the sum of received ties in his column in the adjacency matrix gives his in-degree. This in-degree is often used to indicate an actor's prestige in the network. The out-degree represents the numbers of ties sent by an actor. This is the sum of his row in the matrix (Jansen 1999; Wasserman & Faust 1994). During the next step, the number of existing ties will be divided by the number of possible ties. This allows a comparison of networks which differ in total size. In regard to the relation competence/contact, the in-degree is of high interest since it indicates how often one informant was highly recommended or respected by the other informants. Concerning the two further investigated relations, 'information' and 'advice,' the informants were interviewed from two different angles: the actor as a receiver, and the actor as a sender of information or advice. This provided identification of the ego-networks for information and consultancy of each actor in the competence-network. The densities and the in-degrees of the actors in the networks for the researched relations were then compared, and the use or non-use of the network of competence by the ego actors became visible.

The data was analysed using the network software packages, UCINET (Borgatti, Everett, & Freeman 2002) to measure, and NetDraw (Borgatti 2002) to draw structures, positions, relations, and attributes of the researched networks.

The actors
To identify actors at the macro level, the 24 actors of the focal set (local/regional arena: Group of Elites, Group of Development/Research Projects, Technical Service and Administration) were asked, in their opinion, to name other competent key players with influence in the arena with whom they had personal contact. The project group gave the most contacts (Figure 1). Mainly this group linked the local/regional with the national level. The administrative group could not name key actors outside the regional level and therefore the focal set of actors. The subject, as they explained, had not been of relevance neither in their regular meetings at the macro level nor at other occasions at the national level. This also applied to agents of the Technical Service. Here, only one director mentioned a contact person, the director of the department for strategies and research in the livestock ministry.

In the second zone of the snowball research, eight actors were interviewed and these actors named other key players. In the third zone, another six actors were interviewed. Eight of the 14 interviewed actors of the second and third set can be linked to the ministries of agriculture (DEP/MAHRH), livestock production (DEP/MRA; DAPF I; DAPF II) and decentralisation (DAFOP; GTZ/CND) and national programs (SP/CPSA; PNGT). Six representatives of different organisations were also identified: the CILLS (Comité Inter-Etats de Lutte Contre la Sécheresse

dans le Sahel), INERA (Institut de l'Environnement et de Recherche Agricole), the PSB Dori (respectively Varena Asso, provider of a training program for alternative conflict management) and GRAF. Representatives of a farmer organisation (CNS/PA-OPA) and a herder association (FEB) were part of the research, too.

Figure 1. The actors
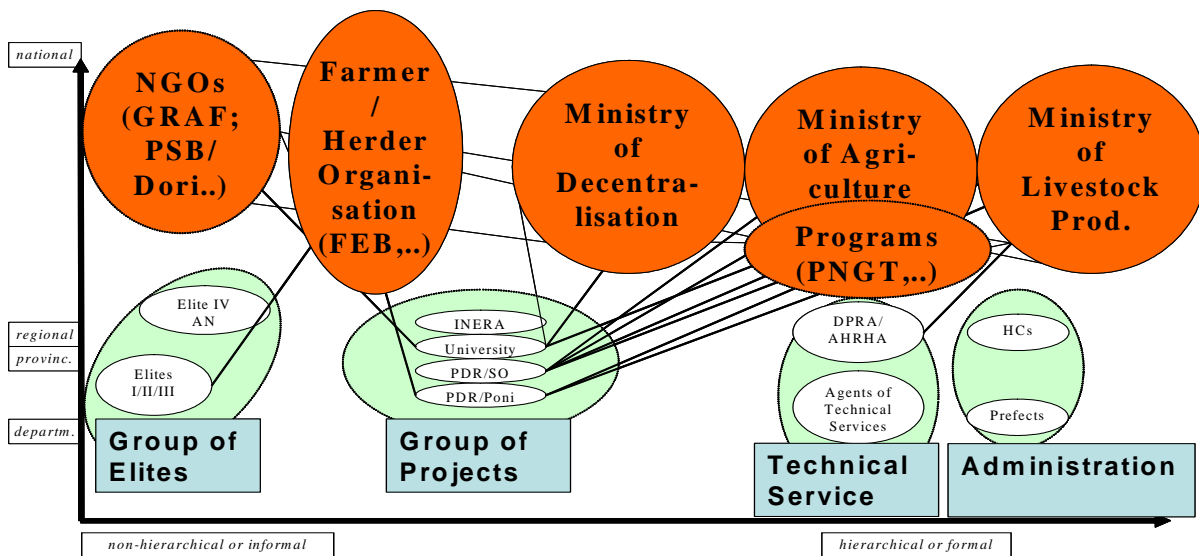
Interestingly, apart from the representative of GRAF (GRAF/Cons.) another seven of the 14 actors at national level mentioned their membership in GRAF, even if their professional life took place in the varying ministries or in projects. In the following figures, these actors are indicated by nodes colored in blue.

