

***The Development of Resilience Quotient (Rq) Promotional Model to Apply for the Flooded Community by Using the Community Participation Activity, Case Study: District, Lampang Province***

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**Abstract**

This research had the objectives to analyze the resilience quotient (RQ) promotional method, develop the RQ promotion format for flooded communities to be used to promote the RQ of flooded communities and to assess the RQ promotional operations for flooded communities in Mueang Lampang district, Lampang province. The research sample group consisted of three RQ specialists from the provincial hospital, 10 flood victims from Mueang Lampang district, Lampang province, 30 academicians specialized and possessed experiences in RQ, 10 RQ experts and 40 villagers from flooded communities in Mueang Lampang district, Lampang province. The research tools consisted of a content analysis form, an interview form, a questionnaire, a behavioral observatory form, focus group discussion and the RQ assessment Test of the Mental Health Department, Ministry of Public Health. The statistics used in analyzing the data were percentage, means, standard deviation and t-test.

The results of the research found that in the development of the RQ format for flooded communities, the model for the promotion of RQ consisted of 7 facets: Practice; Resilience; Open Heart; Make Friends; Objectives; Think and Emotion. The development of format created RQ promotional activity set called 'Immunity from Community Power' consisted of five smaller activities: Telling negative stories and finding way-out; Heart onto heart; Ten thousand friends; Thought provoking clips and Guiding cards. After using the developed set to promote RQ for the flooded victims, it was found that the villagers had increased RQ after doing the activity set 17.98%: the highest was morale at 17.86% followed by problem management at 18.76% and emotional stability at 17.12%.

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## **Background**

Lampang province was another province affected by the flood causing damages in 9 districts, 38 sub-districts with the loss of life, many properties, tens of broken roads and impassible bridges, countless cut-off villages with the loss of many domestic animals such as cows, buffalos, pigs, ducks and chicken (Pattasaya Lumyai, 2011). For example, in the Chae hom Municipality, the sudden flash flood phenomenon happened and people had to save their own life by escaping to the second floor of the houses while people with single floor houses had to rush to the rooftops. In less than 2 hours, houses and important buildings were under muddy water. There were a lot of damages to properties because the flood came so quickly and most people were unaware. While the Nakhon Lampang Municipality warned people to move from the area on the banks of the Mae Wang River and repeatedly warned people to pack their belongings and prepare to escape from the rising water, most people did not heed the warnings because they did not expect the water would flood the municipal city area. But when water from every direction converged, the Lampang municipal area was under water in a second. Apart from the city of Lampang which was regarded as high water flooded area, the incident also affected the airport which never happened in the past 30 years. Moreover there were also flood of rainwater and flash floods in the districts of Mae Tha, Kohkha, Hang Chat and Sobprap (Krob kua kao 3, 2011) and from the reports of Channel 9, the rainwater from Doi Prabat flooded the Mueang Lampang district area with people missing in Ban Gluay pae village and a person died in his home at Ban Gluay Lauang village, speculated that he was shocked from the flood.

People after flooding may create mental problem such as the problem concerning the feeling of loss, the problem from changed way of life that creates anxiety, sadness and sorrow, discouragement, boredom, confusion and physical symptoms of stress such as headache, stomachache, loss of sleep while some may have encountered frightening situations and have the symptom of fright from stress for a long time. This will affect the physical conditions and cause illness easily while persons with personal illnesses may find the recurring of their diseases. Moreover, persons with a lot of stress that lack the source of help may become quiet, do not talk with stressful behavior, discouraged, sad and in some cases they may feel hopeless and become suicidal, so depressed that they lose the ability of lead a normal life. They have lack of appetite, loss of sleep, loss of energy to do normal daily activities and the symptoms last longer than 2 weeks and become ill with depression which is a curable mental psychosis disease.

Though many agencies both governmental and private gave the importance in the immediate solving of the flooding problems, but after the flooding ended, what was left was the feeling of loss and hopelessness of the flood victims. The cure was a specific assistance after what had happened but the teaching or supporting the villagers so they have strong mentality with resilience quotient and can adapt or adjust themselves to reality reasonably well is the worthy immunity always imbedded in them because in the future we do not know how many times they may have to face with sudden natural disasters or worse phenomenon like this.

