

Closing the gap between natural resource management research and policy-making: Reflections from the Manupali watershed and beyond¹

Antonio T. Sumbalan² and Gladys Buenavista³

ABSTRACT

The search for practical solutions in arresting environmental degradation in developing countries has been the impetus behind the creation of mechanisms to localize environmental conservation and management efforts. In the Philippines, the inauguration of the 1991 Local Government Code formalized the transfer of environmental management responsibilities from the central to local governments. This law leads to a significant shift in the design and implementation of community-based environmental research and development projects.

This paper analyzes the experience of the Sustainable Agriculture and Natural Resource Management Collaborative Research Support Program (SANREM CRSP) Philippines in closing the gap between natural resource management research and local policy making. We ask the following questions: How do research results inform policy design and dialogue? What are the initial outcomes and lessons of policy-oriented research in the SANREM CRSP? What are the institutional arrangements necessary to sustain interactions between research and local governance?

There are two significant outcomes of SANREM's policy-oriented research. First, research results have been instrumental in raising environmental awareness and alerting policymakers and citizens of incipient trends in natural resource degradation. Second, important outcome of the research and policy interface is that it has enabled local to national policy dialogues to occur. We analyze these outcomes vis a vis the role of local actors and its relationship with the local government in the policy process, and in the design and funding of participatory, collaborative natural resource management research projects.

INTRODUCTION

The search for practical solutions in arresting environmental degradation in the developing countries has been the impetus behind the development of mechanisms to localize efforts on environmental conservation and management. In the Philippines, the 1991 Local Government Code formalized the transfer of some environmental management responsibilities from the central to local governments. Not only did this law transform the nature of local governance, it also ushered a significant shift in the design and implementation of research and development projects. Foreign- and nationally-funded environmental and natural resource management projects sought the partnership of local governments with the goal of enabling local governments to become better environmental stewards.

Author Contact: Antonio T. Sumbalan, Email: tonsysumbalan@hotmail.com

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²Provincial Planning and Development Office, Philippines, ³University of Wisconsin-Madison

In this paper, we document and analyze the interaction between research in natural resource management and local governance. We use the Sustainable Agriculture and Natural Resource Management Collaborative Research Support Program (SANREM CRSP) Philippines as our case study site to answer the following questions: How do research results inform policy design and dialogue? What are the initial outcomes and achievements of policy-oriented research in the SANREM CRSP? What are the institutional arrangements necessary to sustain interactions between research and local governance?

To examine these topics, this paper is divided into the following sections: Section II provides a conceptual overview of the science-policy interface and describes the methodology used for this paper. Section III discusses SANREM's natural resource management (NRM) research policy agenda. In Section IV, we synthesize the outcomes and lessons in interfacing science and policy in the SANREM project and compare with similar projects conducted in the Province of Bukidnon. We also identify implications in the design of policy-focused research projects. Conclusions are presented in Section V.

II. UNDERSTANDING THE SCIENCE-POLICY RELATIONSHIP

While there is popular agreement that policy plays a critical role in environmental management, global environmental conventions (such as those created under the auspices of the United Nations) and policies formulated by national governments have been criticized for being predicated on questionable assumptions. The United States government, for example, became the focus of international criticism when President Bush based the rejection of the Kyoto Protocol on problematic scientific foundations. In developing countries, policies are questioned not only for their technical foundations, but also for their lack of intensive public scrutiny. Increasingly, the demand for participatory structures that sponsor democratic policymaking is finding its way into the environmental and policy studies literature (Mason 2000; Barham 2001; Haight and Ginger 2000; Walters *et al.* 2000; Fiorino 1996). Not long ago, we asked if *science* and *participatory approaches* are compatible. Our experience in the Manupali watershed has shown that while there can be a successful relationship between science and participation, success varies with the different shades of participation (Buenavista and Coxhead 2001). Our present challenge poses a similar question: how can policy design and dialogue be enriched by research?

Many perspectives have been advanced in an attempt to understand the interface between science and policy. Glover (1993) has drawn implications for developing countries through an extensive review of U.S.-based literature on the use of social science research in public policymaking. He lays out the areas of incompatibility between the policy process and social science research (mainly economics). These are:

- 1) Policy objectives – policy makers and researchers differ in the way they define and analyze policy problems;
- 2) Timing – researchers are often unable to meet policy makers' time demands;
- 3) Diverse decision makers – researchers have difficulties dealing with the multiple decision makers that are involved;
- 4) Decision making process – policy makers base their decisions on broad statements and consensus, while researchers concentrate on scientific accuracy; and
- 5) Information overload – governments receive more information than they are capable of processing.

