

Community Capacity Building in Social Forestry Development: A Review

Pujo¹, Tubagus Furqon Sofhani², Budhi Gunawan³, and Tati Suryati Syamsudin⁴

[Received: January 14, 2018; accepted in final version: April 11, 2018]

Abstract. Social forestry has shifted the forestry development paradigm from conventional forest management to community-based forest management. The history of community-based forest management in Java began with the Dutch colonial policy on forest production in 1873 and today it has grown widely, both within and outside forest areas. However, social forestry has not been able to overcome population pressure problems in the form of deforestation and forest degradation. Therefore, it is crucial to recognize and elevate the role of local communities in forest management. Success of social forestry can be achieved by developing cooperation through capacity building of local communities with community-based forest management. To develop community capacity, it is necessary to understand the basic concept of community capacity is useful for developing a conceptual framework of local community capacity in the development of the social forestry system. Community capacity in the social forestry system is developed to realize forest sustainability and community welfare around the forest.

Keywords: Community, capacity building, social forestry.

[Diterima: 14 Januari 2018; diterima dalam bentuk akhir: 11 April 2018]

Abstrak. Konsep perhutanan sosial telah menggeser paradigma pembangunan hutan dari pengelolaan hutan secara konvensional ke pengelolaan hutan dengan berbasis masyarakat. Sejarah pengelolaan hutan berbasis masyarakat di Jawa dimulai dengan adanya kebijakan kolonial Belanda tentang produksi hutan pada tahun 1873 dan saat ini kebijakan tersebut telah tumbuh secara luas, baik di dalam maupun di luar kawasan hutan. Namun, kehutanan sosial belum mampu mengatasi masalah kehutanan yang disebabkan oleh tingginya permintaan seperti deforestasi dan degradasi hutan. Oleh karena itu, mengenali dan meningkatkan peran serta masyarakat lokal dalam pengelolaan hutan perlu dilakukan. Keberhasilan kehutanan sosial dapat dicapai dengan mengembangkan kerjasama melalui pembangunan kapasitas masyarakat lokal melalui pengelolaan hutan berbasis masyarakat. Untuk mengembangkan kapasitas masyarakat, pemahaman tentang konsep dasar peningkatan kapasitas masyarakat dalam kehutanan sosial berguna untuk mengembangkan kerangka kerja konseptual kapasitas masyarakat lokal

¹ School of Life Science and Technology, Institut Teknologi Bandung, Indonesia. Email: pujohtm@gmail.com

²School of Architecture, Planning, and Policy Development, Institut Teknologi Bandung, Indonesia. Email: furqons@gmail.com

³ Faculty of Social and Political Sciences, Universitas Padjadjaran Bandung, Indonesia.

⁴School of Life Science and Technology, Institut Teknologi Bandung, Indonesia. Email: tati@sith.itb.ac.id

dalam pengembangan sistem kehutanan sosial. Kapasitas masyarakat dalam sistem kehutanan sosial dikembangkan untuk mewujudkan kelestarian dan keberlanjutan hutan, serta kesejahteraan masyarakat di sekitar hutan.

Kata kunci: Komunitas, peningkatan kapasitas, perhutanan sosial.

Introduction

The history of participatory forest management goes back a long time in Indonesia. It started in 1873 under the Dutch colonial government with the application of an intercropping system in teak production forest management in Java. Participatory forest management has become an international movement since it was introduced in 1978 at the 8th Food and Agriculture Organization (FAO) World Forestry Congress in Jakarta, where one of the themes was 'Forestry for local community development' (Fisher et al., 2007). The following social forestry practices as part of participatory forest management programs have been initiated by Perum Perhutani (State Forest Enterprise): Prosperity Approach Program (1972-1981), Forest Village Community Development Program (1982-1985), Social Forestry Program (1986-1995), Integrated Forest Village Community Development Program (2000 until present) (Pujo, 2017).

In Indonesia, the social forestry development paradigm has shifted from conventional forestry (timber-based forest management) to community-based forest management. In the early 1980s, the government recognized the need to involve communities in forest resources management. Social forestry has become part of Perum Perhutani's policy in managing forest resources in Java (Anwar and Hakim, 2010). Social forestry practices are implemented to overcome population pressure on forests in developing countries, including Indonesia (Pujo, 2017). However, until now social forestry has not been able to overcome the problems of population pressure on forest areas. This is indicated by high rates of deforestation and forest degradation in Asia and South Asia (Dove, 1995). It is also seen from the deforestation rate in the period of 2005-2010, which averaged 0.7 million ha/year in Indonesia (FAO, 2010).

The poverty of communities around forest areas is a prime cause of population pressure on forests. About 20.37% of the total population of Indonesia who live in village areas (in and around forest areas) are classified as poor (BPS, 2010). Several studies have shown that social forestry practice has also been unable to alleviate poverty in rural communities around forests in Java (Nurrochmat, 2000; Rosyadi and Nuryartono, 2003; Uzair, 2008; Wasito and Sumarwan, 2011; Maryudi, 2011). Community's well-being improvement is an important indicator of success in community-based development (Sitorus, 2017).