From the background, significance and information provided above, it reflects the need for a model to promote resilience quotient (RQ) for flooded communities. There

is also no research concerning the promotion of RQ for flooded victims in Mueang district, Lampang province. The author thought there should be a study in the development of RQ promotional model and apply that model to operate the promotion of RQ to villagers in flooded communities so they could adapt and recover after facing the flood to help them conquer the problems and barriers and live on happily with positive viewpoints on problems and possess mental immunity if they have to encounter that kind of sudden problems or barriers again. If there is no research or the promotion of RQ, the flooded communities may have psychological problems affecting their physical conditions in the end. Moreover, the RQ promotional model for flooded communities can be a guideline and apply or use in other flooded communities nationwide.

### **Objectives**

1. To analyze the method of resilience quotient promotion.
2. To develop the resilience quotient promotional model for flooded communities.
3. To use the developed resilience quotient promotional model in the operation of the RQ model with flooded communities in Mueang district, Lampang province
4. To evaluate the application of RQ promotional model for flooded communities in Mueang district, Lampang province

### **Sample groups in this research**

1. RQ specialists from provincial hospitals selected by the purposive sampling method totaled 3 persons with the duty to provide information concerning the RQ promotional model.
2. Flood victims from Mueang district, Lampang province totaled 2 communities that suffered higher than 1 meter of flood for 2 days and had losses of life which were Ban Gluay pae village and Ban Gluay Luang village, Mueang district, Lampang province by volunteering sampling method, 5 persons per community totaled 10 persons with the duty to provide information concerning the RQ promotional model.
3. Academicians with knowledge, expertise and at least 2 years RQ experience or in psychology from governmental universities presently teaching psychology in the upper northern Thailand which are Chiang Mai University, Mae jo University, Mae Fah Luang University, Chiang Mai Rajabhat University, Chiang rai Rajabhat University and Lampang Rajabhat University, 5 persons per university totaled 30 persons using the purposive sampling method with the duty to assess the suitability of the RQ promotional model for flooded communities.
4. Experts specialized in RQ promotion totaled 10 persons using the purposive sampling method with the duty to verify and confirm the RQ promotional model for flooded communities.
5. Flood victims from Mueang district, Lampang province totaled 2 communities (Ban Gluay pae community and Ban Gluay Luang community) selected by volunteer sampling method for adults ages 25 – 60 years old, 20 persons per community, totaled 40 persons with the duty to be trained by the developed RQ promotional model.

## **Research tools**

The tools used in this research to collect data were constructed by the author from related concepts, theories and researches with adaptations and developments appropriate for this research with the following details.

1. Document analysis form using the content analysis technique of Krippendorff (1980) to analyze the RQ promotional model from documentary, websites studies and interviews.

2. Interview forms

- 2.1 Interview form for interviewing RQ specialists of provincial hospitals totaled 3 persons to collect data on RQ promotional model verified by experts.

- 2.2 Interview form for interviewing the villagers of Ban Gluay Luang community and Ban Gluay pae community totaled 10 persons to collect data concerning the RQ promotional model and verified by experts.

- 2.3 Interview form and behavioral observation form for villagers after receiving the RQ promotion application according to the mental health index evaluation form adapted by the research team from the mental health index of Thai people developed by the Mental Health Department, Ministry of Public Health by adjusting the index of the interview and behavioral observation forms so they agreed with the behavior and way of life of the flooded victims.

3. Questionnaire for opinion to evaluate the suitability of the RQ promotional model for flooded communities constructed by the research team from related concepts, theories and researches, results of the analysis of RQ promotional model and results of interviews and divided into 2 parts as follows:

- Part 1: Asking about general conditions of the respondents such as the academic positions, work experience and name of the agency where they were working under.

- Part 2: Asking about the suitability of the RQ promotional model using a 5 level rating scale.

4. Focus Group Discussion of experts to enable the actual usage of RQ promotional model for flooded communities.

5. RQ Evaluation Form of the Mental Health Department, Ministry of Public Health to evaluate the level of RQ of the villagers in Ban Gluay Luang and Ban Gluay pae communities, Gluy pae sub-district, Mueang district, Lampang province before and after the application of RQ promotion by the developed RQ promotional model.

## **Research Methodology**

The methodology was divided in to the following steps:

1. Studying related documents, research findings and information, concepts, theories and principles of RQ both from international and domestic sources. The study of the information created ideas and principle of clearer RQ promotional model then used them to specify the research framework.

2. Analyzing the RQ promotional model by studying documents, websites and interviews of the specialists and flood victims totaled 13 persons to specify the RQ promotional model for flooded communities.

3. Developing the RQ promotional model for flooded communities by drafting the RQ promotional model for flooded communities from the results of data analysis from

both international and domestic sources including the interviews and developed appropriate model according to the model development guidelines of Keeves (1988).