According to Glover, these constraints are exacerbated in developing countries by conditions, such as

1) lack of openness in the political system, 2) scarce and unreliable data, 3) lack of the participation of interest groups, 4) influence of external agencies such as the IMF, and 5) politicization of research and research institutions. Rejecting the client-oriented approach (Behn 1981), Glover offers an alternative approach, whereby scientists contribute in defining or clarifying the policy issue and help choose the appropriate analytical methods. To obtain a better understanding of local circumstances, scientists can use public consultation, seminars, training, *etc.* in order to involve policymakers, researchers, and concerned agencies.

Glover provides invaluable information about the constraints involved with attempting to integrate science into policymaking, but his alternative approach does not adequately mirror the complexities of knowledge production and utilization in the policymaking process. In the Philippines and many of its neighbors in Southeast Asia, these complexities are played out with changes brought about by government decentralization. Decentralization has changed relations between central and local governments and added new actors, outside the formal government structures, into the local policymaking process.

Keeley and Scoones (1999) offer a perspective, which aims to understand the policy dynamics at the local level. They argue that the utilization of science in policymaking is far from being a simple process whereby problems are defined and solutions operationalized. Instead, their analysis focuses on the process and role of local agency in linking science and public policy (see also Walters *et al.* 2000, Swanson 2001, Tuler and Webler 1999, Haight and Ginger 2000, and Burroughs 1999). According to Keeley and Scoones (1999: 29) the science-policy relationship is a social and mutually shaping process. Using Gidden's (1984; 1990) structuration approach, they argue that policies are influenced by dominant discourses (defined as ideas, concepts and categorizations which define the world in certain ways), powerful combinations of political interests, and actor-networks that are engaged in the production and utilization of knowledge. Although the policy process can be characterized as political and power-laden, this does not necessarily imply the systematic exclusion of local knowledge systems and marginalized interests in shaping the policy process. The policy process can be made inclusive by encouraging the formation of actor-networks and by creating institutions (or strengthening existing ones) that promote exchange of ideas, debate, and negotiation – i.e. they allow actors to exercise their agency.¹

Empirical examples based on North American experiences provided by Walters *et al.* (2000), Swanson (2001), Tuler and Webler (1999), Haight and Ginger (2000), and Burroughs (1999) give credence to Keeley and Scoones' local agency thesis. Their work suggests that the success or failure of the public policy process is a result of the interplay of various factors, such as the direct participation of stakeholders and the availability of social mechanisms that promote democratic involvement in decision-making processes. Meaningful public participation requires shifts in process from public hearings to civic dialogues (Randolph and Bauer 1999; Burroughs 1999). It facilitates the integration of scientific research and local knowledge systems (Burroughs 1999; Tuler and Webler 1999; Swanson 1999) by employing public participatory techniques (Walters *et al.* (2000; Leach *et al.* 2001; Halvorsen 2001). Effective policymaking must occur in collaboration with local stakeholders not in spite of them.

[1] For other conceptualizations of actor-networks, see Münch *et al.* (2001), Bressers and O Toole, Jr. (1998). Brinkerhoff (1999) uses the concept, state and civil society networks.

The explicit emphasis on participation in the policymaking process suggests that its outcomes are not

limited to the creation of a set of formal pronouncements that are then executed by bureaucracies. Rather, these should include capacity-building structures that enhance participatory approaches to policymaking, the creation or strengthening of democratic institutions, and/or the development of mechanisms that link research institutions with community-based organizations.

In this paper, we examine how research and outreach activities (*e.g.*, capacity building activities) have been used to influence policy design and dialogue by analyzing the processes used and their resultant outcomes. Our work seeks to contribute to the growing body of knowledge on the relationship between science and policy; and, more importantly, we aim to offer examples outside of the North American experience. We adopt a simple definition of policy, which is a course or method of action chosen by a set of actors to guide and determine present and future decisions.²

The information presented in this paper was obtained from our review of project annual reports, activity outputs and correspondence. This paper is a preliminary output of recently funded research investigating the linkage between NRM research and policymaking. Findings of this initial output will be used to design an in-depth research activity to be conducted in 2002.

