

## Investigation of Socio-Cultural Factors in Shaping Local Perceptions of Climate Change: A Case Study in NakornRatchasima, Thailand

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### ABSTRACT

*There is a worldwide recognition that climate change is the most serious environmental threat to humanity in our time. Although the extreme natural events continue to occur, climate change issues are widely misunderstood by the general public. This study aims to investigate the influence of socio-cultural factors on the public perception of climate change in rural Thailand. A questionnaire survey was conducted covering 253 households in village 4 of Nongbuasala sub district, NakornRatchasima province. Regression analysis indicated that among 24 contextual factors, only four factors, namely: social support by central and local government, climate risks distance to the world population, and socialization agent as 'reference person' were found to be negatively correlated with the perceptions of climate change by local respondents ( $p < 0.05$ ). The findings suggest that a multi-stakeholder approach is urgently needed to overcome those perceived barriers.*

**Keywords:** Climate change, local perceptions, rural, socio-cultural factors, Thailand

### INTRODUCTION

Presently, there is very clear evidence that anthropogenic climate change is significantly affecting both natural environment and social security in many parts of the world. Several types of extreme events have been occurring more frequently over the last few decades (Stern 2007). In July 2011, for instance, Thailand experienced the worst flooding in over a half century as a result of a heavy monsoon season (Department of Disaster Prevention and Mitigation 2011). The disaster affected more than ten million people and caused damage estimated at about 45.7 billion USD - ranked as the world's fourth costliest disaster from 1995 to 2011 (World Bank 2011). The problem is that even more documentary evidence on climate variability over time, public's perceptions and understandings still lag far behind (Bostrom et al. 1994; Bord et al. 1998; Norgaard 2009). In this vein, *perception* refers to human reaction to environment, through cognitive-affective reception of external stimuli (Sheppard 2005). To exemplify, such a process is influenced by many cultural, experience-based and individual factors that underline people's interpretation of the environment (Bell 2001; Campos et al. 2011). Not just only psychological explanations, but several socio-cultural factors can also be regarded as one of the most important mediator in explaining how climate change will unfold in the public forum. The purpose of this paper is, therefore, to investigate the relationship between the perceptions of global climate change and related socio-cultural factors in rural area of Thailand.

### LITERATURE REVIEWS

To begin with, it is helpful to run through a quick discussion of common understanding of the theoretical background related to sociological perspectives and a wide variety of contextual barriers to global climate change perceptions, as detailed in the following outline:

## Sociological Perspectives

One prominent view is that the intimate interdependency between human society and its ecological context has been debated at length over the last century (Rosa 2001). Referring the above mentioned statements, sociology concerns itself with an interest in understanding the linkage between individuals and society (as *micro* and *macro* links) as well as the dynamics of that relationship (Warren 2005). Attention is given to the challenge of how the disciplines of sociology and ecology can be integrated to fully understand *socio-ecological systems* as a *unity* (Michaelidou et al. 2002). In the context of climate change, environmental sociology has been applied to provide the complex and multifaceted relationship between human beings and the changing climate patterns for any particular locality. Emerging work in this area also explores how the general public defines the significance of global climate change as *risk*, how social and interpersonal processes shape attitudes, beliefs, discourses in public debates and perhaps even blind their perceptions and understandings of climate change phenomena. From this normative perspective, knowledge about related factors that cause individuals to deny the reality of climate change and its consequences would thus make it possible to tackle the barriers in a systematic and sustainable way.

Earle (1999) points out that social context theory has provided useful approaches to identify both societal structures and socialization processes of prevailing social environment in a particular locality. There are three fundamental components of social-environmental dimension: societal structures, social processes, and social realities. Social structure, firstly, refers to the pattern of social arrangements, causal interconnection and interdependence among the agents of socialization and individual action (Lopez and Scott 2000). Several factors, ranging from political, cultural, economic, legal, media and religion can be seen to have contributed to the social system. On the micro scale, social structure can be regarded as normative structures or the way norms shape the individual's action in a given social situation. Another is the process of socialization, this includes the internal forces (e.g. beliefs, attitudes, perceptions) that are central to how individuals view and interact with social structures (Earle 1999). In particular, these processes tend to be consistently uniform over a period of time, with slight changes in the various institutions. Of these, the consistency between macro forces from societal structures and micro pressures held by an individual person tends to drive the latest components; namely social realities, which are transmitted in the various folkways and norms (Heath and Gifford 2006) present in a society. To conclude, researchers in social psychology have conducted a great deal of work relevant to the interaction between individuals and groups, and the role of culture and social structure in perceptions of climate sciences (Norgaard 2009).