4. Presenting the RQ promotional model for flooded communities using a rating scale questionnaire to ask academicians specialized in psychology from the 6 governmental universities offering courses in psychology totaled 30 persons about their opinions to evaluate the model and acceptance of the RQ promotional model for flooded communities.

5. Improving the RQ promotional model for flooded communities by using the recommendations regarding the model from the questionnaire to evaluate the model suitability of the respondents from the 6 universities according to the steps in the development of RQ promotional model for flooded communities and get the RQ promotional model appropriate for flooded communities.

6. Verifying and confirming the RQ promotional model for flooded communities by having focus group discussion of 10 RQ experts with RQ experience to provide suggestions for actual application.

7. Applying the developed RQ promotional model to the flooded communities in Mueang district, Lampang province by actual application with the villagers and having the sample groups totaled 40 adults ages 25-60 evaluated by the RQ Evaluation Form developed by the Mental Health Department, Ministry of Public Health before applying the RQ promotion.

8. Evaluation after RQ promotional model application of the flooded communities in Mueang district, Lampang province by having the 40 villager samples complete the RQ Evaluation Form for Adults ages 25-60 developed by the Mental Health Department, Ministry of Public Health and observed the villagers after the RQ promotional model application according to the mental health index adapted by the research team from the mental health index of Thai persons developed by the Mental Health Department, Ministry of Public Health by adapting the index in the observation form to agree with the behavior and way of life of flood victims.

9. Concluding the results of RQ promotional model application by comparing the results of the evaluation before and after getting RQ promotion for the developed model including the conclusion according to the mental health index adapted to agree with the behavior and way of life of flood victims.

## **Research findings**

The findings from the research titled: The development of resilience quotient (RQ) promotional model to apply for the flooded communities by using the community participation activities. Case study: Mueang district, Lampang province had the following details:

### **1. Method and model for RQ promotion for flooded communities**

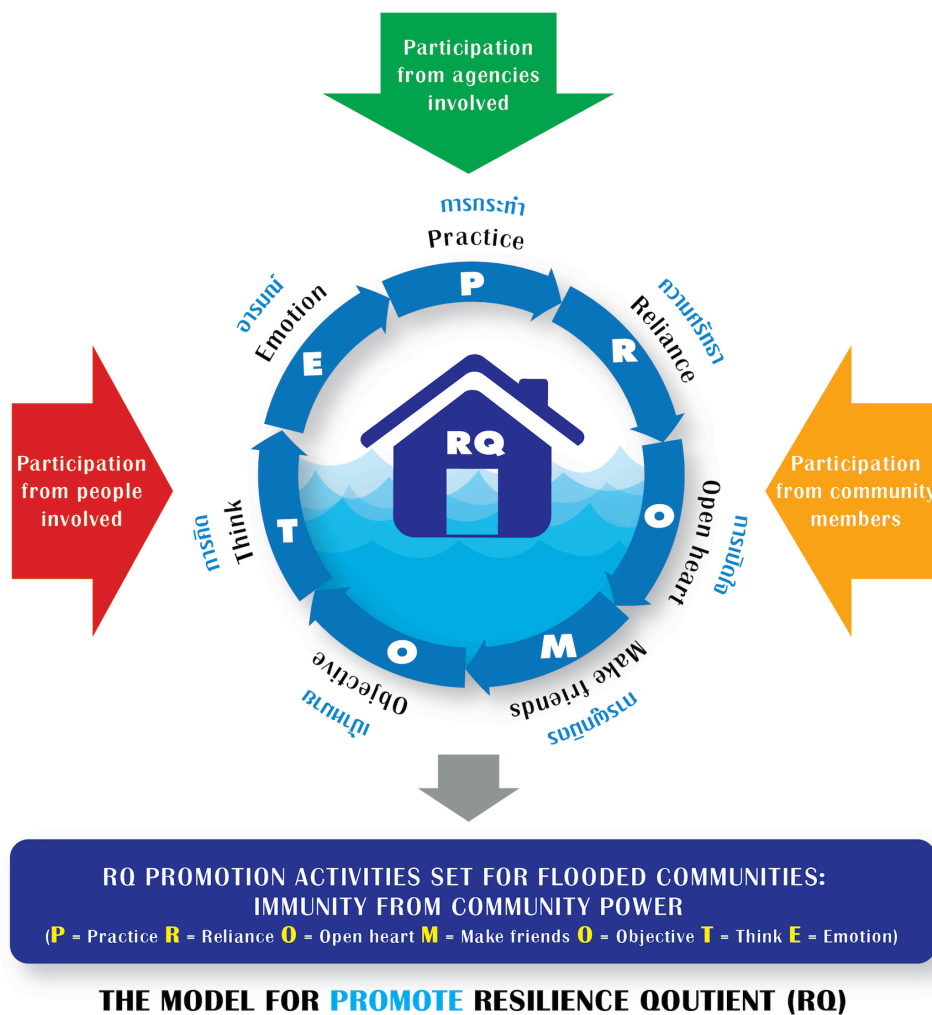
Model for RQ promotion for flooded communities with community participation from studying related documents, interviewing RQ experts and flood victims concerning the RQ promotional model for flooded communities found that the RQ promotional model for flooded communities should have the characteristics of the cooperation of all concerned agencies such as provincial disaster prevention officers, municipalities, provincial hospitals, sub-district health promotion hospitals, village public health volunteers, communities, educational institutes close to the communities, police, military, social welfare officers and general volunteer groups. All concerned agencies should have readiness preparation/flood relief preparation meetings together and