III. RESEARCH, POLICY DESIGN AND DIALOGUE: EXAMPLES FROM THE PHILIPPINES

The Municipality of Lantapan, Philippines has hosted the SANREM project since 1992. Since then, Lantapan's agriculture-based economy has changed rapidly. Sugar cane and corn cultivation have expanded in the lower and middle elevations of the watershed, while high-value vegetable crops are increasingly grown in the upper elevations. Most recently, banana plantations have been introduced in the area. The expansion of agriculture into forestland and on steep slopes has brought with it environmental damage such as deforestation, loss of biodiversity, soil erosion, and degradation in water quality and quantity which could affect the national government's program on rural poverty alleviation. Clearly, Lantapan, like many other municipalities across the country, faces a major policy challenge: promoting sustainable development that is ecologically, economically, socially and culturally sound. As we shall note government decentralization did not offer an easy solution. Studies have shown that most local governments did not possess the requisite technical or managerial skills required to assume devolved functions (IIRR, LGSP, SANREM CRSP/Southeast Asia 2000; Paje 1998). Additionally, while decentralization has been considered a major breakthrough in Philippine legislature, the lack of clear guidelines has caused some local-national as well as inter-agency tension because of unclear, limited and often times overlapping mandates (Elazegui *et al.* 2001). Devolution in the Department of the Environment and Natural Resources (DENR), for example, was implemented selectively. Only community-based forestry was devolved to the local government; the DENR still has the power to supervise, control and review the implementation of devolved functions and as well as to enforce laws, rules and regulations (Brillantes 1997). Similarly, the decentralization of authority over the management of water resources has had mixed signals at the local level. While the national government has decentralized water resource management to various local governments, national government agencies continue to interfere in local decisions such as in the establishment and role of water districts and the implementation projects to improve water supply systems.

² We use the terms policy actors and network of actors synonymously.

It is there obvious that any research and development project that deals with environment and natural resource management and seeks to be relevant and responsive to local conditions cannot isolate itself

from the complicated dynamics of decentralization. The following examples illustrate how SANREM's research and outreach projects have contributed in enabling local institutions to perform their devolved functions as well as in facilitating local-national dialogues that address issues and obstacles in implementing the 1991 Local Government Code.

A. The politics of natural resource management

The Lantapan government undertook a participatory natural resource management planning activity to develop a concrete plan that would guide the government's future decisions and actions to protect and conserve its natural resource base. To launch the activity, the mayor executed an administrative order creating the natural resource management council to provide local leadership in the development and implementation of the natural resource management plan, and more importantly serve as the local government's policy arm in various aspects of environmental decision-making. The council, composed of representatives of various sectors in the municipal and provincial levels, underwent a capacity building program, which included activities to raise environmental awareness and increase participation in the planning process. SANREM researchers were invited to serve as resource persons and made their reports available to the council. The project also simultaneously conducted informal meetings at the village level to feedback information generated from various research activities and raise environmental awareness.

The natural resource management plan was presented at village council meetings and the municipal legislative assembly by the members of the council in order to solicit input and support from community members. The planning process was legitimized by the passage of a municipal ordinance in 1998, which set up the structures to provide support for the implementation of the plans—including the continued role of the natural resource management council. This ordinance was conceived as a way to institutionalize natural resource management planning across political administrations.

In May 1998, Lantapan's administration passed on to other leadership. This change caused a major setback in the NRM plan's implementation – in particular the continued role of the council. The new mayor questioned the composition of the council, in particular the validity and appropriateness of its chairperson: the newly elected vice-mayor, who is also his political rival. For its part, SANREM and its community-based partners continued to hold dialogues with the local government to obtain support for the continuation of NRM planning activities. Somewhat impassioned to continue the task left behind by the previous administration, the mayor created an interim natural resource management council and a project management office to serve as liaison between the government and environmental projects implemented in the municipality. The functionality of both entities, however, would largely depend on cues from the office of the mayor and local political dynamics.

Re-elected to a second term in office in 2001, the mayor (this time more politically secure) put the natural resource management outreach activities pursued by SANREM's partners back on the municipal environmental policy agenda. He recently created the Lantapan Watershed Management Council: a multi-sectoral group comprised of representatives from the Lantapan agribusiness sector, NGOs, people's organizations, newly elected members of the municipal legislative council, and provincial level agencies. The council's creation stemmed from a SANREM advocacy activity sponsored by Heifer Project International (HPI) and the community-based water quality monitoring organization, *Tigbantay Wabig (TW)*. The *TW* presented data that it collected that revealed the rapid degradation of the Lantapan watershed. This presentation stimulated spontaneous information sharing and a call for action from people's organizations, government agencies, development projects, and the business sector representatives present in the meeting. The municipal planning officer asked

to revisit the NRM plan and emphasized the need for strong policy actions and the collaboration of various agencies, projects, and organizations. In her report HPI staff member Janeth Bago-Labis (2001) wrote, “the discussion continued even after lunch. People stayed to continue exploring things possible for actions. It was remarkable to note that people did not want to go home without a clear picture of an action that would be done as a result of the gathering.” Responding to the pressure to address what could turn out to be a major environmental crisis, the mayor created the Lantapan Watershed Council and began negotiating with local investors, such as the banana plantation companies to implement a joint soil conservation and environmental protection program in the municipality.