A series of explanations to the question of *why* an individual may distance themselves from certain information of climate change was further highlighted. Most people, for instance, tend to avoid acknowledging the sources of information to follow their cultural norms of attention (Hochschild 1983), and conversation (Eliasoph 1998). A process of denial is socially constructed to ignore all of the disturbing problems. Indeed, talking about uncertainty issues like climate change may go against the cultural norm of conversation and their toughness norms. Similar to the norm of attention based on their hierarchy of needs (Maslow 1970), individuals may have more important things to do than climate change mitigation. Krosnik et al. 2006 confirmed that global phenomena like climate change remain a relative low priority when compared to other social concerns (e.g. economy, health care, terrorism, radioactive waste, genetically modified organisms). Furthermore, a great majority of the public generally perceived climate related risks to be distant in space and time (Bordet al.1998; Norton and Leaman 2004; Lorenzoni and Pidgeon 2006; Leiserowitz, 2005). In that sense, most people

did not think global climate change would directly affect their diary life (as *non-urgent*), but it would happen to the other people (as *non-personal threat*). Too often, climate change information is invisible both in social interaction and national politics in particular. Lack of actions by other socialization agents in society can be accounted as a key barrier to personal engagement (Lorenzoni et al., 2007).

### Aims and Hypotheses

The objective of this study is to understand how global phenomena like climate change are perceived by Thai local people and further investigate the influence of socio-cultural factors on their perceptions. Accordingly, it is hypothesized that:

1. There is a widespread lack of knowledge and misconceptions about the nature, underlying causes of global climate change among Thai local people.
2. Local people who conform to the cultural norms of attention and conversation on environmental and climate change issues are more likely be aware of such phenomena.
3. Local people who have traditionally though that the impacts of climate change only affect other people or nations (*distance the risks in space*) are less likely to know about the issue.
4. The process of socialization, through the key agents of society, can help to increase the perceptions of global climate change among Thai local people.

## MATERIALS AND METHODS

### Study Area

This study was carried out in Muang district, NakornRatchasima province, the gateway to Northeastern Thailand, approximately 250 kilometers from Bangkok. The study area of my research is depicted in Figure 1. NakornRatchasima is traditionally an agricultural province where most of the population works in the agricultural sector (e.g. sugar cane, tapioca, corn cultivation). Local people who lived in village (or *Mooban* in Thai) 4 of Nongbuasalasubdistrict, NakornRatchasima province were considered as the *target group* of this study. A random sample of 253 households was selected from the entire population (N=724) through sampling with probability proportional to size with approximately 95% confidence interval (Yamane 1993).

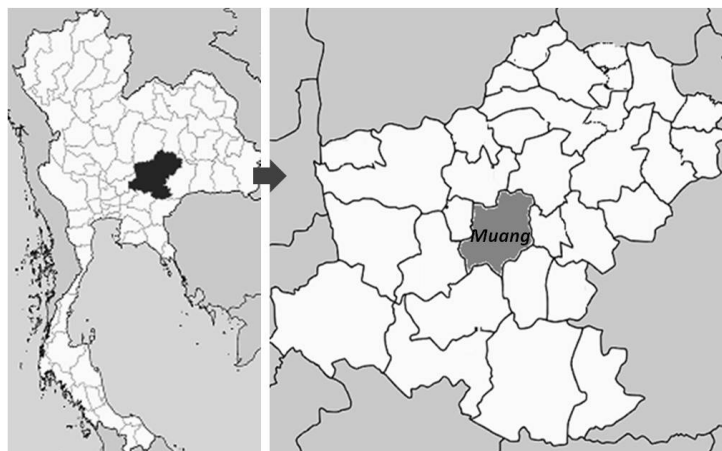


Figure 1. Study area- Muang, NakornRatchasima Province, Thailand

## Questionnaire

The questionnaire was designed based on key related factors identified through multidisciplinary reviews. The validity of questionnaires estimated through the Index of Item Objective Congruence method was 0.84, higher than 0.50 (Rovinelli and Hambleton 1977), and the reliability estimated through Cronbach's alpha coefficient was 0.71, higher than 0.7 (Cronbach 1970), meaning that the questionnaires had adequate validity and reliability for data. All respondents were asked to consider each statement and then add a *Likert scale* numerical rating, from 1 (strongly disagree) to 5 (strongly agree), that was closest to their own images about global climate change and related issues. To explain, the term *perceptions* in this study can be defined as an understanding of the basic concepts of global climate change. According to the socio-cultural domain, the question consists of cultural norms, social experiences, risk society, social supports, and agents of socialization on climate change issues (as summarized in Appendix A).

## RESULTS AND DISCUSSIONS

### Perceptions Of Climate Change

As first hypothesized, there are widespread misconceptions on both general definition and its underlying causes. Of these, about 65% of local respondents stated that they know something related to climate change phenomenon but in detail knew very little about it. A clear majority perceived that climate change is likely about heavy flooding, air pollution and the occurrence of extremely high temperatures. Also, most local respondents identified the primary causes of global climate change to be deforestation, open-burning and industry in their community rather than fossil fuel burning. Regarding to the preliminary result, it would not be unreasonable to believe that Thai local residents tend to have difficulty understanding the exact difference between the phenomena of global climate change and their local natural events (i.e. flooding). Indeed, since 2009, the communities in village 4 of Nongbuasala have been affected by continuous flooding in low-lying agricultural areas. Moreover, in 2011, many parts of Thailand have been hit by severe flooding as mentioned above. One reason for the misconceptions is that both local and national flood series create a visually dramatic image and are easy to understand immediately by the lay public.