The networks

In the previous Figure 1, it became already obvious that some actors in the focal set did not mention any other actors they regarded as competent and with whom they were in contact. These actors were also not named by others. Therefore, the following Figure 2 shows these 'isolates' in the left corner. The shape of the nodes (actors) corresponds with the Group/Organisation that the actor belongs to. The size corresponds with actor's in-degree and the color with GRAF-membership (blue if yes, red if not). The data used for the organisation of the nodes (actors) in the network graphs has been optimized by (a) the correspondence between physical distance and geodesic distance, (b) the avoidance of nodes being on top of each other, and (c) having ties being of nearly equal physical length. Actors with similarities in their embeddings (for example, when they have ties to similar actors) are arranged close to each other even if they are not connected to one another. Thus, the diagrams reflect among others the physical and mathematical distances and similarities between the actors of the local and of the national/international level.

Members of GRAF (nodes in blue) are estimated by the informants in the arena as highly competent. They are well linked and were mentioned as competent by members of the various ministries and organisations. The most central actor in this network of contact and estimated competence has been the informant of the PNGT (national land management program, which, among other things, supports the development of land management plans and the implementation of committees for land management in the villages (CVGT)). He is also a member of the GRAF network. The figure confirms again the vast distance between the departmental/provincial and national level. From departmental/provincial level the path distances into the political decision centre at national level are the longest.

Figure 2. The network of contact/competence of the 38 interviewed actors
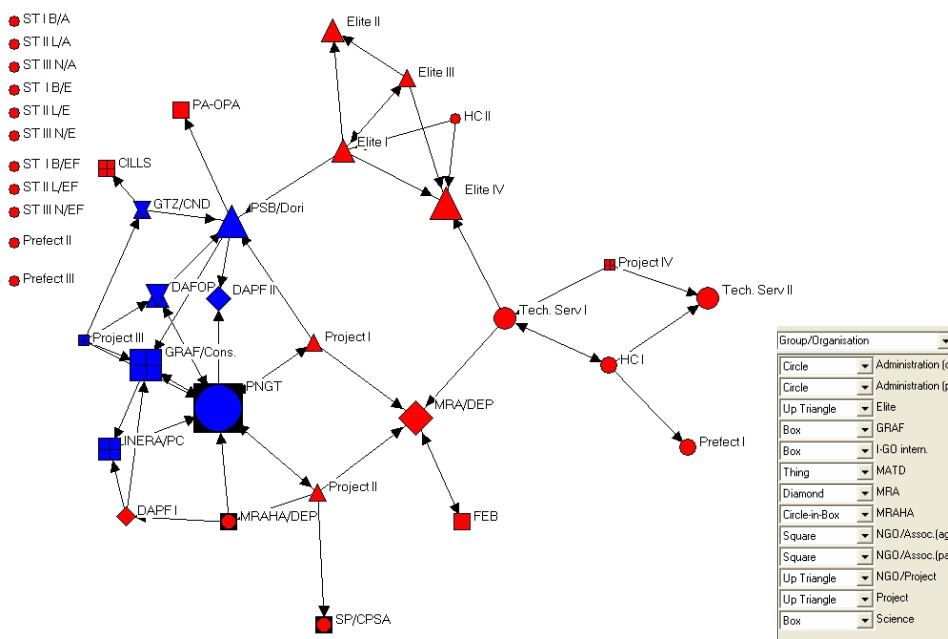
Furthermore, specific bridge functions of the projects can be identified. In the figure, they are located close to the national actors according to their small path distances which are optimized for the coordination of nodes in the figures. However, these are actors from the regional level in close contact to the local realities in the research area.

In the network of information the density of the network among the same 38 actors decreases. Among the isolates now are also actors from the national level. This indicates that neither one of the other 37 actors has asked these isolates for information nor have they given information to one of the others. Five of the eight GRAF members are linked in the network of information. However, their role is of minor importance compared to the network of competence.