The ineffectiveness of social forestry in addressing population pressure is thought to be caused by the system not having established good cooperative relations between forest managers and local communities in forest management. This is due to the lack of power and interest of local communities in forest management. It can be seen from the fact that the Community Based Forest Management (CBFM) model from BKPH Parung Panjang, KPH Bogor, i.e. Perum Perhutani, still dominates in forest management (Ansori, 2012). The lack of cooperation is due to the interests of the local community and forest managers being different. The CBFM model, for example, led to land use competition between forest managers and local communities in KPH Bandung Selatan (Purwita et al., 2009). This indicates that the social forestry system is unable to accommodate the power and interests of the communities. Therefore, it is crucial to recognize and elevate the role of local communities in social forestry management, which could be done by incorporating community participation in the programs. Participation is an important capital that governments and citizens can use to transfer skills and knowledge to the community in a wider scope of development programs (Pratama et al., 2017).

The recognition and legitimacy of local communities determine the initial success of overall community collaboration. Cooperation between and within local communities is an important precondition for successful forest management (Bizikova et al., 2012). Successful conservation can only be achieved by developing the capacity of local communities in forest management on the basis of mutual benefits and addressing the community's interests (Fay et al., 2007). The objective of this paper is to highlight the basic concept of social forestryand to analyze the concept of community capacity building, which has to be developed in social forestry systems.

Social Forestry: Definition and Characteristics

The following definitions of social forestry have been given by experts:

- 1. In *The Dictionary of Forestry*, the term'social forestry' is defined as forestry and reforestation programs directly involving local communities, including their values and local institutions (Helms, 1998).
- 2. Social forestry is a forestry strategy aimed at producing flows of production and recreation benefits for communities, or forestry activities that ensure production and amenity benefits for the public, whether on public land (state) or private land (Westoby, 1968).
- 3. Social forestry has the objective to meet basic needs of local populations derived from forests, namely fuel, fodder, food, timber, and environmental benefits (Tiwari, 1983).
- 4. Social forestry is a collective name of various forest management strategies that emphasize equitable benefit distribution of forest products for local communities, increase the participation of local organizations and communities in the management of forests and wood biomass (Rebugio and Wiersumin Simon, 1994).
- 5. Social forestry is a strategy to solve local problems by maintaining the surrounding environment (Simon, 1994).
- 6. Social forestry is a practice of tree planting and use to pursue social objectives or goals: poverty alleviation through benefits delivered to local people (Nair, 1993).
- 7. Social forestry is a term for public, private and communal initiatives for ensuring "active participation of rural people in planning, implementation and benefit sharing of tree growing schemes" (Task Force, 1987).
- 8. Perum Perhutani defines social forestry as a forest management system that emphasizes active community participation in forest management activities aimedat establishing forest plantations (reforestation success) and simultaneously improving the welfare of local communities (Simon, 1994). Social forestry as a strategic activity of the CBFM model has been implemented, both initiated by the government and the state forest enterprise (Perum Perhutani), or private. In Java, Perum Perhutani as the state forest enterprise has developed the CBFM model based on Decision Letter Number 136/Kpts/Dir/2001of the directors of Perum Perhutani. The CBFM model is intended to encourage the communities' 'sense of belonging' and enhance an optimal and proportional division of roles and responsibilities in forest resources management.
- 9. Social forestry as a forest resources management system on state land or private land by involving the local community as a main actor and/or partner in order to achieve forest sustainability and improve their well-being. Social forestry as a forestry development policy is aimed at achieving forest sustainability and to promote business-competitiveness-based forestry development systems, regional governance, and local-community-based institutions. Social forestry synergizes the potential of government, private and public

resources as well as natural resources to create a sustainable forest management system and also to improve the welfare of communities around forest areas (Ministry of Forestry, 2004).

Some definitions of social forestry do not include the active involvement of local communities. This illustrates that forest development should be controlled by the state without community involvement in forest management. However, other definitions of social forestry, for example those stated by Perum Perhutani (Simon, 1994), Ministry of Forestry (2004), Task Force (1987), explicitly state that social forestry policies must be implemented with the active participation of local communities. In practice, however, the social forestry systems that have been implemented in forest management so far have not been able to mobilize local community involvement in forest management (Pujo, 2017).

To mobilize local community involvement in forest management, social forestry should be defined as a system of forest resources management that involves the local community as a main actor and active partner, both on state or private forest land, to solve the problems of the local community with an emphasis on equitable distribution of benefits in order to achieve sustainable forest management and well-being of the local community. Social forestry is a bottom-up approach involving the power of local communities over resources and decisions in managing forest resources. Devolution of forest management through the social forestry system can achieve development goals.

