**Flood Disaster Risk Management in Kuala Nerang**

*1. Short description of the action/programme/initiative/network (300 words)*

The Kuala Nerang project aimed to identify groups which are vulnerable to floods and the current adaptation strategies practiced by these groups. This project also aimed to analyze the factors that contribute to the increased vulnerability of certain communities with regard to the flood problem and to implement programs that seek to reduce the discomfort and danger of floods while improving the adaptation strategies of communities located in flood-prone areas. Activities included a preliminary workshop to identify groups and areas vulnerable to floods, a Logical Framework Assessment (LFA) workshop to identify potential and strategic solutions for flood mitigation and increase adaptation, a pilot study conducted in Changlun to test the questionnaire method as the main tool in identifying vulnerable areas and their adaptation strategies, as well as surveys.

The study comprised of two types of research- namely a survey and a social action research program. The survey utilized primary data which was collected using the “vulnerability and adaptation” methods. Vulnerability and adaptation (V&A) frameworks provide a structure for examining the potential impacts of natural disasters such as floods and adaptation by combining both quantitative and qualitative approaches. For the purpose of this project, the quantitative approach was carried out via a survey while the qualitative approach involved in-depth interviews and Focus Group Discussions. Quantitative data was obtained by utilizing a structured questionnaire to enable profiling, causes of vulnerability, and the villagers’ vulnerability and adaptation strategies. Qualitative approach on the other hand involved the use of a semi-structured guide to obtain in-depth and richer data relating to the problems of vulnerability with regard to flooding and food security issues. Part of the goal of the action research component was to develop a close rapport with flood-affected communities through visitations and dialogues.

*2. Description of the context in which the projects/programmes were undertaken*

The communities involved in this project were not used to flooding events even though have been living in the area for generations. The impact of increased intensity and frequency of rain due to climate change and impact of development on the area is significant. Therefore, this action research based on university-community engagement and education for sustainable development was initiated to address the vulnerability and adaptation of the communities and relevant agencies in facing the impact and risks of disaster due to climate change.

*3. Main partners and their roles*

Based on the nature of sustainability studies, this project was also a trans-disciplinary project consisted of experts from different entities including; the Centre for Global Sustainability Studies (CGSS) at Universiti Sains Malaysia, RCE Penang, School of Humanities, residents of Padang Terap district of Kedah, local officials of the Padang Terap district of Kedah and few elementary and secondary school at the district. For this project, Universiti Sains Malaysia provided the research team with the financial resources through a grant. CGSS, RCE Penang and USM School of Humanities provided the project with academic expertise and skills. The local officials of the district also facilitated the interactions between the villagers and the research team.

*4. Contribution of your project (300 words)*

Flooding is one of the main natural disasters Malaysia faces. Those worst affected by the floods are usually the residents who are weak and less prepared. One of the innovative factors of this project was to make those vulnerable to flood disasters more resilient and better prepared. For this purpose, efforts were focussed towards mitigation and enhancing adaptability of these residents. In order to better prepare the residents capacity in facing flood disasters, this study was conducted to help identify their needs before, during and after the adversity. This capacity building process was among the main contribution of this project.

For a long term impact, initiatives for counselling for trauma victims, training for handling and maintaining boats, accredited flood rescue training and the setting-up of a formal committee consisting of village leaders, local authorities and CGSS staff were established. A Students Sustainable Club was also developed to organize and manage volunteers as well as other flood mitigation and activist related programs. The success of this project is mainly in debt of the close cooperation between the academia, local officials and the local communities. Since the main goal of this project was to address the initial needs of the community, it was well received by the community members. Their positive contribution to the project made it a success. The same kind of cooperation was given by the local authorities which made it easier for the project to be conducted in terms of its governance and bureaucratic matters.

In conclusion, awareness on flood to affected community is crucially needed. The results of this project indicate that there is still much to be done in terms of increasing the awareness level of Padang Terap communities in dissemination of ESD throughout activities. The problem in less preparation toward danger of flood needs to be seriously addressed. The communities need to be trained on how to overcome the flood disaster to minimise such problem.

*4. Upscaling of project results*

One of the strategies for flood risk management is to make those vulnerable to flood disasters more resilient and better prepared. Efforts need to be focussed towards mitigation and enhancing adaptability of these residents. In order to better prepare the residents capacity in facing flood disasters, studies need to be conducted to help identify their needs before, during and after the adversity.

For this matter, the following four-stage process can be considered:

1) Study Area

The area chosen for the study should be based on the situational analysis conducted on rain profiling. This would enable the researchers to find the most vulnerable areas where their residents are more in risk of flooding.

2) Focus Group Discussion (FGD)

This qualitative method can be used in such projects to identify problems and needs by the flood victims. This method can be used to obtain a better understanding on specific issues. The Conducting FGD can identify the problems encountered and appropriate solutions that can be taken before, during and after flood. The most important outcome of this process is to identify the major needs during flood disaster.

3. Survey

A survey should be conducted quantitatively for the purpose of assessing the victims flood needs during the flood disaster. The sampling used for this study is purposive sampling where selected respondents are those who are directly involved in agricultural activities such as paddy farmers, vegetable farmers as well as other agricultural farming. The survey would help to identify vulnerable groups and affected areas and to identify the needs of the victims before, during and after flood disaster.

4. Awareness campaign

In order to increase the knowledge and awareness on floods, awareness campaigns of flood disaster can be initiated at schools of the flood affected areas. In schools, the awareness campaign can begin with talks on the importance of floods using the 3’s approaches (before, during and after floods), quiz and colouring contest. This can be followed by distributing button badges and a flood kit for each school involved. This is to familiarise pupils with the flood preparation by implementing the element of education for sustainable development (ESD) in the activities conducted.

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