**Figure 3. The network of information of the 38 interviewed actors**
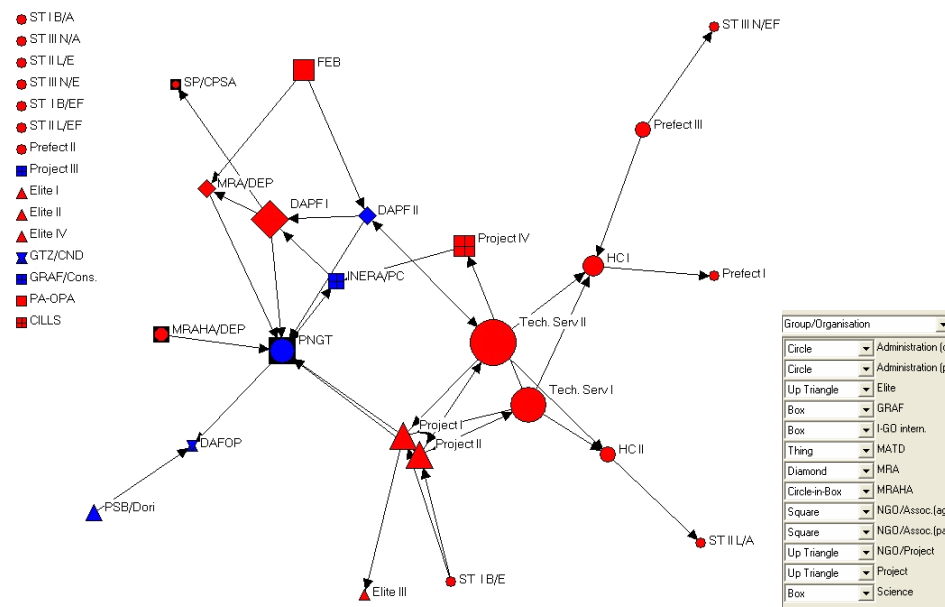
Most important are the Technical Services at provincial level as senders and as receivers of information. They connect the local and the national level. The high in-degree confirms one part of the actors' description of their contribution in the arena of conflict management: the collection and processing of data concerning animal production and agriculture respectively. The director of the DAPF in the Ministry of Livestock Production was mentioned as often by other actors as sender or receiver of information. This actor is well linked with GRAF members, as figure 3 shows, even if he himself is not a member of the GRAF network. Well connected to the Ministry of Livestock is the informant from the pastoral organisation FEB. He showed strict lobbyism for pastoral interests. However, his visions of a peaceful future included total sedentarisation of pastoralists and support from tax-free fodder.

This vision is not likely to be shared by all pastoralists staying in Burkina, long-term or temporally. During the interview he mentioned additional strong ties to the minister of livestock production as well as to the minister of agriculture, which could not be verified in the research. The highest out-degree is attributed to the informant of the PNGT as he named a multitude of sources of information from thematically divergent organisations. This corresponds with the comprehensive role of the PNGT as a program involved in the three policy areas: land tenure reform, decentralization, and design of a code pastoral.

Regarding the network of advice of the 38 actors interviewed, it seems that the actors are of little relevance as sources or requestors of advice from each other (Figure 4). Sixteen actors are isolated and the network is split up in six separate groups. Most of the actors explained that if they are in need of advice they have to follow the hierarchies in the administration. Therefore, they could not ask other actors, even if they were esteemed as highly competent.

Group-internal the relationships are very intense and the actors within can be assigned locally, organisationally and thematically to the other group members. For example, informants who were involved in the livestock sector are linked with each other (the consultant from GRAF, the DAPF and DEP in the Ministry of Livestock Production as well as the informant from the Research Institute (INERA) and from the PNGT), and three of them are members of GRAF.