The Ministry of Forestry has established a system of social forestry implemented through the Community Based Forest Management (CBFM) model. The concept of CBFM is asocial forestry practice according to a new paradigm of forest development that is more reliant on public interest (especially of forest communities) through a collaborative approach, where the local community is a main actor in forest development. The purpose of the collaborative approach is to achieve sustainability of the forests' functions and benefits (sustainable forest management), which is implemented through cooperation with various stakeholders. Based on the objectives and approach, a number of principles of social forestry practice can be distinguished in the CBFM model, namely: (1) collaboration or partnership, which requires the equality of parties (stakeholders); (2) understanding the role of each party; (3) sharing of inputs and outputs among stakeholders. Inputs include shared spaces of the forest area, or the means of production, including labor costs; (4) balance of economic and environmental benefits; (5) legality or rule of law (Ministry of Forestry, 2010). The CBFM model consists of six principles, namely: (1) CBFM is a system of forest management; (2) it is intended to increase the quality of life; (3) it is intended to improve the quality of the environment, particularly of forest resources; (4) it should recognize and be respectful towards diverse initiatives; (5) it should encourage multi-stakeholder collaborative processes; and (6) it should be supported by government policies. As a system, CBFM should include the balance of environmental, economic, social and cultural benefits (Arnold, 1991). The principles of social forestry should be fully implemented in forest management practice.

As a system, social forestry should not only be concerned with timber products, but also with non-timber products. Social forestry should ensure access of local communities and indigenous peoples for the benefit of forest resources. This requires the security of these people's rights to forest resources. Local communities are the closest stakeholders that interact directly with the forest and they should gain immediate impact (positive or negative) of forest management. To achieve well-being of local communities, social forestry should be able to promote community participation, open up economic opportunities, and develop local economies. Economic activities must be developed to encourage forest resource utilization in a sustainable manner. However, the social forestry system should be implemented by applying sustainable social forestry in forest management. A role and capacity of the local community in sustainable forest management are required to attain sustainable social forestry development.

Community Capacity: Definition and Characteristics

Capacity refers to an ability or conduct (ability for doing something or to do something); ability (capability) is an eligible state (a condition of being qualified) (Goodman et al., 1998). Capacity is defined as the ability of individuals, organizations or organizational units to perform functions effectively, efficiently and sustainably (UNDP, 1998). Community capacity is a characteristic that affects the ability of communities to identify, mobilize and resolve social and public problems (Goodman et al., 1998) as well as combining various forms of capital and institutional context in relation to producing outcomes (Beckley et al., 2008). The various capitals are interconnected according to Ahmed et al. (2004). The use of one of the capitals will create new capital and increase productivity in the other capitals. Capitals can be transformed from one form to another (Fey et al., 2006) by converting capital to performance or outcomes (Brown et al., 2001, Beckley et al., 2008; Simmons et al., 2011; Bennett et al., 2012). Community capacity is the interaction of human, organizational and social capitals existing within a given community that can be leveraged to solve collective problems and improve or maintain the community's well-being. It may operate through informal social processes and/or organized efforts by individuals, organizations and the network of associations among them and between them, and the broader systems of which the community is a part.

There are four common factors of community capacity, namely: the existence of resources (ranging from the skills of individuals to the strength of organisations, access to financial capital; networks of relationships (sometimes conveyed in affective terms, sometimes in instrumental terms); leadership (although this is not always defined precisely); support for mechanisms through which community members participate in collective action and problem solving (Chaskin, 2001). Liou (2004) and UNDP (1998) grouped the characteristics of community capacity into three levels, namely: micro (individual and family), meso (organizational) and macro (social). To achieve performance, assets or capital should be made available and mobilized through agencies or actors, i.e.individuals, organizations, and networks (Chaskin, 2001).

The capacity concept is widely used in other development sectors, especially health, education, economic development (Labonte and Laverack, 2001; Smith et al., 2006; Laverack, 2006; Higgins and McCorkle, 2006; Simmons, 2011), and tourism (Aref, et al., 2010), but it has not been used in the area of social forestry. To achieve successful social forestry development, local community capacity is required to mobilize resources such as capital or assets through agencies or actors, i.e. individuals, organizations and networks. Community capacity is important for mobilizing capital for a community, which can then be converted to development performance. To reach performance, a transformation process is required. This transformation process requires the community capacity characteristics and cooperative behavior processes. All of this is explained in more detail below.

Community Capacity Building

Thompson et al. (2003) state that the components of community capacity building (CCB) include the individual level - to develop human resources and community leadership; the organization level- to develop the organization's ability to serve the community in this development; and the social level -to emphasize the relationship between community residents, local groups and local community organizations to build community development. Developing community capacity is required to understand the community capacity characteristics. The community capacity characteristics are an important element required for building capacity development programs (Aref et al., 2013). Merino and Carmenado (2012) and Park et al. (2012) divide the community capacity characteristics into two major groups, namely individual capacity and social capacity. Individual capacity can be divided into two dimensions, namely: technical capacity and behavior capacity. Technical capacity includes financial skills, technological skills, political skills, planning and management skills. Behavior capacity is related to personal skills needed in relationships with people and groups, such as leadership or entrepreneurship. Social capacity is required to promote several capabilities that enable a community to succeed in the long term, aside from technical capacity, and can be divided into behavioral and contextual capacities. The first include capacities such as commitment, trust, network building, entrepreneurship, norms, team work, group organizing, sense of community, shared values, negotiating and political skills; and the second includes vision and strategy, legal and financial skills, and institution building (Park et al., 2012).