This recent action of the local government is a positive sign in that it revived the natural resource management plan. Moreover, some members of the watershed committee have expressed commitment to undertake some of the environmental management activities stipulated in the plan. The Office of the Protected Area Superintendent of the Mt. Kitanglad Range Nature Park, for example, provided planting materials for the restoration of the riverbanks. The president of the Mount Kitanglad Agri-Ventures, Inc. (MKAVI), a banana plantation company, convinced its board of directors to fully support the local government’s environment initiatives. The MKAVI’s management committee passed a resolution to prepare a detailed plan to rehabilitate the Maagnao and Alanib River as the company’s contribution to the government’s watershed program. Financial resources have been allocated by the local government to support the municipal natural resource management plan. Another significant development is that the natural resource management plan has been incorporated into the municipal comprehensive land use plan, which provides the legal basis for the plan’s adoption as a policy tool to guide future environmental decisions and actions.

B. Facilitating local-national policy dialogues through outreach activities

SANREM- sponsored capacity building activities seek to improve policymaking and analysis among local governments and institutions responsible for implementing devolved functions in environment and natural resource management. These activities are specifically designed to support the implementation of the Lantapan natural resource management plan, identify issues for policy studies as well as provide skills to local policymakers to fully engage them in national-local policy dialogues on environment and natural resource management issues. Led by the Philippine Institute of Strategic Planning and Policy Studies (ISPPS) and the Bukidnon provincial government, a training-workshop was organized for government agency representatives who are responsible for creating and implementing environmental policies. The training included a lecture on policymaking process, framing policy problem and policy analysis. This was followed by a workshop in which participants reviewed national policies dealing with environment and natural resource management, and identified issues and concerns in implementing such policies, inconsistencies with other government policies and mandates, and other operational problems. This was followed by an in-depth discussion to enable the participants to come up with strategies to address some of these issues and identify areas of complementation among NRM programs. Information obtained from the workshop was used to plan the second workshop and as input for the ISPPS’s and local government policy action research.

Based on recommendations from the first workshop, additional participants were invited to the second workshop. They included the representatives from the indigenous groups, NGOs working in the protected area, and the agribusiness sector in Lantapan, who may not be policy implementers, but may hold some influence towards the success or failure of NRM policies and programs implemented on the ground. For example, most NRM policies carried out by Department of Environment and Natural Resources directly impact the upland communities inhabited where most indigenous people live.

The workshop enabled the local planners to study the implications of decentralization and agency

mandates on environmental management. Several provisions of the Local Government Code of 1991 were also tackled and problems as well as issues identified by the participants in implementing these provisions. To cite an example, an issue was raised on the provision in the Code entitling local government units a share in the proceeds from the use of national wealth (Chapter 2, Sec. 289-294). In practice, however, the water district directly remits its revenues to the National Treasury, rather than to the local governments (as provided in Sec. 293). The revenues are then allocated back to the local government units in the form of Internal Revenue Allocation. The actual share from the Government Owned and/or Controlled Corporations, the water district in this case, therefore, is not directly received by the local government.

Another issue that emerged from the discussion is the multiplicity of institutions governing water supply planning and operation, demand management, watershed protection and other related functions and the lack of an integrative mechanism to interrelate the said functions.

Policy briefs, which incorporate the issues identified, are among the important outputs of the participants in capacity building workshops. These papers have been submitted to the Chairperson of the Committee on Environment of the Provincial Legislative Council for consideration. Efforts have also been made to communicate these local issues in national level dialogues. To cite an example, the policy brief on water has been forwarded to the National Economic Development Authority (NEDA) to be used as input for the forthcoming national water summit. Recommendations presented in this policy brief are also being used as input in a paper prepared by NEDA for the president of the Philippines (Rola 2001).

Another important spin off from SANREM's capacity building activities was a village policy awareness activity conducted by the participants in collaboration with the local leaders. The purpose of this activity was to gather information about issues and problems pertaining to the implementation of NRM policies at the local level. Developing a local action followed this activity.

