



Social networks as social capital for eco-tourism in Malaysia: A preliminary sociological study of the Langkawi Geopark

Geraldine KL Chan¹

¹Anthropology and Sociology Programme, School of Social, Development and Environmental Studies, Faculty of Social Sciences and Humanities, Universiti Kebangsaan Malaysia

Correspondence: Geraldine KL Chan (email: geralckl@ukm.edu.my, kmchn21b@yahoo.com)

Abstract

Theoretically and empirically, the transformation of social networks into social capital is made possible by the interplay between social relationships, social interactions, shared network values, some similarities, network norms, network sanctions and benefits primarily at the informal level between social actors who are connected and collectively involved in the tourism activities. In other words, the networks based on shared values and some similarities as well as normative principles of reciprocity and mutuality will become a form of capital to the actors concerned if their networks while in operation during eco-tourism activities generate monetary and non-monetary benefits for them. Through some empirical findings obtained from a preliminary social network analysis of particular social actors who have been and still are actively and collectively involved in eco-tourism activities in two villages in Langkawi, this study examines the hypothesis that social networks play an important role in the development and success of eco-tourism in Malaysia in the form of social capital. The case examined was Langkawi archipelago of islands in Kedah, a northern state in Peninsular Malaysia where tourism, particularly eco-tourism, is the key driver of Langkawi's socio-economic development, more so after it was declared a geopark in 2007 by Global Geopark Networks (GGN), an initiative under UNESCO. The empirical findings demonstrate that the hypothesis is largely substantiated in the case of Langkawi, that is, the significance of sociological ideas in deriving an alternative, if not better, understanding of the development and success of eco-tourism in Langkawi. The sociological value lies in its emphasis on the "social factor" (i.e. social networks and social capital) as a driver of an economic activity, i.e. eco-tourism activity.

Keywords: eco-tourism, Langkawi Geopark, social capital, social networks, social relationships, sociological ideas

Introduction

In the northern part of Peninsular Malaysia in the state of Kedah sits an archipelago of 99 islands by the name of Langkawi (Figure 1). Langkawi is rich in cultural, historical and ecological heritage and is one of Malaysia's premier tourist destinations. As such, it is also renowned for its eco-tourism industry, i.e. tourism activities targeted at preserved and conserved ecological, biological and geological areas. In other words, eco-tourism in Langkawi is linked to geopark development. Langkawi was declared a geopark by the Global Geopark Networks (GGN) initiatives under UNESCO in June 2007 (Lembaga Pembangunan Langkawi, 2007). Langkawi is the only geopark in Malaysia and it is the first geopark in Southeast Asia (Lembaga Pembangunan Langkawi, 2007). There are currently 111 geoparks in 33 countries all over the world with about 42 geoparks in Asia Pacific (<http://www.globalgeopark.org/aboutGGN/51.htm>. 31 December 2015)



Figure 1. *Langkawi Geopark*

UNESCO (2010) defines a geopark as a geographical area within which situates heritage sites that are part of a holistic concept of protection, education and sustainable development. The sites in the geopark contain geological, historical, cultural, ecological and archaeological resources with economic value that contributes to the sustainable development of local communities in and around the sites. This means that the resources should be protected and conserved so that they will bring about development that will meet the needs of present generation without comprising the ability of future Langkawians to meet their own needs. Hence, heritage conservation and sustainable development are the thrusts of a geopark. Langkawi geopark, like any other geopark, is “a site for travel and sightseeing, vacationing and health recuperation as well as cultural recreation at a relatively high scientific level” and “a key protected area of geological heritages and base for geoscientific research and popularization” (UNESCO GGN <http://www.globalgeopark.org/publish/portal1/tab59/13> Oct 2009, see also Mohd Shafeea et al., 2007: 5). Tourism in Langkawi, namely sustainable eco-tourism, shall showcase heritage conservation and sustainable development, and consequently generate wealth and income for local communities surrounding the geopark. Since 2007, the geopark status has been giving added value to Langkawi’s booming tourism industry (Lembaga Pembangunan Langkawi, 2013).