Merino and Carmenado (2012) summarize the characteristics of organizational capacity and group them according to two levels: the individual level and the social level. Characteristics of community capacity at the individual level are: leadership, entrepreneurship, skills, organization, management, and planning. On the social level they are (among others): participation and cooperation, trust, communication, networking, norms, teamwork, vision, and strategy. However, the literature and field measurements generally focus on capacity development of organizational or personnel/human resources (Merino and Carmenado, 2012) to build community capacity. Therefore, to develop community capacity, we have to focus on the individual and the organization level.

To enhance community capacity, it is also necessary to understand the interaction processes in a community. According to Chaskinet al. (2001) and Wallerstein et al. (2008), construction of community capacity focuses on interaction mechanisms through individual-level capacity in a community that accumulate in the long run, which creates capacity at the organization/community level and in turn affects individuals in the community. Community-based organizations have an important influence on the success or failure of public development (Taylor, 2012).

Building capacity means helping individuals, groups and communities to empower expertise, resources and geographical advantages (Liou, 2004). Building capacity also means the process of developing the ability to take action in order to mobilize or convert capital (human capital, social capital, economic capital, natural capital) to achieve the desired objectives (Nelson et al., 2010; Simmons, 2011) through adaptation strategies (Cinner et al., 2011). The concept of capacity development refers to a process of generating the performance of an act, to strengthen ability; make a community thrive; development involving action; fix and help; 'lift' etc. All of this is required for achieving the development goals (Simmons, 2011).

In the health development sector, capacity is influenced by the component parts of the health system (organizations, individuals and communities) and also contributes to the capacity and performance of these same entities. As a process, capacity building takes place at all levels of the development process to achieve the development goal, i.e. a sustainable local health system. Capacity building has the following important characteristics: it is a multi-dimensional and dynamic process; it can be conducted and measured on the levels of capacity, organization, and individual/community; it should lead to an improvement in performance at each of these levels; it contributes to the sustainability of the health system; and it is influenced by the external environment. This framework is used to breakdown capacity into inputs, processes, outputs, and outcomes (i.e. the inputs (resources) and processes (functions) required to produce capacity related outputs and outcomes). Many of these elements of capacity also contribute to capacity and performance (Brown et al., 2001).

Development goals can be realized by developing community capacity (Jung and Viswanath, 2013) through the process of mobilizing assets or capital or community resources for converting forest resources into outcomes (Task Force and Perry, 2006). This process is called the capacity transformation process (Benett et al., 2012). The capacity transformation process occurs through collaborative processes (Thomson and Perry, 2006). Through collaborative processes, members of a community are encouraged to work together and coordinate in, for example, exchanging information, and sharing resources (Himmelman, 2002). Lauber et al. (2008) state that collaborative processes can be described in the form of a flow, i.e.(1) transferring resources and information from one stakeholder to another, and (2) two-way exchange of ideas between stakeholders; dissemination of knowledge; provision of funds; provision of tangible resources; and having influence.

It can be concluded that community capacity building is important to achieve successful public development. Community capacity is mobilized throughout the transformation process (collaborative process) by which resources as inputs are utilized in generating the development goals (performance), as illustrated in Figure 1. All components of community capacity are required for the development of social forestry.

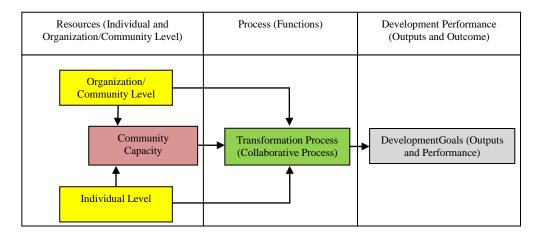


Figure 1. Framework of community capacity mobilization in achieving public development goals.

Explanation: inputs are the set of resources that are required to perform functions at each capacity level (individual and organizational/community). Processes are the set of functions by which the inputs are utilized in pursuit of the expected results. Outputs are the set of products

anticipated through the execution of the functions using the inputs. Outcomes are the set of results expected to occur as a result of the capacity (individual and organization/community) built at all levels. The all levels together contribute to the overall performance at system level (Brown et al., 2001).

Analysis of Community Capacity in Development of Social Forestry Why Does Social Forestry Need Community Capacity?

To achieve successful social forestry, collaborative forest management approaches are needed to provide benefits to local people; exchange costs of conservation; continued access to forest products or through income generation; and contribute to conservation (Fisher, 1995). Social forestry is implemented to solve both social and ecological system problems (Scarlett, 2013). Successful conservation (to solve the ecological problems) can only be achieved by developing capacity of local communities in forest management (Fay et al., 2007). Social forestry can be applied with agroforestry tools or by integration of tree growing into farming systems, either spatially or temporarily. Judgement must be used in deciding how and when to integrate trees into farming systems, because trees may also compete with agricultural crops if not introduced appropriately (Gregensen et al., 1989). To build cooperation between the forest manager and the local community, community capacity is necessary in forest management.