Another component of the capacity building activity worked directly with the committee on environment of the municipal legislative councils. In Lantapan, for example, the ISPPS provided technical assistance towards enhancing the municipality water resource management policy. A study conducted by Tabien (2000) on the impact of commercial farms on water resources was used by the committee to formulate a policy introducing water tariffs. Assistance was also provided in drafting ordinances to prevent water pollution, adoption of sustainable farming practices, and environmental protection and conservation.

Other capacity building efforts are targeted at municipalities surrounding the Manupali watershed. The activities led by the International Center for Research in Agroforestry (ICRAF) and the Southeast Asia Center for Graduate Studies (SEARCA) provide local governments with technical assistance in organizing participatory, multi-stakeholder processes for developing natural resource management plans. Since most local government units lack access to research data similar to that generated by the SANREM project in Lantapan, researchers provide training in conducting participatory rural appraisals and guide local participants through various stages of NRM planning.

Information dissemination activities have been organized in the form of on-site visitations and seminars, where researchers, including community partners, explain the results of their research to a broad spectrum of participants within and outside of the community. Follow-up activities are mostly demand-driven. Local governments and NGOs are among the key institutions that have requested training in agroforestry, NRM planning, and water monitoring. The Agroforestry Tree Seeds Association of Lantapan (ATSAL), for example, has been requested to train agricultural technicians,

members of community-based and people's organizations on tree nursery establishment. ATSAL members were also invited to participate in regional and national conferences such as the Mindanao Tree Congress, the Bukidnon Watershed Summit, and the National Tree Congress. Their participation not only enabled them to share their knowledge on tree cultivation but also to actively engage them in local-national dialogues.

Several local governments and other organizations in the country have requested training and technical assistance in water quality monitoring. These activities have led to the establishment of local government sponsored community-based water monitoring groups with Heifer Project International, Auburn University and Central Mindanao University providing technical and organizational assistance.

Data generated by the Lantapan water quality monitoring team (*TW*) are being used by the National Irrigation Authority to support its projects particularly in the municipalities of Lantapan and Valencia. At the provincial level, SANREM research outputs were used in the formulation of the Bukidnon Environmental Code, passed and adopted by the provincial Legislative Council last March 2001. In addition, the project's Site Coordination Office has been considered a formal member of the Bukidnon Watershed Protection and Development Council's Technical Advisory Committee. The active involvement of SANREM researchers in the committee gives it a vantage point to influence Bukidnon's policies on watershed protection and management. This is already taking place with the assistance provided the Site Coordinator to the Maridugao Watershed Cluster Council of Southern Bukidnon, Philippines.

IV. OUTCOMES AND LESSONS

A significant outcome of SANREM's policy-oriented research and outreach activities is that research results have been instrumental in raising environmental awareness and alerting policymakers and citizens of incipient trends in natural resource degradation. Based on the Lantapan experience, the local government did not respond with strategies that provide immediate solutions to environmental problems. Rather, we observe a strong motivation to build institutions or organize a network of actors such as the NRM council or the Lantapan Watershed Committee, with which the local government entrusted some of its devolved responsibilities in environmental management. The case study in Lantapan points to three important factors in mobilizing the network of actors. First, is that facilitation is vital to keep the momentum. Second, is that there should be a mutual agreement on the purpose for public involvement and the issue to be addressed. Information is critical in defining the issue as well as in identifying courses of action. The third factor concerns cohesion and interconnectedness among actors (Bressers and O Toole 1998). Cohesion is the extent to which the network of actors and the government share the same values and perspectives and mutually agree on the role of this network. A strong cohesion between the local government and the network is vital in promoting locality-based policies (Swanson 2001). In the case of Lantapan, the government-network actor cohesion was weakened after a change in political administration. Strong cohesion, however, may also lead to collaboration between government officials and favored networks for personal gain. In the case of Lantapan, for example, concern has been expressed that the local government handpicks its network of actors. Stakeholders, who may possess alternative views or belong to other political faction, may be consciously excluded in the policy process.

Projects such as SANREM are important not only in ensuring that the government and its network of actors are continually engaged in ongoing dialogues pertaining to local environmental issues, but also in communicating perspectives that are not represented by the network. Local groups could use science to support their agenda against the interest of the government. The results presented by the community water monitoring group (*TW*) provided compelling evidence for the local government to

take seriously its environmental policy agenda and, more importantly, to call on the agribusiness sector to be a key player in local environmental conservation efforts. Such actions differ greatly from the mayor's earlier decision to create a non-functional, interim natural resource management council, which could be viewed mainly to maintain political patronage.