According to Chan, Halimaton Saadiah Hashim and Sarah Aziz (2010) and Chan, Halimaton Saadiah Hashim, Sarah Aziz and Rahimah Abdul Aziz (2011), the success of Langkawi as a tourism and eco-tourism destination and ultimately as a geopark depends largely on effective social relationships in formal and informal forms between all stakeholders from the government, non-government, urban and rural communities and the private sectors. To be specific, social relationships in the form of social networks

between all stakeholders can be a mechanism to operate Langkawi's tourism and geopark related tourism activities, geopark development and consequently, socio-economic development in the entire archipelago. Effective social relationships between all these stakeholders are important to ensure all geopark activities manifested as tourism and eco-tourism activities are carried out smoothly and successfully. In effect, should social relationships be effective, Langkawi may be able to maintain its geopark status and international recognition and sustained its socio-economic progress for years to come.

Social networks as social capital in eco-tourism in Langkawi Geopark

People typically establish relationships with another to carry out most forms of activities in their daily lives, be they economic, social, cultural, education, leisure, health wise or political in nature. It is a natural tendency for a social actor to look for other social actors to establish relationships with them in their everyday lives to meet their goals, fulfill needs or address demands that cannot otherwise be done if the actors are on their own independently of others. Hence, it is only normal for actors to seek help from other social actors considering the actors themselves have limited resources, abilities and capabilities.

In sociology, social relationships are also known as social networks if they are created intentionally by at least two persons to achieve a common goal, monetary or non-monetary in nature. If common goals are achieved through the social networks, then the networks are confirmed a form of capital for the social actors concerned. Networks create value and bring benefits to the social actors. Similarly for an economic activity such as tourism or eco-tourism, in Langkawi for instance, social networks become social capital when the networks that exist and operate the tourism activities generate both monetary and non-monetary gains and consequently sustained the actors' eco-tourism activities. Hence, economic capital is not the only form of capital to operate and develop eco-tourism activities. Some findings in this article shall confirm this point in the case of social actors who are connected with one another while being involved in eco-tourism activities in Langkawi.

Theoretically and empirically, this article shall demonstrate that the transformation of social networks into social capital is made possible by the interplay between social relationships, social interactions, social values, social norms, social sanctions and benefits primarily at the informal level between social actors who are connected and collectively and actively involved in running their tourism activities. In other words, the networks that link social actors based on shared values and normative principles of reciprocity and mutuality will become a form of capital to them if their networks exist during or even operate their eco-tourism activities generate monetary and non-monetary benefits for them. This argument is sociological in nature as it shows that the concepts are interrelated with emphasis on the "social" factor" as a driver of an economic activity, i.e. eco-tourism activity. Sociological ideas are then significant in producing an alternative, if not better, understanding of the development and success of eco-tourism in Langkawi.

The conceptual link between social networks and social capital

As mentioned earlier, social networks and social capital are interrelated concepts; so are the supporting concepts such as social interactions, social values (otherwise known as network values), social norms (also termed as network norms) and network sanctions. This interrelatedness supports the argument that social networks are a form of social capital, especially in the case of Langkawi. The following paragraphs elaborate on these concepts and their interrelated nature.

The definition of social capital for this article is a combination of ideas on social capital given by Coleman (1988), Bourdieu (1992) and Putnam (1993). Social capital, for them, refers to "social networks, norms and sanctions that facilitate co-operative action among individuals and communities" (Halpern, 2014: 39). Social networks, norms and sanctions are three key components in social capital and they are considered as "capital" when the actors "invest" in their linkages or "invest" in creating social linkages

with other actors with the hope of gaining something or returns or achieving a goal for their networks or linkages (Halpern 2014). Thus, the networks become social capital when they generate economic or non-economic value, or monetary or non-monetary, respectively. Schuller, Baron and Field (2000: 1) put it succinctly by saying that social capital are “social networks, the reciprocities that arise from them, and the value of these for achieving mutual goals”.