Community capacity is urgent in social forestry development because to develop sustainable social forestry requires both technical and behavioral capacities. Social forestry is a forest management system that involves participation, institutional development, decision-making and sharing (power and benefit, conflict resolution), trust, and social capital. Hence, to mobilize community participation in social forest development, community capacity is required to build cooperation. This indicates that community capacity characteristics are closely related to the characteristics of social forestry. There is a close linkage between community capacity and social forestry.

How to Build Community Capacity in Social Forestry Development

The concept of social forestry is the main focus of improving community-wide involvement in forestry development. Salam and Noguchi (2005) found that the participants had an interest in and were committed to developing social forestry in Bangladesh because of the benefits it generates. Although social forestry was introduced in India in 1980, initially it was not very successful. However, increased participation of new communities began happening after 2000. The practice of social forestry in Elain and Elrawashda, Sudan shows that in this case the state recognized the importance of forest conservation and local community welfare benefits, leading to local community institutions being more effective in protecting forests, generating revenue, managing to organize the distribution of benefits and motivating villagers to participate (Kobbail, 2010). Participation of local communities needed to enhance the sustainability of all community-based forestry models (Pokharel et al., 2015). Therefore, local community participation has to be explored and optimally empowered in enhancing social forestry development.

Changes in the forest management paradigm of Perum Perhutani towards community-based social forestry have not been able to overcome population pressure on forest areas (Pujo, 2017). Limited access to resources in forest management has led to a bad relationship between forest managers and communities around the forests. Limited access of the community to forest resources is due to different interests in the utilization of forest resources between communities

and forest managers. To overcome this, we argue that the role of the communities in forest management needs to be improved by developing local community capacity through collaborative partnerships with mutual benefits. Social forestry has to be conducted by involvement of the stakeholders in the process of forest management through collaborative processes.

Collaborative processes occur at the individual level through interaction between individuals, while at the organizational (community) level there are relationships between many individuals (Chen et al., 2012). Social forestry with a collaborative approach involves various actors, i.e. the forest manager, the local community and other stakeholders. The local community and other stakeholders have access to forest management. Community involvement is crucial thing and will certainly influence the direction of social forestry management. Through a collaborative approach, the interests of all stakeholders can be accommodated and the dignity and role of each stakeholder is viewed as an equal entity in accordance with the prevailing value system to achieve a common goal.

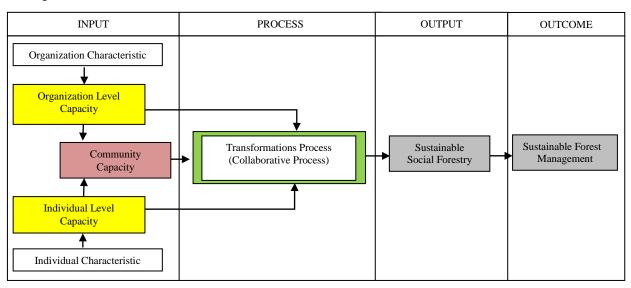
Recognizing the role of local communities in forest management can improve the relationship between forest managers and local community in implementing a collaborative approach. Patterns of relationships built through mutually cooperative behavior that allows public access to have an affect on the success of forest management using the social forestry system. The social forestry management processes in forest management comprise four main phases, namely:

- 1. Community capacity characterization
- 2. Transformation processes
- 3. Sustainable social forestry as output
- 4. Sustainable forest management as outcome

Community capacity building in forest management is done by involving individual interaction mechanisms within a community. Interaction between individuals can generate capacity at the community level and then it also affects individuals in the community. Thus, community capacity building in social forestry affects the community capacity characteristics at the individual level as well as community characteristics at the community level.

Community capacity both at the individual level and at the community level has an influence on mobilizing community capacity at the group level to produce collaborative forest management in social forestry development through a process of capacity transformation. This transformation occurs through community capacity shaping cooperative behavior in social forestry development, while the process of capacity transformation to produce collaborative management in social forestry development is affected by five dimensions of the collaborative process, namely: governing, administering, organizational autonomy, mutuality, and norms (Thomson et al., 2007).

Social forestry is the process of cooperation between the various actors in forest resources management by ensuring active involvement of the local community as a main actor and/or partner with the aim of solving problems of the local community and ensuring equitable distribution of benefits in order to achieve sustainable forest management and welfare of the local community. The successful development of community capacity affects the successful development of the social forestry system. The concept of community capacity building in



collaborative forest management using thesocial forestry system is explained in detail by Figure 2.

Figure 2. The concept of community capacity building in realizing sustainable social forestry.

Based on Figure 2, there is an inter connection between community capacity and sustainable social forestry. Sustainable social forestry is generated by the transformation of community capacity through collaborative processes. Community capacity characteristics are important variables that influence the success of the behavioral transformation process to produce sustainable social forestry. Therefore, to achieve sustainable social forestry, enhancing community capacity development is crucial. It is very clear that community capacity has a close relationship with sustainable social forestry to achieve sustainable forest management.

