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Dominant Media of a Community-Based Organization for Disseminating Sustainable Agriculture Knowledge and Information

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Abstract Communication is the key to transforming Malaysia's conventional agricultural systems to sustainable agriculture systems. The objective of this paper is to identify the dominant and most effective medium for communication as it is implemented by the Qadhijah Natural Farm - a community-based organization located in Parit Buntar, Perak, Malaysia. Rapid Appraisal Agricultural Knowledge Systems analysis indicated that the "face-to-face" communication is the dominant and most effective medium for transfer of knowledge/information by the Qadhijah Natural Farm among all communication media types studied.

Keywords Rapid Appraisal Agricultural Knowledge Systems, Agricultural Extension, Community-based Organization, Communication

1. Introduction

One of the human activities that affect us the most is agriculture. Communication is important for transfer of knowledge/information in agriculture[1]. Since agriculture is regarded as community work therefore it is critical for us to identify the dominant media especially in a community-based organization (CBO) networks[2]. Moreover the CBO is the right scale to disseminate knowledge/information of sustainable agriculture[3,4]. It helps us to understand the dynamics of knowledge / information transfer so that disseminated efficiently and effectively to the public[5].

In this paper, we report a case study of a local CBO; the Qadhijah Natural Farm (QNF) that uses multiple types of media to disseminate the knowledge/information of sustainable agriculture to the public. In working with the QNF, we followed a Rapid Agricultural Appraisal Knowledge System (RAAKS) participatory approach in which we qualified our role as participants and observers rather than facilitators or agricultural consultants. Through such roles, a structure of informal and spontaneous knowledge/information exchanged was possible[6,7].

This paper is structured as follows. Section 2 reviews the background of the research which covers essential points of agriculture and communication. Section 3 describes a methodology that used in this research, the study area, background of the QNF and the analysis. Section 4 presents the results and discussion. Last but not least, Section 5 concluding the research. In the end, we will summarize our work.

2. Background of the Research

Agriculture is relevant to sustainability because agricultural systems are the most important sector of the Malaysian economy and use a large amount of land[8,9,10]. Furthermore, the end product of agriculture; food and fiber are foundations of human society[11]. Over the past seventy-five (75) years the industrialization of agricultural production has reached exceptional levels through the Green Revolution. Its impact is increasingly global with respect to both positive and negative consequences.

The Green Revolution has contributed to alleviation of poverty by becoming the engine of the economic growth and by ensuring food security through increased production. It has also resulted in the unfavourable long term social, economic and environmental repercussions and degradation of natural resources[12]. The current practice of conventional agriculture is not sustainable forcing the introduction of an alternative sustainable agriculture system [13].

Consequently, studies on sustainable agriculture have garnered more attention. In recent times, a shift has occurred from a predominant focus on production to an interest in

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sustainability[14]. By and large, the determination of the approach or objectives of sustainable agriculture is based on these three (3) dimensions of sustainability i.e. social, economy and environment. Sustainable agriculture is an agricultural system that satisfies human needs – especially food supply – both socially and economically without compromising the environment. Although sustainability has enjoyed wide popularity in the scholarly and policy making circles, the acceptance on the ground – especially the farmers is less sanguine.

By assessing our current status, we are at a crossroads of having to choose between conventional agricultural systems or sustainable agriculture systems. The conventional agriculture systems will continue to be a vicious cycle of unsustainable productivity for farmers, unhealthy food for consumers and degradation of the environment. If we persist on the current path, the cycle shall go on and eventually, all the problems mentioned will most probably worsen with time. The path for achieving sustainability leads to a wider range of flexible options that are safe, affordable, available and doable for all stakeholders[15].

Agricultural lands applying sustainable agriculture methods in Asia are relatively small. The major organic producer countries are China, India and Japan. Extension officers in Malaysia were exposed to the idea of sustainable agriculture as early as 1980s, but the knowledge/information on sustainable agriculture at the time was eclipsed by the Green Revolution. Since the Green Revolution was a national agricultural program, the knowledge on sustainable agriculture (incl. organic and natural farming) was not sufficiently transferred to farmers for almost thirty years. Sustainable agriculture is underachieving in many developing countries for a number of reasons. One major reason is communication i.e. weakness in knowledge / information dissemination.

