

National Flood Insurance: Funding Model for Citizens at Lower Strata of Economic

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Abstract: Most of the affected flood households do not have insurance protection to cover their economic losses and face difficulties in rebuilding their life aftermaths. The objective of this study is to investigate the viability to develop the national insurance as part of risk reduction strategies. Next objective is to examine the participation of low income and poor in the national flood insurance from the provider's views. Findings indicates that the national insurance is viable to be developed by the insurers and takaful operators however, government involvement is highly needed. National flood insurance backed by the government should be implemented to redevelop the life of citizen who directly impacted by the flood. Subsequently, funding model was developed to enable the people at the lower strata of economy participate in national insurance for their protection.

Key words: Funding model, flood, insurance, takaful, protection

INTRODUCTION

It was reported that there were thousands of premises badly damaged and destroyed houses in the recent flood disaster in 2014. Statistics from the national council reported that thousands of hectares of agricultural land damaged during flood catastrophic in some parts of Malaysia in 2014. Sturdy homes and buildings collapsed, while roads cracked and infrastructure was crippled. The abrupt floods is so immense, leading to extensive loss in personal and public property. It is reported that 4.82 million people may expose to risk as there are 29000 km (Reza and Alatas, 2013) total land prone to flooding area in Peninsular Malaysia.

Government support is very pertinent in ensuring economic and social resilience in the aftershock of calamities. In many countries in the world, huge insurance claims have be paid to the insured due to the natural disaster, nevertheless the uninsured citizens have to be assisted by the government aid (Kerjan and Kunreuther, 2011). Financial constraints hindered low income and poor to purchase insurance to cover them from risks including flood risk.

Many researches proves that the vulnerable people have little or no surplus income to participate in risk reduction mechanism to protect themselves (Schicks, 2010). Moreover, rapid development of household's debt can create vulnerabilities, especially if the debt reaches an unsustainable level (Schicks, 2010). The objective of this

study is to investigate the viability to develop the national insurance as part of flood protection. Next objective is to examine the participation of low income and poor in the national flood insurance from the provider's views. The study was attempt to answer the research questions is national insurance is viable to be developed for low income and poor people? How to facilitate low income and poor people to participate in the protection scheme?

Literature review: Low-income countries typically rely on government and international aid to cope with major floods. As countries reach a higher level of economic development, insurance mechanisms are used more broadly (Kerjan and Kunreuther, 2011). Insurance and government assistance play central roles in ensuring economic and social resilience in the aftermath of catastrophes in developed countries. For past decades, insurance claims payments have been made to insured victims while the uninsured group were supported by government aid (Kunreuther and Kerjan, 2009; Cummins and Mahul, 2009; Smit and Skinner, 2002). Federal Emergency Management Agency (FEMA) provides discounts to their participants through its National Flood Insurance Program (NFIP) whereby the 20% of the participants pay 40-50% of the total insurance premium. The discounted premiums were designed to encourage greater participation in the program by both communities and individuals (Hayes and Neal, 2011). Canada

government provides disaster financial assistance, subsidized crop insurance and ad-hoc assistance programs to farmers as their strategies to cope with the uncertainty inherent in crop production (Smit and Skinner, 2002). Federal government of United States absorbed the remainder flood insurance premiums which is on average <40% of the actual cost of coverage (Burby, 2001). People who exposed to flood hazard are the one who would purchase for the protection (King, 2013) as their damaged premises due to flood can be replaced quickly if it was insured (Kreibich *et al.*, 2011). Flood insurance shall lighten government's fiscal burden (Lin *et al.*, 2007).

Poor people having limited resources, therefore they are the most vulnerable compared to low income people when the shocks occur. It has been proved that the risks exposure and vulnerability directly contributed to the need for insurance. Government involvement in providing sufficient protection is critically essential to enhance the quality of life for the people in the lower strata of economic. Government may provide subsidy to low income to enabling them to have necessary protection (Rom and Rahman, 2014). People will have positive attitude and trust towards insurance when there is a government intervention in providing discount, subsidy, sponsorship and some other attractive rebate (Cole *et al.*, 2013). Many governments around the world have made efforts to provide access to social protection especially to low income earners in the informal economy however, most of the cases were not achievable (Loewe, 2006). Households who received government subsidies or participate in government sponsored insurance program are substantially or more likely to purchase the insurance (Thornton *et al.*, 2010).