Conclusion

In forest management of both state and privately owned forests, social forestry should be defined as a system of forest resources management that involves the local community as a main actor and active partner to solve the problems of the local community with an emphasis on equitable distribution of benefits in order to achieve sustainable forest management and wellbeing of the local community. Social forestry is a bottom-up approach involving power of local communities over resources and decisions in managing forest resources. Devolution of forest management through the social forestry system can achieve development goals.

To be successful, social forestry needs collaborative approaches to forest management, providing benefits to local people; exchange costs of conservation; continued access to forest products or through income generation; and contributing to conservation. Successful conservation can only be achieved by developing the capacity of the local community in forest management. Implementation of social forestry needs judgement in deciding how to grow trees, how and when to integrate trees into farming systems appropriately, and how to build cooperation between the forest manager and the local community in forest management. For all of this, community is required through four main phases, namely: (1) community capacity characterization, (2) transformation process, (3) sustainable social forestry as output, and (4) sustainable forest management as outcome.

Social forestry has to be conducted by stakeholder involvement in the process of forest management through collaborative processes. Collaborative processes occur through interaction related to activities between individuals and at the organization (community) level, there are relationships between many people. Social forestry with a collaborative approach involves various actors, i.e. the forest manager, local communities and other stakeholders. The local community and other stakeholders have access to forest management.

This paper showed that there is a close linkage between the concept of community capacity building and social forestry development. Community capacity needs to be elevated through a transformation process to generate collaborative forest management with a social forestry strategy. To achieve success in social forestry community capacity is needed for the local community to participate in forest management activities and share responsibility in managing forest resources. Sustainable social forestry needs to actively involve local people in deciding which activities to develop in order to achieve a forest management system that is economically feasible, socially adaptable and ecologically sound. To achieve these social forestry goals, collaborative approaches to forest management that provide benefits to local people and exchange costs of conservation are required. Finally, successful of community capacity development affects the success of social forestry system development.

Acknowledgements

This paper is part of the doctoral program funded by Directorate General of Higher Education, Ministry of Research, Technology and Higher Education through a scholarship from BPPDN received by Pujo. The authors gratefully acknowledge the support of local communities around the Mount Geulis Protected Forest Area, especially the local community of Cinanjung and Cisempur Village, in the completion of this study.

An earlier draft of this article was presented at "The 2nd International Conference on Rural Development and Community Empowerment (Endinamosis 2017)", Bandung, 2-4 November 2017.

References

- Aref, F., M. Redzuan, and S.S. Gill (2010) Community Capacity Building, A Review of Its implication in Tourism Development. *Journal of American Science* 6(1), 172.
- Ahmed, R., M. Seedat, A.V. Niekerk, and S. Bulbulia (2004) Discerning Community Resilience in Disadvantaged Communities in the Context of Violence and Injury Prevention. *South African Journal of Psychology* 34(3), 386-408.

Arnold, J.E.M. (1991) Community Forestry. Ten Years in Review. FAO: Rome.

- Ansori, M. (2012) Partnership Forest Management for the Prosperity of Community around Forest (Case of Community Based Forest Management Model in BKPH Parung Panjang, KPH Bogor). Dissertation. Bogor Agricultural University.
- Anwar, S., and I.Hakim (Eds.) (2010) *Social Forestry, Lead to the Restoration of Sustainable Forestry Development.* Center for Climate Change and DevelopmentPolicy Research : Ministry of Forestry Bogor.
- Beckley, T.M., D. Martz, S. Nadeau, E. Wall, and B. Reimer (2008) Multiple Capacities, Multiple Outcomes, Delving Deeper into the Meaning of Community Capacity. *Journal of Rural and Community Development* 3, 56-75.