Social networks are a particular type of social relationships. Social relationships are considered as social networks when the linkages connect at least two persons, and more so when those people interact and linked with other people simultaneously (see Barney, 2004; Borgatti, Everett & Johnson, 2013; Chan, 2009; Chan, Halimaton Saadiah Hashim & Sarah Aziz, 2011; Christakis & Fowler, 2009; Field, 2003; Scott, 1991; Wasserman & Faust, 1994). Social networks are preexisting and natural in manner or rational when created intentionally to achieve something. The networks are preexisting and natural when people are connected because of biological factor (kinship). Networks may also be established when people share similar and/or exchange affections, emotions, views, knowledge, principles, behaviours or norms, experiences, values, backgrounds, perceptions and others. Those similarities may enable them to establish networks in order to do or achieve something together, economic or non-economic in substance. In short, bases of the social relationships or networks are biological, affective, emotive, cognitive, perceptive, normative or rational in kind. Correspondingly, types of networks may be kinship, friendship ties or work relationships.

A network is actually a group of people combined into particular configurations due to either natural factor or some similarities that make them obtain something, do more things and different things in a collective manner than the individuals themselves independently of other people's help. Networks created in a collective context may then become instrumental in this sense. According to Kilduff and Tsai (2003), if networks are effectively utilised, they have “emancipatory potential” whereby they can “inform actors of non-obvious constraints and opportunities inherent in patterns of social connections” or networks. This simply means that social networks can generate values not necessarily economic in nature (see also Chan, 2009, Chan, Halimaton Saadiah Hashim & Sarah Aziz, 2011). Clearly social networks are a form of capital in this sense. No doubt the concepts of social networks and social capital are inextricably intertwined. Moreover, network value emerged from collectivism, instrumentalism and rationality.

The concept of social interaction is one of many key and basic concepts in sociology. So are the concepts of social values, social norms, social sanctions or simply sanctions. Social interaction means the process by which people act and react in relation to others or the acts that people perform toward each other and the responses they give in return. Sociologically, it is a process of reciprocal stimulation or response between at least 2 people (<http://psychologydictionary.org/social-interaction/> 31 December 2015). For Giddens and Suttons, social interaction is “any form of social encounter between individuals” and it refers to both formal and informal situations in which people meet one another (<https://www.polity.co.uk/giddens7/studentresource/glossary/s-z.asp#s> 31 December 2015). So, the idea of reciprocity and mutuality is evident in a social interaction. The link with social network and social capital is obvious. There are various types of social interactions. Some of them are exchange, competition, cooperation, conflict and coercion.

According to Peter Worsley, social values are general conceptions or ideas of “the good”, about the kind of ends that people should pursue throughout their lives and throughout the many different activities in which they engage (<http://www.yourarticlelibrary.com/sociology/the-meaning-and-functions-of-social-values-sociology/8522/> 31 December 2015). Another view of value is about ideas held by people ethical behaviour or appropriate behaviour, about what is right or wrong, desirable or despicable (Marshall, 2005). For Giddens and Suttons, values are ideas held by human individuals or groups about what is desirable, proper, good or bad. For them, differing values represent key aspects of variations in human culture and individual value is linked with social or cultural value whereby individual values are strongly influenced by the specific social or cultural contexts in which they happen to live (<http://www.yourarticlelibrary.com/sociology/the-meaning-and-functions-of-social-values-sociology/8522/> 31 December 2015). As for social norms, Giddens and Suttons defined them as rules of behaviour that reflect or embody a culture's values, either prescribing a given type of behaviour or forbidding it; rules for

standard behaviour of what should or should not be done as approved by society (<http://www.yourarticlelibrary.com/sociology/the-meaning-and-functions-of-social-values-sociology/8522/31>

December 2015). In the case of Langkawi, the values are better known as network values.