Strong interconnectedness refers to the relationships among network actors. Strong interconnectedness is important for stakeholders or institutions with overlapping mandates to develop strategies for complementation. This may involve creativity among actors in order to build bridges across agencies, which to a certain extent depends on the permeability of national policies to absorb local adjustments. The policy analysis capacity building activity is on track in creating a space for dialogue among agencies involved in environmental management.

It is too early to conclude that the Lantapan Watershed Committee will develop into a robust institution that will be able to ride out political transitions. One could pose a question: who is the committee accountable to? If their accountability is limited to the local government, chances are they may be bound to lose their existence during a change in political administration. Will it be a different scenario if they are made accountable to the community? Furthermore, the participation of the agribusiness sector in the watershed committee deserves comment. While they may represent powerful interests, their active participation in the committee will give them the opportunity to exercise their corporate responsibilities in the community and on the environment. It remains to be seen if, for example, they would be willing to pay the environmental tax that the municipal government has proposed to charge (Elazegui *et al.* 2001).

Another important outcome of the research and policy interface is that it has enabled local to national policy dialogues to occur. It has been noted that local governments and various implementing agencies encounter many constraints and obstacles in the process of localizing national policies. Research and capacity building activities have been instrumental in teasing out these issues, in distilling abstract national level policies into specific local policy actions, and in feeding back these issues to national level bureaucracies. This implies the need for specialized knowledge of the local situation instead of promoting a one-size-fits-all policy formulated at the national level. In-depth understanding of the local situation demands continued support for locally-based research that policymakers not only have the opportunity to participate, but also have access of the results in forms that they could understand and act on. In the Province of Bukidnon, there is increasing recognition on the value of research to support development-oriented programs. To cite an example, the Bukidnon Integrated Area Development Project used SANREM's policy brief on water resource management to assess the environmental costs and institutional arrangement required to construct communal irrigation and potable water supply systems. Similarly, SANREM research studies were also used as reference in the deliberation of proposals for the World Bank-funded Non-Destructive Livelihood Activities to be implemented in the municipalities surrounding the Mt. Kitanglad Range Nature Park.

Our experience in Lantapan brings home an important lesson: participatory and collaborative research that addresses policy issues facilitates the utilization of research information. Research is more relevant and results are more likely going to be used in public policy if community partners, who are also part of the network of policy actors, are actively engaged in the research and outreach process. This is evident in the role played by Heifer Project International and the *TW* in the defining water as a policy issue in Lantapan and the creation of the watershed committee. The active participation of the community-based organizations in the policy dialogue ensures that local voices are heard.

Finally, designing NRM projects with a policy-orientation requires time and resources to disseminate research information as well as create a strategic alliance with institutions that have an environmental policy mandate. This has implications on donor funding and planning timetables. Glover (1993: 13)

writes:

Donors should be prepared to pay the costs of those “frills” which enhance the quality and utilization of research: training, networking, replication of studies, and dissemination of results through conferences, books, working papers, abstracts and the like. The familiar “project cycle” syndrome must also be broken, whereby researchers have an interest in finishing a project quickly in order to get on to the next income-earning activity, while donors want to finish it in order to close the books and begin the job of spending next year’s budget. Follow-up activities, which refine, repackage and disseminate results to different audiences should be seen as legitimate and important, often more so than new data collection exercises.

V. CONCLUSIONS

Keeley and Scoones (1999) emphasized understanding policy dynamics at the local level, in particular on the role of local actors in the policy process. In this paper, we have shown that such process may have to be mediated by groups or projects external to the community. The SANREM project in the Philippines offer examples how natural resource management research could be used to inform policy design and dialogue. Our work illustrates the importance of institutional innovation such as those that allow opportunities for community-based dialogues, recognition of local initiatives as well as participation in the research process to facilitate the link between research and policy. One may note that the focus of the policy work in the Philippines centers on the local government, government bureaucracies and their network of actors. There are both advantages and disadvantages of locating SANREM’s work around these structures. One advantage is that it has enabled us to anchor our research and outreach activities in the context of government decentralization. Another advantage is that working with government agencies has enabled researchers to bring these agencies together with relative ease and address policy issues in a multi-sectoral fashion. A disadvantage of working with local governments is that political transitions at

the local and national levels can affect the continuity of natural resource management programs. Future research could look into linkage between research and community-based organizations that influence natural resource management policies.

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