- Bennett, N., R.H. Lemelin, R. Koster, and I. Budke (2012) A Capital Assets Framework for Appraising and Building Capacity for Tourism Development in Aboriginal Protected Area Gateway Communities. *Tourism Management* 33,752-766.
- Bizikova, L., M. Nijnik, and, T.K. Oravska (2012) Sustaining Multifunctional Forestry through the Development of Social Capital And Promoting Participation. A Case of Multiethnic Mountain Communities. *Small-scale Forestry* 11, 301-319.
- Brown, L., A. Lafond, and K. Macintyre (2001) *Measuring Capacity Building. Prepared By Measure Evaluation.* Carolina Population Center. The University of North Carolina at Chapel Hill.
- Chaskin, R.J. (2001) Building Community Capacity, A Definitional Framework and Case Studies From A Comprehensive Community Initiative. *Urban Aff Rev* 36, 291-323.
- Chen, H., T. Zhu, M. Krott, dan D. Maddox (2012) Community Forestry Management and Livelihood Development in Northwest China, Integration of Governance, Project Design, and Community Participation. *Reg. Environ. Change*13(1), 67-75.
- Cinner, J.E., C. Folke, T. Daw, and C.C. Hicks (2011) Responding to Change, Using Scenarios to Understand How Socioeconomic Factors May Influence Amplifying or Dampening Exploitation Feedbacks among Tanzanian Fishers. *Global Environ Change - Hum Policy Dimens* 21, 7-12.
- Ministry of Forestry (2004) *Minister of Forestry Regulation No: P.01/Menhut-II / 2004*. Local Community Empowerment in or around the Forest Area in the Framework of Social Forestry: Jakarta.
- Ministry of Forestry (2010) Social Forestry. Towards Sustainable Restoration of Forestry Development. Agency for Research and Development of Forestry. Research and Development Center for Climate Change and Policy: Jakarta.
- Dove, M.R. (1995) The Theory of Social Forestry Intervention. The State of the Art in Asia. System on the Environment. *Agroforestry Systems* 30, 315-340.
- FAO (2010) Global Forest Resources Assessment. Forestry Paper 163.
- Fay, D. (2007) Mutual Gains And Distributive Ideologies in South Africa, Theorizing Negotiations Between Communities and Protected Areas. *Human Ecology* 35(1), 81-95.
- Fey, S., C. Bregendahl, and C. Flora (2006) The Measurement of Community Capitals through Research. A study conducted for the Claude Worthington Benedum Foundation by the North Central Regional Center for Rural Development. *Journal of Rural Research and Policy* 1(1), 1-28.
- Fisher, R., R. Prabhu, and C. McDougall (2007) Introduction, People, Forests and the Need for Adaptation. Adaptive Collaborative Management of Community Forests in Asia, Experience From Nepal, Indonesia, and the Philippines. CIFOR: Bogor.
- Fisher, R.J. (1995) *Collaborative Management of Forests for Conservation and Development*. IUCN: The World Conservation Union World Wide Fund for Nature September 1995.
- Goodman, R.M., M.A. Speers, K. McLeroy, S. Fawcett, M. Kegler, E. Parker, S. Rathgeb-Smith, T.D. Sterling, and N. Wallertein (1998) Identifying and Defining the Dimensions of Community Capacity to Provide the Basis for Measurement. *Health Education and Behavior* 25(3), 258-278.
- Gunawan, H., and C. Anwar (2008) The Quality of Waters and Mercury Content (hg) in Fish in Silvofishery System, BKPH Ciasem-Pamanukan, KPH Purwakarta, Subang Regency, West Java. (Center for Forest Research and Conservation). *Journal of Forest Research and Nature Conservation* 5(1), 1-10.
- Gregersen, H., S. Draper, and D. Elz (Eds.) (1989) *People and Trees: the Role of Social Forestry in Sustainable Development*. World Bank Econ. Dev. Inst.: Washington, DC. (In press.)

- Helms, A. (Ed.)(1998) *The Dictionary of Forestry*. The Society of American Foresters and CABI Publishing: Wallingford.
- Higgins, E., and P. Mc Corkle (2006) The Development of a Rural Community Capacity Index-Based on Cornelia Flora's Community Capital Framework. Paper presented at the *Community Development Society Annual Conference. Louisiana Tech University Center for Rural Development*, St. Louis MO.
- Himmelman, A.T. (2002) Collaboration for a Change, Definitions, Decision-Making Models, Roles, and Collaboration Process Guide. Depts. Washington. Retrieved from http: //depts.washington.edu/ccph/pdf_files/4achange.pdf. on 29 April 2008.
- Jung, M., and K. Viswanath (2013) Does Community Capacity Influence Self-Rated Health? Multilevel Contextual Effects in Seoul, Korea. *Social Science and Medicine* 77, 60-69.
- Labonte, R., and G. Laverack (2001) Capacity Building in Health Promotion, Part 1 For Whom? And For What Purpose?. *Critical Public Health* 11(2), 111-127.
- Lauber, T.B., D.J. Decker, dan B.A Knuth(2008) Social networks and community-based natural resource management. *Environmental Management* 42, 677–687.
- Laverack, G., and N. Wallerstein (2001) Measuring Community Empowerment, A Fresh Look at Organizational Domains. *Health Promotion International* 16(2), 179-185.
- Laverack, G. (2005) *Public Health, Power, Empowerment and Professional Practice.* Hampshire: Palgrave Macmillan.
- Liou, J. (2004) Community Capacity Building to Strengthen Socio-Economic Development with Spatial Asset Mapping.Paper presented at the *3rd Fig Regional Conference*, Jakarta, 3-7 October 2004.
- Maryudi, A. (2011) The Contesting Aspirations in the Forests, Actors, Interests, and Power in Community Forestry in Java, Indonesia. Universitätsverlag Göttingen.
- Merino, S.S., and I.D.L.R. Carmenado (2012) Capacity Building in Development Projects. *Procedia-Social and Behavioral Sciences* 46, 960-967.
- Nair P.K.R. (1993) An Introduction to Agroforestry. Dordrecht: Kluwer Academic.
- Nelson, R., P. Kokic, S. Crimp, P. Martin, H. Meinke, S.M. Howden, P. de Voil, and U. Nidumolu (2010) The Vulnerability of Australian Rural Communities to Climate Variability and Change, Part II –Integrating Impacts with Adaptive Capacity. *Environ. Sci. Policy* 13, 18-27.
- Nurrochmat, D.R. (2000) Analyses of Socioeconomic and Product's Marketing of Social Forestry Participants in KPH Surakarta. *Trop For Manage J6*(1), 51-59.
- Park, S.E., N.A. Marshall, E. Jakku, A.M. Dowdd, S.M.E. Howden, and M.A. Fleming (2012) Informing Adaptation Responses to Climate Change through Theories of Transformation. *Global Environmental Change* 22, 115-126.
- Pokharel, R.K., P.R. Neupane, K.R. Tiwari, and M. Köhl (2015) Assessing the Sustainability in Community Based Forestry: A Case from Nepal. *Forest Policy and Economics* 58, 75–84.
- Pratama, I.P., W. Handayani, J.S. Setyono and N. Prayoga (2017) Community Capacity Building through an Alternative Approach Based on Participation in Handling Dengue Hemorrhagic Fever (DHF) in Semarang. *Journal of Regional and City Planning* 28(1),52-69.
- Pujo (2003) Community Participation in Social Forestry in Perum Perhutani Unit III West Java (Case in Cileuya Village, Cimahi Sub District, Kuningan Regency and Margamukti Village, Pangalengan Sub District, Bandung Regency). Master of Science Thesis. Bogor Agricultural University.
- Pujo (2017) The Application of Community Ecology Concepts for Enhancing the Local Community Connectance of Mount Geulis Protected Forest Management. Doctoral Dissertation. Institut Teknologi Bandung.