Norms, in simple terms, are standard behaviours typical in a society. They are also termed as network norms or network normative behaviour. According to Marshall (2005: 451), a norm is a “shared expectation of behaviour that connotes what is considered culturally desirable and appropriate”. Gordon (2005: 451) adds that norms are “similar to rules or regulations in being prescriptive, although they lack the formal status of rules”. The types of norms for the Langkawi study are mutual influence, mutual aid, mutual trust and cooperation. These norms are guided by normative principles of reciprocity, mutuality and exchange. Finally, social sanction is a mode of reward or punishment that reinforces socially expected forms of behaviour (<http://www.yourarticlelibrary.com/sociology/the-meaning-and-functions-of-social-values-sociology/8522/31> December 2015). For Gordon (2005: 577), sanction is “any means by which conformity to socially approved standards is enforced”. Sanction can be positive, negative, formal or informal. It is positive when it is about rewarding behaviour that conforms to wider expectations and negative when there is punishment for deviant behaviour. Formal sanctions involve restraints in a legal manner while informal sanctions refer to verbal abuse (Gordon, 2005: 577). Specifically for the case of the Langkawi study, sanctions refer to rewards due to network inclusiveness. For instance, in a network, only actors who share similarities are involved in the networks may get the benefits from the networks.

The interrelatedness of social networks, social capital, network values, network norms and network sanctions is explained in the following words. The basis of any social relationship is social interactions; in other words, social relationships cannot be established in the absence of social interactions between social actors. For a social relationship to be interactive in nature, particular shared social values or network values and norms and related normative principles are necessary. Sometimes some similarities in terms of outlook, views, feelings, thoughts and others between the actors are necessary to make the interaction work. Furthermore, social values and norms are interrelated when values become the foundation for norms (otherwise known as morally based standards of behavior). Shared values such as loyalty, respect, honesty, kindness, justice, trust, compassion, empathy, altruism or benevolence or economic/monetary values are underpinned by typical normative principles such as reciprocity, mutuality and exchange. Examples of normative behaviour are mutual aid, mutual influence, cooperation and mutual trust. Social networks can grow and new social actors appear if some similarities, shared values and normative network principles guide normative behaviour are present.

In the case of Langkawi, the social actors interact by virtue of being family members, relatives, friends, neighbours and work colleagues. They share some specific values pertaining to involvement in eco-tourism activities while sharing some other values relating to kinship, friendship, neighbourliness and work. They may also have some similarities between themselves in terms of knowledge, viewpoints, outlook, perception, emotions, thoughts and others. Their social interactions then shape their social networks. Types of networks such as friendship ties, family ties, neighbour ties and work ties may overlap. These interconnected actors may influence one another, and cooperate and help each other in the operation of their eco-tourism activities, in times deemed necessary. As a result, they get benefits, monetary or non-monetary in nature.

Studying social networks and social capital

Methodologically, there are qualitative and quantitative ways to study social networks and social capital. For the case of Langkawi, the methodology to obtain an understanding and explanation of social networks as social capital is largely qualitative and is guided by a combination of deductive, inductive and abductive research strategies and underlined by an amalgamation of objectivist and interpretivist epistemologies. In-depth interviews, non-participation observation and documentary search are the main methods of data collection.

Several pilot studies have been conducted prior to the actual fieldwork which is survey-like dominated by in-depth interviews with informants. The pilot studies involve going to the field conducting in-depth interviews and non-participation observation of the social reality of eco-tourism; similarly for the actual fieldwork. Social network analysis and content analysis are two methods of data analysis that are utilised as they complement one another. Social network analysis analyses the nature and patterns of social networks while content analysis analyses data obtained from the interviews and observations. The analysis involves categorizing data according to interrelated themes, variables and constructs in accordance with the conceptual and theoretical framework.