However, the acceptance level of sustainable agriculture is low and the progress is very slow[16]. While it is realized that flows of communication and exchange between the different participants are extremely important, there is often a critical lack of communication and understanding between participants and networks[17]. Although the number of successful sustainable agriculture initiatives is growing, most of these are still only "island's success" episodes especially in Malaysia. Hence, there is still a challenge to find ways to disseminate the knowledge by multiplying or "scaling up" the participants in converting agricultural methods[18]. Chained participants involved in this activity are a group of farmers represented by CBOs, agriculture-related government agencies, consumers, local people, and private companies.

According to UNDP's Human Development Report, the poor are the least informed on the decisions and public policies that affect them directly. In order to engage the poor (often farmers) with sustainable agriculture, communication efforts should be emphasized. The messages communicated need to be re-examined because many of these messages are guilt-laden, simply too patronizing or disapproving. In some cases, instead of grasping public's interest in the issues, the communication resulted in the opposite[19,20].

The communication approaches, therefore, have to be attuned to different cultural contexts and circumstances [20].This aspect is seen as urgent for several reasons: 1) communication is the key to change our unsustainable situations of conventional agriculture[20,21]; 2) the change can be done through – although not limited to – exchanges of the message among the participants/actors[22]; and 3) because Malaysia is committed to achieve Millennium Development Goals[23]. In general, the Millennium Development Goals (MDGs) are eight (8) international development goals that all United Nations member states and international organizations have agreed to achieve by the year 2015. The aim of the MDGs is to encourage development by improving social and economic conditions in the world's poorest countries. The goals are: 1) eradicating extreme poverty and hunger; 2) achieving universal primary education; 3) promoting gender equality and empowering women; 4) reducing child mortality rates; 5) improving maternal health; 6) combating HIV/AIDS, malaria, and other diseases; 7) ensuring environmental sustainability; and 8) developing a global partnership for development.

Communication is the key to enhancing the information flow along this food supply chain and ensuring that sustainable agriculture initiatives and products eventually reach potential consumers that may be thousands of miles away[24]. Therefore, orienting the public to the right choice is important. It is realized that the flows of communication and the exchanges between different participants are extremely significant especially to understand the current state of agriculture and to facilitate the learning process. This underscores the need for dialogues and interactions between different participants and networks. Hence, knowledge / information must be in understandable form, so that it can be absorbed by the public and thus achieve the purpose. It must be understood that communication is not a mere addendum to the real business of sustainable development because it is probably the most significant part of it[19,20]. In Malaysia, sustainable agriculture usually initially promoted by other-than-government be it NGOs, CBOs or individual persons[25,26,27,28,29,30].

While there have been calls to study community contexts, there are few studies that attempt to describe how geographical CBOs appropriate several types of medium. By profiling the participants, it helps us to understand how do they work (communicate). Currently, the link between agriculture and CBOs (mostly farmers) is weak and our experience is limited[31]. Researches on agricultural CBOs especially those related to agricultural knowledge / information systems in Malaysia are limited. Consequently, there has been limited monitoring and documentation although CBOs are one of the key participants in expediting sustainable agriculture. These kind of researches provide policy makers the needed information that can help them devise workable policies[32].

3. Methodology

This research was conducted in Parit Buntar, Perak, Malaysia. The Qadhijah Natural Farm (QNF) was one of the organizations we focused from 2011-2012. The following is a brief description of the study area, CBO, data collection and the analysis.

3.1. The Study Area

Parit Buntar is situated in the north of Kerian district that is located in the northwestern of Perak state, Malaysia – Figure 1. The QNF lies at latitude 5° 06' North and longitude 100° 27' East. The district is bordered by Kedah state in the northeastern and by the Penang state in the north. Kerian district often referred as the rice bowl of Perak. It is the smallest district in Perak with an area of 852 square km. Kerian is an area of 211.769 acres (852.000 hectares), 67.2% (57.559 acres) of land used for agriculture. Rice farming has been monopolizing the use of land with a total of 42.5% making it the most important agricultural activities which is why it is known as the rice bowl of Perak. Its rice production was helped by the Kerian Rice Irrigation Schemes[33].