Flood insurance has been implemented as part of a comprehensive integrated flood risk management in United States of America and United Kingdom. During the Brisbane flood in 2011, Australia too has adopted flood insurance as a tool for residual flood risk management (Ho, 2009). Iceland ruler introduced a compulsory insurance regime under a public insurance company namely, Iceland Catastrophic Insurance which is operated for natural disasters including floods. However, major flooding is principally covered by public compensation packages and by state in German and Netherlands respectively (Endut and Hua, 2009). Flood insurance in not a compulsory flood risk management mechanism in Malaysia and currently the government is not promoting flood insurance for its citizens (Ho, 2009). Not many insurers are willing to offer the flood insurance to the public, therefore, it is a dire need for a government to implement such protection scheme for disaster victims when the industry unable to provide it (Sugarman, 2007).

Many countries around the world have developed their own flood insurance to provide protection to their

citizens. Protection such as national insurance shall become the main plan of government to provide relief and coverage to the flood affected citizens thus to mitigate the risks. The initiative would assist the affected citizens from falling into poverty trap due to the severe economic and financial losses.

MATERIALS AND METHODS

This research employed qualitative method of study. The interviews have been held in the month of September to November 2015 to collect primary data from industries expertise. Semi-structured interview questions were used in this research to obtain openness in discussion and allowing new ideas to be brought up during the interview as a result of what the interviewee says. Interview was conducted with Chief Executive Officer from Malaysian Takaful of Association (MTA), Malaysian Retakaful Berhad and Etiqa Takaful Berhad to gather their expert opinion on the risk reduction strategies and the viability to develop a comprehensive national insurance product for the country. Higher rank executives from Etiqa Takful Berhad and principal from JPWall Consulting have been interviewed on the same purpose. Etiqa Takaful Berhad is one of the largest takaful operators and has their own flood insurance namely Rumah Desa. Malaysian Retakaful Berhad is the reinsurer to takaful operators which help spread out the risks of insuring natural disaster such as flood. Malaysian Takaful of Association (MTA) is an association to oversee takaful operators. Principal from JPWall Consulting is a former appointed actuary and has vast experiences in insurance industry.

RESULTS AND DISCUSSION

A total of eleven codes were identified and grouped by conceptual similarity. A theme was develop for each group of codes, chosen words of phrases that best describe of the group. Data saturation has reached at third interview, 98% codes have been established after forth interview, no new codes emerged from the remaining three interviews. Table 1 shows the respondents and their organizations.

Two themes emerged throughout the interviews, there were government enforcement and funding mechanism. The sub-themes under government enforcement are national insurance to be made compulsory, product bundling and awareness program. The themes were classified based on the research questions.

Government enforcement

National Insurance to be made compulsory: Zainuddin Ishak suggested the national flood insurance to be made compulsory to all households in the floodplain, since that

Table 1: Respondents

Name	Position
Azli Muniani	Chief Executive Officer of Malaysian Takaful Association (MTA)
Zainuddin Ishak	Chief Executive Officer of Malaysian Retakaful
Ahmad Rizlan Azman	Chief Executive Officer of Etiqa Takaful Berhad and Chairman of Malaysian Takaful Association (MTA)
Muhammad Azlan Noor Che Mat	Vice President, Claims of Etiqa Takaful Berhad
Nur Basmin Md. Amin	Chief Underwriter of Etiqa Takaful Berhad
Adrian Salleh Hashim	Head of Technical and Risk Management of Etiqa Takaful Berhad
Steven Visvalingam	Principal of JPWall Consulting, Former appointed Actuary

in the certain area there is a yearly flood. To mitigate the risk of losing houses, the government should made it compulsory to people in the floodplain area to build their houses according to the international building code in flood area. This is to minimize the risks and claim pay out. According to him, people are not affected of flood but reside near the floodplain should participate in the scheme and treat it as mandatory as insurance is based on the 'law of large number's:

"The national flood insurance should be made compulsory not only to the residents in the flood prone area but also to other residents in the other area. As insurance is based on the law of large number, the residents whether in floodplain area or not should participate in the insurance scheme. Insurers and re-insurers should be getting the contribution for the coverage from those people. Such flood insurance is not a kind of Corporate Social Responsibility"

Ahmad Rizlan Azman agreed with Zainuddin Ishak that the flood insurance scheme should be regard as compulsory. According to him, Etiqa will put full effort to implement such scheme if suggested by the government. However, he is doubtful on the take up rate of the people especially households at the floodplain area, unless the government make it a compulsory:

"National Flood Insurance scheme if be supported by the government, it may gain participation from the people. It is a waste of effort if there is a low take up rate for the scheme. Such scheme should be made mandatory if possible. As we are all aware, people are not interested to participate in any insurance scheme as their expectation on government's assistance is very hig"

Azli Muniani and the others also expressing their concern on the insurance take up rate if there is no government intervention and support. Government support is very pertinent in ensuring economic and social resilience in the aftershock of calamities (Kerjan and

Kunreuther, 2011). In many countries in the world, huge insurance claims have be paid to the insured due to the natural disaster, nevertheless the uninsured citizens have to be assisted by the government aid. In France, Belgium and Spain, insurance claims are made when there is a state's announcement of the event of natural catastrophe. These countries acts as the re-insurers and payments are guaranteed while insurance companies act as a distribution channels that collect premiums which were made compulsory for natural disasters. "Insurer is able to gather a large enough pool of independent risks to allow the actuarial technique of law of large numbers to diversify the risk" (King, 2013). In many countries, flood insurance is compulsory to be purchased by home buyers under government's mandatory flood insurance (King, 2013; Hartwig, 2005).

Product bundling: Findings from the interviews suggested that the comprehensive national insurance should be bundled to provide more coverage, promote better penetration rate and normally the pricing is affordable. They recommended the bundling to be associated with other perils such as fire, landslides, lightning, storm, injuries and others. Ishak Zainuddin, Azli Muniani, Ahmad Rizlan Azman and Steven Visvalingam proposed the existing Rumah Desa Scheme by Etiqa to be enhanced if necessary instead of developing a new flood insurance.

Awareness program: Muhammad Azlan Noor Che Mat, a Vice President of Claims and Recoveries, Etiqa Takaful Berhad Vice President of Claim, Etiqa Takaful Berhad shared the company has done appropriately to promote the awareness to people in flood area and provide the water proof documents plastic holder for the victims to put all their important documents during flood. There are guidelines written on the water proof plastic holder on the preparation towards flood:

"During our awareness program, we distributed this yellow water proof document holder to households at certain area in Kelantan for them to storage their important documents during flood. There is also a guideline on the back of the document holder for them to follow prior to flood"

Government and insurers should working closely on the flood risk reduction via a comprehensive standard operating procedure (Surminski and Oramas, 2014). Low penetration rate of flood insurance is due to the failure of their government in disseminating knowledge and awareness to their people (Browne and Hoyt, 2000). Insurance industry can act as a bridge between public and private sectors in addressing risk awareness, physical resilience and financial preparedness by identifying the risk reduction and educating public on the preventive measures of the risks (Surminski and Oramas, 2014).

Funding mechanism

Funding model: Review of literature and findings reveal the importance to have the funding model in order to ensure the participants are covered from the risks by continuously making contributions to takaful operators via their respective agencies. Azli Muniani, Zainuddin Ishak and Ahmad Rizlan Azman emphasized on the establishment of funding model before introducing the national insurance to public. From their experiences, the take up rate for such coverage is very low unless there is an intervention from the government to support or subsidize the protection especially to the poor and low income nation. Azli Munani emphasized that takaful operators are willingly to come up with a National Insurance for flood however, they're concern on the funding and contribution mechanism. Large pool of participants and continuously contributing in the plan is highly pertinent to ensure the sufficient fund of the product. He mentioned that currently there is a few insurers and takaful operators offer flood insurance in market. Protection plans available that consist of flood coverage which offer low premium and contribution are Kampungku from Alliance Insurance Berhad and Rumah Desa from Etiqa Takaful Berhad”:

“There must have a funding model to identify the responsible parties to ensure the success of national flood insurance product. The biggest challenge is the contributing part. It is very difficult to sustain the product if the participants are not contributing continuously. This is a big worry in the industry”

Ahmad Rizlan Azman conquered on the issue of funding. The main concern is on funding:

“We can co-operate with other insurers to come up such flood insurance, however, I am skeptical on the contribution side. It is not an easy task to ensure that they would contribute continuously. Well, they may participate in the scheme if there is funding support by government”

Zainuddin Ishak raised a concern on the contribution that to be made by the participants. He expressed his qualm on the participation rate, knowing that most Malaysian citizens are reluctant to participate in insurance scheme. However, the things may be different if there is such support by the government in the scheme:

“Who will make contribution to participate in the flood insurance scheme? I don't think people will make continuous contribution unless if there is an assistance from government”

Steven Visvalingam conquered on the funding issue. According to him, how good the product is, it will not be beneficial if there is no take up rate by the people especially in the floodplain. The national flood insurance should have government intervention especially the funding issue is to make it success:

“It is very expensive to develop an insurance product. To ensure that there are take up rate, government should interfere, by providing such incentives, etc”

There are three approaches for Malaysian government to address the contribution (funding) issue on the National Flood Insurance:

- Government to fully subsidize the contribution
- Government to subsidize the contribution partially
- Participation by self-contribution

The three approaches above shall fit the Funding Model in Fig. 1. The funding model may be described in terms of activities as follows:

- Central Bank, namely Bank Negara Malaysia to appoint a dedicated body to oversee the national insurance program

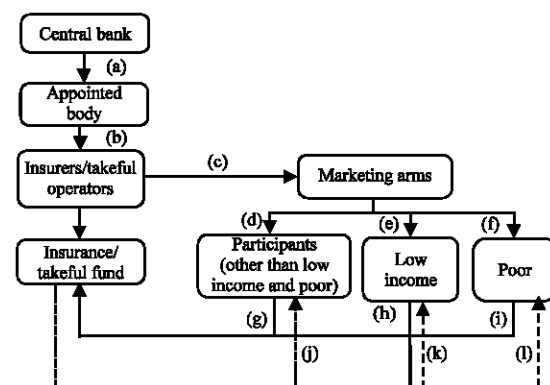


Fig. 1: Funding model

- Appointed body's main responsibilities are to oversee, govern insurers/takaful operators and managing the insurance/takaful fund
- Insurers/takaful operators use their marketing arms to deal with three parties; participants, low income participants and poor participants
- Participants contribute to insurance/takaful fund
- Low income contribute to insurance/takaful fund (discount)
- Poor citizen will be subsidized by government government contribute to insurance/takaful fund
- Insurers/takaful operators compensate the participants when claims occur. To expedite the claims, appointed loss adjusters would assess the losses and approve the cases within their pre-agreed value

Insurance companies should collect the premiums and process the claims while the government retains responsibility for underwriting losses (Burby, 2001). Federal government of United States has absorbed 40% of the actual cost of coverage, the remainder flood insurance premiums (Kerjan and Kunreuther, 2011). This is an example of the state backed insurance which is covering the risk that is transferred eventually to the state, even though the policies may be issued via either private companies or state organizations. Comparing with all kind of state backed insurance in many countries, French National Catastrophe model has been regarded as a highly successful scheme by having high flood coverage.

CONCLUSION

The implementation of national flood insurance scheme in Malaysia could promote the financial independence of citizens and in the long run, the subsidy given by the government will be reduce from time to time. The involvement of the government is not just on mere legislative and supervisory capacity but also overseeing and monitoring the insurance activities including in making decision involving policy covers, rates, terms, conditions, claim payments and procedures. Citizens regardless of their strata of economy could participate in the national insurance scheme. However for low income and poor people, the government may offer discount for premium (or contribution) and provide subsidy, respectively. Funding model would enable the low income and poor people participate in the national flood insurance scheme since they do not have any mean to recover economically and financially after the

disaster. The national insurance would rebuild the citizen's well-being, human development, social and economy stability aftermaths.

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