Figure 4. The network of advice of the 38 interviewed actors
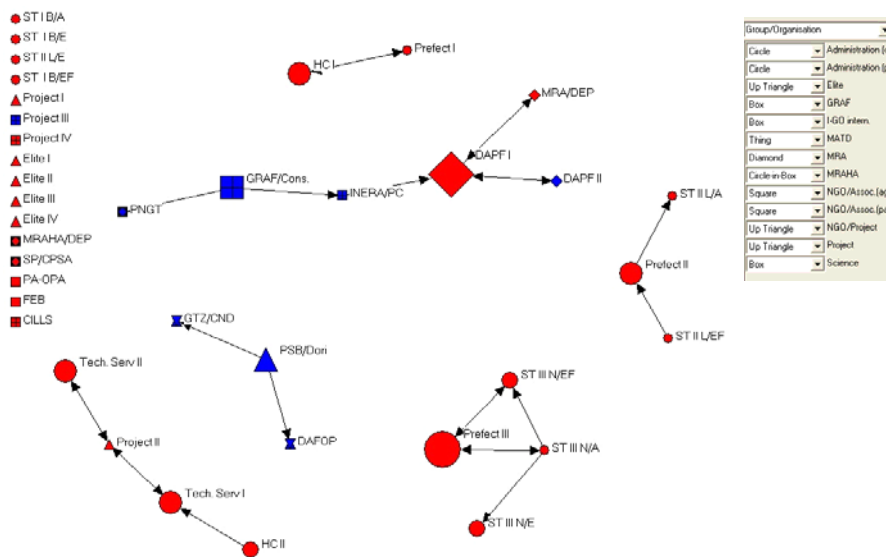
The actor from the PNGT, highly appreciated due to his competence, does not play a role as source or requestor for the other actors though he himself makes use of the network in asking the GRAF/Cons. for advice referring to pastoral issues. He already named the GRAF informant as competent. Regarding pastoral questions, the DAPF director is a central actor, as he has the highest in-degree. He is considered as source and sink for other members of the MRA and links this ministry with the INERA member of the scientific oriented group for pastorally relevant subjects. This corresponds with the important role the DAPF plays in the network of information. Two other actors, GTZ/CND and DAFOP, named the actor from the PSB/Dori as competent and also as a source of advice as well. The informant of the CND/GTZ worked together with the PSB/Dori within the network of projects organised by the German Development Agency (GTZ). The informant of the DAFOP in the MATD was at the time of the research planning a training program for Prefects which should be conducted by the informant of the PSB. All three actors in this subgroup are members of GRAF. The Project II has mentioned the Technical Services I and II as sources and requestors of advice. Their relationship is also intense in terms of exchange of information.

4. Success and Failures

The case study has shown that GRAF as a research network is well placed and linked in the policy arena: the organisation is linked to the local/regional and the national level, and particularly strongly connected in the network of contact/competence. This underlines its opportunities as a policy broker, and its importance for EBP. However, existing linkages are not fully used as was shown by the networks of information and advice. Particularly in the latter GRAF's influence is diminishing. The informants mentioned that they have to 'stick to hierarchies' inside the ministries and in the local/regional administration. Hence, the arena is not open for advice coming from different sources. Additionally, a group like GRAF is competing with lobby and pressure groups, as it was the case with the informant from a pastoral lobby organisation.

The political context and the institutional environment in the NRM policy arena in Burkina Faso showed strong limits (Brockhaus 2005). Awareness for need of evidence on the side of policymakers seems to be limited. As a consequence, just a limited impact of research is visible and it can be stated that there a waste of competence is evident. These results underline what Young and Court (2004) have stated: the policy context often is the critical factor, "especially the level of demand for change, the nature of contestation and openness to new ideas"; however, opportunities for change exist even in such a difficult environment and impact of research is possible.

5. Recommendations

The analysis showed that GRAF as a well-known and embedded group has strong opportunities to be a policy broker. In the NRM policy context in Burkina Faso more difficulties are related to institutional barriers. Therefore, a stronger emphasis on awareness building is necessary. Awareness building is needed among the policymakers for the availability and the use of evidence, in spite of existing institutional problems. Awareness building is also necessary on the side of the researchers to enforce activities for EBP. Problem-oriented dissemination activities (language of evidence), a delivering of evidence in-time and a strengthening of researchers' credibility in the policy arena seems to be very important, too. To achieve the latter, "informer le politique" should be of higher priority than "influencer le politique". Additionally, even a well established network like GRAF needs to review existing ties and strengthen them if necessary. Since policymaking is a highly dynamic process (at least in some cases), an inclusion of new actors and the building of new ties is as inevitable as maintaining the existing ones.

Difficulties like the ones GRAF is facing in the policy arena are a widespread phenomenon. Such kinds of barriers exist as well in other countries (see for example Court & Young 2004). External actors like the international research community dispose of means and resources to strengthen national research networks and to assist them in their endeavours to transfer evidence into the policy process. Therefore, international R&D organisations have as well strong opportunities as agents of change and development, beside the fact that they dispose of evidence themselves. However, historic and local/regional/national specific features are often neglected in the research design itself and in the dissemination of research outputs. Additionally, existing national networks in specific policy areas are frequently ignored. Thus, more action is needed regarding the identification of actors, paths and networks in a specific policy arena, otherwise the forthcoming emphasis on EBP in international research proposals remains just phrase mongering. In this context it must be mentioned that the international research community often has linkages within the national policy arenas and makes use of it. However, these linkages need frequent review, otherwise newcomers among the decision makers in a policy arena will be ignored and windows for change remain unused. In these cases strong ties might then be a source of rigidity. Hence, new transparent methods are needed to identify relevant actors and paths. To inform policymakers and to transfer high-quality evidence is not just the role of research and science, it is also a responsibility.

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