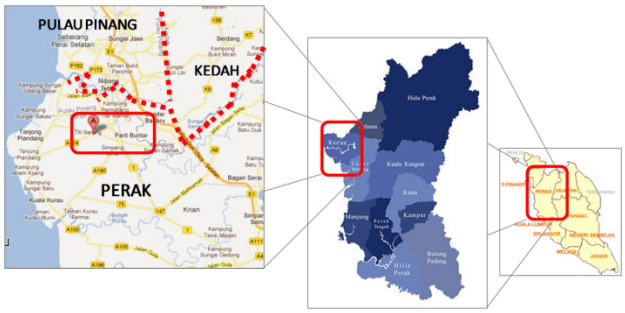

Figure 1. Map of Parit Buntar, Perak, Malaysia

3.2. The CBO

The Qadhijah Natural Farm (QNF) is a family farm owned by Mr.Nazrul Azam Man who is a Malay Muslim. The farm is a 3.5 acre crop farm. It is located at Parit Buntar in the district Kerian, Perak. Crop farm type was chosen due to easy to manage, high profit margin and higher yield compared to animal husbandry or fisheries. This type of farm only requires minimum time and care. The QNF is a registered company and it acts as a CBO as well. They proclaimed themselves as a natural farming pioneer in Malaysia. According to the owner, before he established the QNF in 26th December 2009, he has been involved in farming for 12 years.

The farm is managed by six (6) employees and a consultant that includes an operation manager, research and development, plumbing, farming input making, sales and marketing, promoter and maintenance work. Their minimum education background is SPM (Malaysia Education Certificate) and the highest is Diploma of Agriculture. The QNF also received several practical students for internships.

The activities were much shaped by objectives and implied strategies. It also depends on suitability of media and targeted audience. The most important strategy in communicating a message is language and its level of usage. Since the national language of Malaysia is Bahasa Melayu and most of the audience consists of local people, Bahasa Melayu is mainly used. Some exceptions on certain terminologies, the QNF has to use second language; English. Preference of language will determine the speed of message absorption at cognitive level that demonstrates through action[35].

Three (3) overlapping primary activities of the QNF are: farming, marketing and educational approach. There are at least twenty (20) direct networks. Among them is Department of Agriculture, village people, workshop participants, research agencies etc.

3.3. Data Collection

Research access was granted in April 2011. The research was carried out during period of approximately 18 months up to October 2012. Although our direct involvement faded after this time, we continue to monitor the progress of the QNF with respect of different types of medium. Basically, this research was conducted in two phases: 1) getting the whole picture; and 2) verifying the interpreted data by CBO. In this research, to obtain a reliable data analysis, the study applied the triangulation technique.

For instance, semi-structured interview, observation, course participation, field notes, documents and audiovisual materials were used to uncover barriers and benefits[7,34,35]. During direct observations we adopted slightly more passive roles such that we were observing activities and their dynamics but not taking part in them. Secondary sources of the data collection included documentation, archival records and physical artefacts. The interviews were recorded and subsequently transcribed. Additionally, data were collected through both face-to-face interactions, e-mails conversations with the QNF personnel.

3.4. The Analysis

The data collected were analysed using the general analytic strategy of developing a case description[6]. In this research, Rapid Appraisal of Agricultural Knowledge Systems (RAAKS) was used to guide interview sessions and help analyze the data. RAAKS case study was conducted to identify best practices and lesson learned about research, extension, education and communication linkages[36]. This method was endorsed and used by IISD and rigorously tested in six (6) countries in Central America[37,38,39].

RAAKS was used as assist in for data collection because it offers a menu of field-tested methodological elements: windows, step-wise phases, tools and exercises. It is worth to emphasize that RAAKS is not a simple step-by-step kit but it is more of a series of questions to guide the thinking and processes that are selected and altered on a needs basis. RAAKS is explicitly focused on understanding the communication of social organization collectively to act to manage change, in other words to develop social capability

[14]. It is clearly stated that users of RAAKS' tools have the liberty to adapt (extending or combining them) or develop new tools. RAAKS' materials are easily reachable online at no cost[5].

This paper actually highlights a window or a part of a full research that implemented three windows of RAAKS analysis i.e. knowledge and communication analysis. Among the questions is "What sources of information do they use regularly? For the purpose of research replication, the steps as follows: 1) enumerate all the available networks which includes farming, marketing and education and this creates basic configuration of the QNF networks; 2) building networks septagram by giving weightage in which later turns into relative importance of networks; 3) identification of the type of medium usage for each networks; and 4) identification of type of information exchange[38]. Five (5) types of knowledge/information were collected among the QNF networks i.e. strategy, operational, technical, policy and market.