- Purwita, T., Harianto, B.M. Sinaga, and H. Kartodihardjo (2009) Household Economic Analysis. The Case Study of Community-Based Forest Management at Pangalengan, Bandung Selatan). *Journal of Social and Economic of Forestry Research* 6(1), 53 - 68.
- Rosyadi, S., and N. Nuryartono (2003) Does Tumpangsari System Benefit the Poor? A Case Study in Rural Banyumas, Central Java, Indonesia. Paper Presented at The *International Conference on Rural Livelihoods, Forests and Biodiversity*, Bonn Germany, 19-23 May 2003.
- Salam, M.A., T. Noguchi, and R. Pothitan (2006) Community Forest Management in Thailand, Current Situation, and Dynamics in The Context of Sustainable Development. *New Forests* 31, 273-291.
- Scarlett, L. (2013). Collaborative Adaptive Management, Challenges and Opportunities. Ecol Soc 18(3), 26.
- Simmons, A., R.C. Reynolds, and B. Swinburn (2011) Review, Defining Community Capacity Building, Is It Possible?.*Preventive Medicine* 52, 193-199.
- Simon, H. (1994) *To Plan Forest Development for Social Forestry Strategy*. Yogyakarta: Aditya Media Publisher.
- Sitorus, Y.L.M. (2017) Community Driven Development in Traditional Communities in Papua. *Journal of Regional and City Planning* 28(1), 16-31.
- Taylor, P.L. (2012) Multiple Forest Activities, Multiple Purpose Organizations, Organizing for Complexity in a Grassroots Movement in Guatemala's Petén. *Forest Ecology and Management* 268, 29-38.
- Thompson, T.L., A. Dorsey, R. Parrott, and K. Miller (Eds.) (2003) *Handbook of Health Communication*. Routledge: USA.
- Thomson, A.M., dan J.L. Perry (2006): Collaboration Processes, inside the Black Box. *Journal* of *Public Administration Review* 66(s1), 20-32.
- Thomson, A.M., J.L. Perry, and T.K. Miller (2007): Conceptualizing and Measuring Collaboration. *Journal of Public Administration Research and Theory Advance* 36, 1-34.
- Task Force, 1987. In: Khan, N.A. (2001) Social Forestry Versus Social Reality: Patronage and Community Based Forestry in Bangladesh. Gatekeeper Series No. 99. Sustainable Agriculture and Rural Livelihoods Programme IIED: 3 Endsleigh Street, London.
- UNDP (1998) Capacity Assessment and Development in a Systems and Strategic Management Context. Technical Advisory Paper 3. Management Development and Governance Division, Bureau for Development Policy. New York, USA: UNDP
- Uzair, A. (2008) *Reformation in a Javanese (de)forest(ed) Village: Moving Toward Greater Social Differentiation?* Graduate School of Development Studies. Institute of Social StudiesNetherlands.
- Wallerstein, N.B., and B. Duran (2006) Using Community-Based Participatory Research to Address Health Disparities. *Health Promotion Practice* 7, 312-323.
- Wasito, U.S., E.E. Ananto, E. Sunarti, and A.H. Dharmawan (2011) Livelihood Source of Poor Farmers in Teak Forests and Food Fulfillment (Case: Six Villages in Blora District). *Journal* of *Timber Estate Research* 8(2), 59 - 80.
- Westoby, J.C. (1975) *Changing Objectives of Forest Management*. Assures to Ninth Commonwealth Forestry Conference: New Delhi.
- Wiersum, K.F. (1984). *Developing Strategies for Social Forestry, A Conceptual Approach*. Working paper Environment and Policy Institute East-West Center: Honolulu.