conclusion/results of operations together after finishing the flood relief operations for villagers to analyze the inadequacy or other needed additional assistances and when the appropriate improvements of assistance format are finished, they should use the developed RQ promotional model to further develop as activities to promote RQ to the flood victims separated according to groups of victims with systematic RQ promotional planning and follow the guidelines for RQ promotion according to the guidelines of 4 adjust and 3 add of the Mental Health Department, the Ministry of Public Health.

## 2. Development of RQ promotional model for flooded communities

The research findings: the RQ promotional model for flooded communities with the community participation must consist of 7 facets: Practice, Reliance, Open heart, Make friends, Objectives, Think and Emotion with the following details:

Components of RQ promotional model for flooded communities with 7 facets of RQ promotion (The model for the promotion of Resilience Quotient) with the following details:



### **3. Applying the developed RQ promotional model to apply the RQ promotional activities for flooded victims in Mueang district, Lampang province**

During the villagers doing the activities under the developed model, there were unofficial interviews and observations of villagers during activities participation and the overall picture found that the villagers cooperated well, paid much attention to doing the activities, had a lot of fun during doing the activities and could be observed clearly that the displayed behaviors of the villagers were according to the objectives of the activities. The villagers' behaviors during doing the RQ promotional activities with details separating into each activity are as follows:

**The Telling negative stories and finding way-out activity** found the villagers analyzed and knew full well their own emotions and could tell the method to control their own emotions apart from learning how to control other member's emotions and could apply and use in their own emotional control.

**The Heart onto heart activity** found the villagers able to adjust their thinking and actions appropriate for the situations; knew how to care for themselves to be happy when facing with the sufferings from flood problems; able to adjust their thinking to be flexible according to the situations; possessed positive thinking towards the problems and this activity also made the village fun and had humor.

**The Ten thousand friends activity** found the community members befriending each other; helping others as much as possible; communicating with each other using both spoken language and body language and this activity caused relaxation from listening to songs, swaying their bodies to the rhythm and massaging each other's hands.

**The Thought provoking clips activity** found the community members open up their minds and change their views and accept other people different ideas, have self-confidence, believe or trust in the community cooperation that whenever the people in the community cooperate seriously, any bad situation happening in the community would pass.

**The Guiding cards activity** found the villagers learn to be flexible and adjusted the targets appropriate to the period's situation; intended to solve flooding problems together seriously and expected that the coming rainy season would affect their homes very little or with no flood at all as a result of their own participation in the prevention, preparation and solving together the problems of floods.

### **4. The evaluation of the application of RQ promotional model for flooded communities in Mueang district, Lampang province**

In the promotion of RQ to villagers affected by floods, the 40 villager samples completed the mental health evaluation form of the Mental Health Department, Ministry of Public Health before and after the application of the RQ promotional model and the results of the RQ evaluation were as follows:

4.1 Emotional Stability: The overall picture found that the villagers increased their RQ 85%; the number of the villagers having RQ lower than normal criteria was reduced 30%; the number of villagers having their RQ in the normal criteria increased 12.50%; and the number of the villagers who had their RQ higher than the normal criteria increased by 42.50%. When considered each item of the evaluation criteria, it was found that before doing the RQ promotion, the number of villagers had RQ lower

than the normal criteria was 30% and in the normal criteria 70% while there were no villagers who had the RQ higher than normal. After applying the RQ promotion to the villagers, the RQ evaluation found none of the villagers having RQ lower than the normal criteria and 57.50 % were in the normal range and 42.50% were in the higher than normal range.