As for the unit of analysis, two village communities are selected for the study based on the members' active involvement in eco-tourism activities in Langkawi. Therefore, correspondingly, the level of analysis is individual otherwise known as social network actors. In social network analytic terminology, the actor is called an "ego", hence ego network level of analysis. In the Langkawi eco-tourism study, the actors are mainly boat operators and boat owners. These boats operate as vehicles that transport local and foreign tourists to ecological and geological heritage sites found along the mangrove swamps on the village coasts of the Langkawi main island. These mangrove swamps are key income earner for boat owners who rent their boats to boat operators and boat operators who are employed by the boat owners to operate boat tours for tourists to visit the mangrove areas.

The methodology explained above is necessary to substantiate the social network and social capital argument and also demonstrate the interrelationship between social network, social capital and the other supplementary concepts outlined earlier. To elaborate, to substantiate that social networks are a form of capital, the researcher firstly needs to deduce and abductively to an extent, from pilot studies as well as literature review, the ontological obvious nature and patterns of social networks and their link to eco-tourism. Subsequently, questionnaire-like forms depicting social matrix tables for the actual fieldwork are drawn. The fieldwork generates data that are inputted into the tables. Upon completion of the fieldwork, the tables are analysed to uncover the patterns, structure and characteristics of social networks using a structural analysis method named as social network analysis (see Borgatti, Everett & Johnson, 2013 for social network analytic techniques). In brief, the inductive and abductive research strategies enable the researcher to explore, delve into and interpret the constructed and least obvious social reality of social networks and eco-tourism experienced by members of the selected village communities. Patterns of social networks are analysed using the social network analysis method. For practical reasons, this article shall not discuss the patterns of social networks but will only substantiate the social network and social capital argument by demonstrating the presence of social capital revealed through types of social networks, some similarities, shared values, network norms and network sanctions.

Some preliminary findings from case studies

As mentioned earlier, this article shall not discuss the patterns of social networks but will only substantiate the social network and social capital by demonstrating the presence of social capital through types of social networks, some similarities, shared values, network norms and network sanctions in the following sections.

Types of social actors and social networks

Only particular types of social networks are found to generate value for the social actors who are mainly boat owners and boat operators who take foreign tourists for boat rides to the ecological and geologically rich mangrove swamps found along the coasts of several villages in Langkawi. Most of the villagers are involved either as boat owners who rent their boats to boat operators and boat operators who are employed by the boat owners to operate boat tours for tourists to visit the mangrove areas. Friends, siblings, parents, sons, daughters, neighbours, relatives and work colleagues are the types of social actors.

Some of these types of networks overlap when the actors are work colleagues while being siblings, relatives or neighbours at the same time.

The key networks discovered are biological, affective, emotive and rational in nature. They are family ties, friendship networks, neighbour ties and work ties. Work ties are mainly rational as they are based on economic value and established to achieve mutual monetary gains. However, the work ties overlap with kinship or family, friendship ties and neighbour ties in circumstances when all these networks generate mutual economic gains, in addition to non-economic gains such as moral and emotional support and social exchanges of knowledge and ideas.

Similarities, network values and norms supporting the networks

One finding confirmed that most of the actors have similarities in terms of views about the importance of eco-tourism to community development, knowledge about Langkawi as a geopark, knowledge about the importance of geopark status to Langkawi and community development and the importance of their active involvement in eco-tourism, heritage conservation and sustainable development for their socio-economic and inter-generational well-being,

Apart from the similarities outlined above, the actors also share certain network values that facilitate and sustain their networks such as loyalty, compassion, love and trust. They also share an economic value that is price. Loyalty, compassion, love and trust cement kinship, friendship ties and neighbour ties while loyalty, trust and economic value shape work ties. However, trust and loyalty seem to be key network values. Nonetheless, this shows that all the values are interrelated to support the structure of kinship, friendship ties, neighbour ties and work ties, and consequently, determine particular norms or normative behaviour of the actors in the operation of their boat operation and boat renting activities.

The norms are mutual influence, cooperation and mutual aid. Mutual influencing takes place when the actors influence one another to become or sustain their livelihood as boat operators or boat owners. As for cooperation, it occurs between actors cooperate with one another by becoming replacement boat operators or promoting each other's boat tours and their villages to tourists, tour agents and local taxi drivers.