4. Results and Discussion

Figure 2 shows the overall type of medium (ToM) used by the QNF in communicating knowledge/information of sustainable agriculture among their networks. The vertical axis indicates the frequency of medium used during information exchange for all networks. The QNF is not mere knowledge/information receiver but knowledge/information producers as well. Therefore, the labels 'Input' and 'Output' refer to the knowledge/information that the QNF received and knowledge/information that the QNF delivered, respectively.

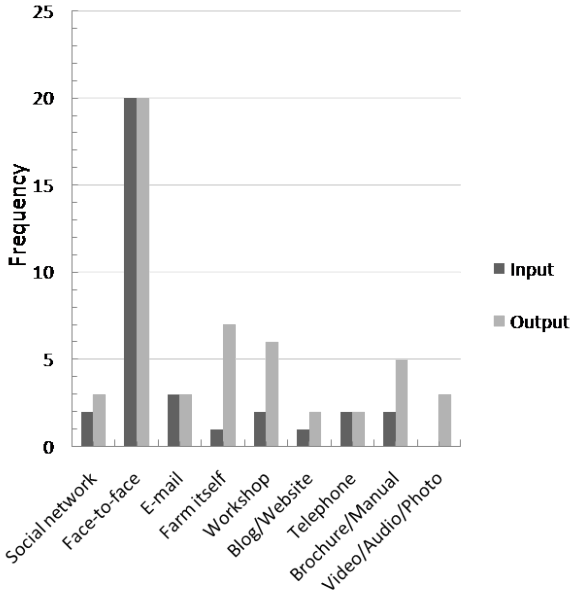

Figure 2. Media chart of the QNF

We predicted that the dominant media used by the QNF is digital technology e.g. social network, e-mail or blog / website. Ironically, the result based on frequency shows a more traditional medium i.e. "face-to-face" communication (Figure 2). Top five (5) medium used in disseminate knowledge/information are: 1) face-to-face; 2) conducting workshop; 3) presence of farm itself; 4) brochure/manual and 5) e-mail communication.

A number of media have been used in order to disseminate knowledge/information of sustainable agriculture to the public. During their initial year, they believe the strategy of keeping up with technology, social network platform and website enabled them to attract potential audience of natural farming and making them adopted written/printed ToM. Later, they noticed the result was not as expected.

"...before this, our marketing approach was through banner, flyers and emails. However, we found that kind of approach is less effective"

The QNF explained that they made some changes in the ToM to add varieties. At the same time, they tried to tackle the fundamental issue i.e. education which is highly related to knowledge/information.

"Hence, we have now changed our approach to more emphasis on education and raising public interest in self-gardening"

They have now switching from written/printed ToM to a more physical, authentic and real. Moreover, the existence of the farm is considered as evidence.

"...we have been actively conducting demonstration, seminar or workshop either in our farm or set up outreach programmes..."

After conducting several workshops and alike, in later times the audiences expanded to include from government departments and authorities and the private sector. Slowly they gain confidence and shift the target audience to the public in general. This time, the QNF's level of penetration is deeper into the society i.e. persuading the public regarding the importance of a healthier life by engaging them in setting up their own farm or farm conversion with the help of the CBOs.

But still written/printed ToM is relevant for them to disseminate knowledge/information among their network. Therefore, they have to make sure that the message contents are suitable with the levels of audiences. Vast of hands-on experience on the farm and as communicators are factors in contributing to effective communication. Specifically, the QNF chooses different media for different audience and types of message such website, the farm itself, conducted courses and social affairs to communicate the messages.

5. Conclusions

This paper demonstrated an empirical study of dominant media used by a local CBO that accounts for variability, dynamic and flexibility in disseminating knowledge / information of sustainable agriculture. We adopted a broader socio-technical perspective on how the QNF interprets, adopts, designs, evaluates and sustains communication in the

context of their learning and work practices. The QNF was predicted to adopt digital technology media in disseminating the knowledge/information pervasively. It was found that the dominant media is somewhat traditional i.e. through "face-to-face" communication.

By knowing the ToM, we can understand the dynamic of knowledge/information especially matters related to sustainable agriculture. Thus this paper offers a new perspective on ToM for place-based agricultural communities. Although we presented one case study, the discussion around multiple ToM abstracted from it was intended to and can promote constructive debate among the community of agriculture. We also believe that our paper is valuable to the general audience of community practitioners and researchers interested in building community capacity using communication elements. In the future, we hope that we can replicate the same method to other CBOs in particular for mapping purpose.

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