4.2 Morale: The overall picture found the villagers had increased their RQ 65%; the number of villagers who had their RQ lower than normal criteria was reduced 5%; the number of villagers who had their RQ at the normal range was 27.50%; and the number of villagers who had RQ higher than normal increased 32.50%. When considered each evaluation item, it was found that before doing the RQ promotional activities, 10% of villagers had their RQ lower than normal range, 85% of the villagers had their RQ at the normal range and only 5% of them were above the normal range. But after doing the RQ promotional activities, 5% of the villagers were below the normal criteria, 57.50% were at normal criteria and 37.50% were above normal criteria.

4.3 Problem Management: the overall picture found 50% of the villagers had increased their RQ; the number of villagers who had RQ lower than normal criteria was reduced 12.50%; the number of villagers who had their RQ in the normal range was 12.50% and the number of villagers who had their RQ increased to be in the above normal range was 25%. When considered each evaluation item, it was found that before doing the RQ promotion, the number villagers who had RQ lower than normal range was 12.50%, at normal range was 85% and only 2.50% was higher than the normal range. After the RQ promotional activities, the results of the evaluation showed no villagers with RQ below the normal range while 72.50% were within the normal range and 27.50% were higher than the normal range.

4.4 For the overall picture of three sides, 17.98% of the villagers had increased RQ after doing the activities; while the morale side increased the most at 17.86%, followed by the problem management at 18.76% and the emotional stability at 17.12%.

4.5 The comparison of the average RQ of the villagers before and after using the RQ promotional model found that the combined RQ after using the model different from the combined RQ before using the model with the statistical significance at  $p=0.5$  and the score after using the model was higher than the score before using the model. When considered each side, it was found that all 3 sides had the RQ scores after using the model different from the RQ scores before using the model with the statistical difference at level  $p=.05$  and all the after scores were higher than the before scores.

### **Suggestions and recommendations for applications:**

1. The research findings have recommendations for village public health volunteers, staff of sub-district health promotion hospitals, provincial hospitals, teachers, professors, educational personnel with psychological knowledge or those who wish to use the activity pictures under the model to promote RQ to villagers affected by floods as follows:

1.1 All members of the community should have the opportunity to participate in the activities.

1.2 During the activities, morale should be boosted and provide the opportunity to participants to be successful in the activities to create self-confidence and pride.

1.3 The trainers need to create participatory atmosphere and generate warm atmosphere and friendship towards each other.



- 1.4 The trainers should listen to community members' opinions, set themselves as neutral and when problems arise, they should judge them fairly.
- 1.5 The trainers need to manage time suitable for the number of participants.
- 1.6 Arrange the activities stressing the members of the communities be able to learn by themselves while the training team acts as the facilitators supporting the activity participants to learn according to the set objectives.
- 1.7 The activity set under the developed model is the activity set designed for community members affected by the flood whose ages and sexes are different, doing the activities together may have some limits during the activities, so the trainers/assistant trainers should be ready to help the community members when necessary.
- 1.8 The trainers must possess the ability to summarize the problems clearly and can pick or isolate the issues correctly.
- 1.9 The trainers must have knowledge in the conclusion according to the knowledge sheets.

The assistant trainers/group trainers are very essential during the activities. Apart from being the assistant trainers while doing the activities such as distributing and collecting equipment or materials during the activities, helping to summarize matters or ideas from conducting the activities etc. and during the activities, some villagers may need assistance while doing the activities i.e. some villagers may not be able to read or write or with physical handicaps with some limits and cannot participate in the activities fully so the assistant trainers/group trainers need to assist the villagers all through the activity time.

2. The 'Immunity from community power' activity set is the activity set that has the characteristics of doing the activities appropriate for promoting RQ to community members in adult ages (between 25 – 60 years) so those who wish to use the set should use it appropriately with villagers specified in this activity set only.
3. The research results found that the time used in doing each sub-activity was about 1 hour and to finish all 5 activities uses 1 day from 8:30 – 16:30 hrs. and the time needed for doing the activities may be adjusted and changed and need to plan according to the number of villagers participating at each activity. This activity set specifies the number of activity participants at no more than 40 persons each time so everyone has the chance and participates fully in the activities. Moreover each activity in this activity set can be used separately by itself or adapted and used in the teaching and learning management as appropriate.
4. Every sub-activity in this activity set has a knowledge sheet/summary guidelines for the trainers for each activity with subject matters in accord with the activity, agree with the way to build RQ power of the Mental Health Department, Ministry of Public Health and in agreement with the purposes of each activity. However the trainers' conclusions should bear in mind the context of doing the activities together too. So the knowledge sheets/guidelines for summary for the trainers are just only guidelines, the trainers may adjust or change to suit the activity conducted each time.

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