Sanctions and benefits in the networks

As mentioned earlier, network sanctions mean rewards due to network inclusiveness. In the case of Langkawi, only boat operators and boat owners who related to one another, neighbours, friends and/or share some similarities gain monetary and non-monetary benefits from the networks. Monetary rewards are in the form of wage and profits while non-monetary gains are moral and emotional support and strengthened sense of trust and loyalty. The sense of trust and loyalty are present due to strong family ties, long friendship ties and work relationships. However, trust and loyalty are developed and maintained by close physical proximity, i.e. village boundary. It can be said that all the actors are also neighbours, whether immediate or distant.

The actors indeed receive monetary and non-monetary benefits. No doubt, social networks are social capital for those people. Monetary benefits are in the form of wages for boat operators and profits for boat owners from renting their boats to boat operators. Non-monetary benefits received are new knowledge pertaining to tourism, the opportunity to exchange of knowledge and ideas, strengthened relationships with community members, strengthened relationships between the community members and stakeholders beyond the village communities, and finally, the opportunity to help family members. This finding to an extent refutes Granovetter's (1973) argument on the strength of weak ties because network benefits in the Langkawi study materialise from network strength based on familiarity and close rapport instead of unfamiliarity and distance.

Conclusion

The argument that social networks work as a social capital for the case of eco-tourism in Langkawi is indeed substantiated, as shown in this article. The argument is sociological in nature as it draws on interrelated sociological ideas of social interactions, shared social values (network values), similarities, social norms (network norms) and social sanctions (network sanctions) to confirm that social networks are a form of social capital, particularly for the social actors who are also villager community members actively involved in eco-tourism in their villages in Langkawi. In other words, without social interactions, shared network values, some similarities, network norms and network sanction, social networks (apart from kinship ties) would not have emerged and sustained, social capital not present, and possibly, growth of Langkawi as a geopark through eco-tourism based on heritage conservation and sustainable development challenged.

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References

- Barney D (2004) *The Network Society*. Polity Press, Cambridge, UK.
- Baron S, Field J, Schuller T (eds) (2000) *Social Capital: Critical Perspectives*. Oxford University Press, Oxford.
- Borgatti S, Everett MG, Johnson JC (2013) *Analyzing Social Networks*. SAGE Publications Ltd., London.
- Burt RS (2010) *Neighbor Networks: Competitive Advantage Local and Personal*. Oxford University Press, Oxford.
- Chan Kim Ling @ Geraldine (2007) Mengkonseptualisasi Modal Sosial dan Pengorganisasian Elit Korporat Malaysia: Satu Kes untuk Memahami Indonesia? In: Armida S. Alisjahbana, Ramdan Panigoro, Parikesit, Abd Hair Awang, Chan Kim Ling @ Geraldine, Junaenah Sulehan, Nik Hairi Omar, Shaiful Bahri Md. Radzi, Ruzy Suliza Hashim, Zarina Othman (eds) *Indonesia dan Malaysia dalam Era Globalisasi dan Lokalisasi: Mewujudkan Kemakmuran Bersama*, Vol 1. Universitas Padjadjaran, Bandung.
- Mohamad Zaki Ibrahim, Chan Kim Ling @ Geraldine (2007) Menjambat Jurang Digital dan Pembentukan Masyarakat Jaringan di Malaysia: Pengkisahan Konseptual dan Empirikal. In: Norizan Abdul Razak, Zaini Amir, Norwati Md. Yusof, Habibah Ahmad (eds) *Ke-Arah Pembangunan E-Malaysia: Isu dan Cabaran*. Fakulti Sains Sosial dan Kemanusiaan, Universiti Kebangsaan Malaysia, Bangi.
- Chan G, Mohamad Zaki Ibrahim (2008) Conceptualising Network Society in Malaysia. *Asian Journal of Social Science* 36 (5).
- Chan Kim Ling @ Geraldine (2008) Jaringan Elit Korporat dan Cabaran Sosio-Budaya di Malaysia: Scenario pada Awal dan Pertengahan 1990an. In: Rahimah Abdul Aziz (ed) *Transformasi Masyarakat Malaysia: Cabaran Famili, Gender dan Sosiobudaya*. Penerbit UKM, Bangi.
- Chan Kim Ling @ Geraldine (2009) Social Capital and Social Networks in the Malaysian Corporate Elite World: A Conceptual Framework. *Jurnal E-Bangi* 4(1), 30-45.

- Chan Kim Ling @ Geraldine, Sarah Aziz, Halimaton Saadiah Hashim, Rahimah Abdul Aziz (2010) Sistem Jaringan Governans untuk Langkawi Geopark: Pengkisahan Konseptual. *Akademika* **80** (Sept-Dis). No. ISSN 0126-5008.
- Christakis NA, Fowler JH (2009) *Connected: The Surprising Power of Our Social Networks and How They Shape Our Lives*. Little, Brown and Company, New York.
- Field J (2003) *Social Capital*. Routledge, London.
- Granovetter M (1973) The Strength of Weak Ties. *American Journal of Sociology* **78**, 1360-80.
- Halimaton Saadiah Hashim, Rahimah Abdul Aziz, Sarah Aziz, Chan Kim Ling @ Geraldine (2010) Governans untuk Geopark: Langkawi sebagai Acuan. *Akademika* **80** (Sept-Dis). No. ISSN 0126-5008.
- Halpern D (2014) *Social Capital*. Polity Press, Cambridge.
- <http://www.globalgeopark.org/publish/portal1/tab59/13> Oct 2009.
- <http://www.globalgeopark.org/aboutGGN/51.htm>. 31 December 2015.
- Kilduff M, Tsai W (2005) *Social Networks and Organizations*. Sage Publications Ltd., London.
- Knoke D, Kuklinski JH (1980) *Network Analysis*. Newbury Park, California, United States of America.
- Lembaga Pembangunan Langkawi (2006) Laporan Tahunan 2006. Lembaga Pembangunan Langkawi, Langkawi.
- Lembaga Pembangunan Langkawi (2007) Laporan Tahunan 2007. Lembaga Pembangunan Langkawi, Langkawi.
- Lembaga Pembangunan Langkawi (2013) Laporan Tahunan 2008. Lembaga Pembangunan Langkawi, Langkawi.
- Ong Puay Liu, Sharina Abdul Halim, Ibrahim Komoo, Rahimah Abdul Aziz, Norzaini Azman, Sarah Aziz, Geraldine Chan, Halimaton Saadiah Hashim, Ruslin Amir (2010) Langkawi Geopark and The Making of 'Geoparkians' Out of Langkawians: Experience from Within. Paper presented at the *Simposium Kebangsaan Warisan dan Pemuliharaan*. Organised by Projek Arus Perdana "Geopark sebagai Peraga Pembangunan Lestari Wilayah", Kelompok Warisan dan Pemuliharaan, Nic Pembangunan Lestari Wilayah, 26-28 February 2010, Awana Porto Malai, Langkawi.
- Rahimah Abdul Aziz (2011) Local Understanding and Acceptance of Geopark Concept and Heritage Conservation: The Langkawian Perspective. Paper presented at the *Simposium Kebangsaan Warisan dan Pemuliharaan*. Organised by Projek Arus Perdana "Geopark sebagai Peraga Pembangunan Lestari Wilayah", Kelompok Warisan dan Pemuliharaan, Nic Pembangunan Lestari Wilayah.
- Scott J (1991) *Social Network Analysis: A Handbook*. SAGE Publications, London.
- Scott J, Marshall G (eds) (2005) *Oxford Dictionary of Sociology*. Oxford University Press, Oxford.
- Wasserman S, Faust K (1994) *Social Network Analysis: Methods and Applications*. Cambridge University Press, Cambridge, UK.