### Sociocultural Contributions

#### Survey

Regarding the cultural norm of attention, a great majority of Thai respondents paid attention to poverty eradication (95%), unemployment (73%), and both local and national political (34%) issues rather than environmental issues (14%). For although, when considering and focusing on environmental problems, the majority of respondents agreed that air pollution (63%) and deforestation (49%) were of the most concern in their community rather than global climate change (Figure 2). Surprisingly, some respondents (30%) start talking about any changes and/or variations in the climate during this period of time. Based on their risk judgments, even some respondents seem to be very concerned about the potential climate change impacts on the next generation. Nonetheless, most of them mentioned that extreme weather is on the rise around the world (76%), Thai people (80%) and Bangkokian (92%) are increasingly battered by the impacts of climate change rather than their communities and families. Furthermore, when considering social support, about 90% of local respondents completely lost and don't know about national policy related to climate change context. They were not satisfied with the support (e.g. information, moral and proactive solution) from both

central and local authorities. Most people therefore externalize their responsibilities to those organizations and their community leaders. Lastly, through the socialization process, the survey results indicated that secondary agents, in particular television, are considered as the most important sources of information on general and climate change issues.

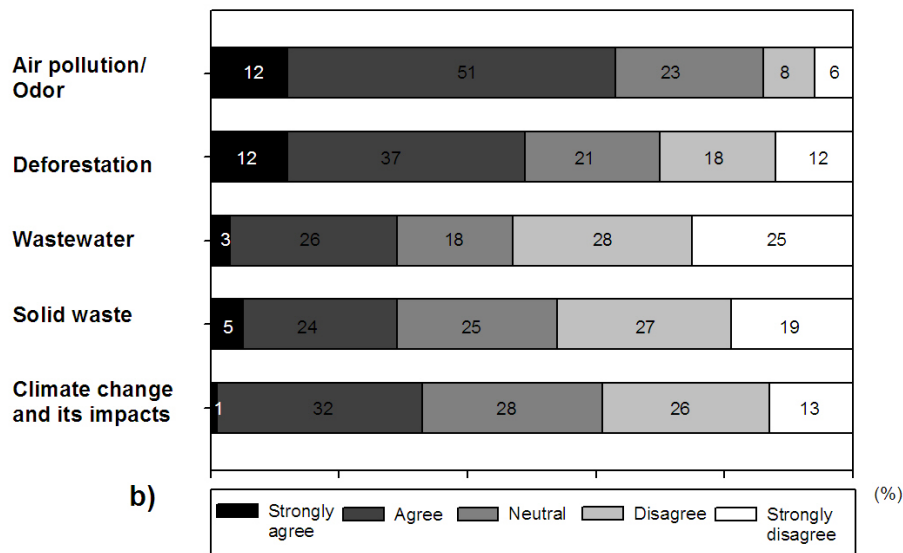


Figure 2. Environmental concern in the community

### Descriptive

Table 1 presents basic descriptive statistic for all socio-cultural components. Again, the survey results indicate that local respondents don't seem to have a cultural norm of attention nor initiate too much conversation on environmental ( $\bar{x}=2.38$ ) and global climate change ( $\bar{x}=2.06$ ) issues in their community. Most of them also place strong emphasis on the potential impacts of global climate change on people living in Bangkok ( $\bar{x}=4.62$ ), the world population ( $\bar{x}=4.13$ ), and all Thai people ( $\bar{x}=3.98$ ). On the one hand, they were not aware of any risks related to climate change in their community ( $\bar{x}=2.67$ ) and family ( $\bar{x}=1.53$ ). There is, certainly not yet, a low level of social support associated with proactive and preventive coping by both central government ( $\bar{x}=1.30$ ) and local authorities ( $\bar{x}=1.08$ ). Among the major agents of primary and secondary socialization, only television ( $\bar{x}=3.55$ ) was widely considered as the main source of climate change information in particular.

### Regression

Hypothesis 2 to 4 is supported by the data pattern in Figure 3 and Table 2. The results of linear regression analysis, given in Figure 3, show the correlation coefficient between *independent* (socio-cultural factors) and *dependent* (climate change perceptions) variables. The findings indicated that all of cultural norm of attention, conversation on climate change, social experiences, climate risks distance (to Thai people, Bangkokian, their family and community), socialization agents (family, friend, community leader, public address (PA) system, temple, industry, association, expert, TV, newspaper, internet and radio) were found to be positively correlated with the perceptions of climate change by local people ( $r = .047$  to  $r = .552$ ,  $p < 0.05$ ). Specifically, a norm of conversation about any changes of climate patterns, *social experiences* and *friend agent* of socialization were considered as the strongest positively correlation, with  $r = .552$ ,  $r = .511$  and  $r = .507$ , respectively.

**Table 1. Mean of socio-cultural factors relating to global climate change perceptions among Thai local residents (N= 253)**

<i>Sociocultural factors</i>	<i>Mean</i> $\bar{x}$	<i>SD</i>
<b>Cultural norms</b>		
<i>Environmental Attention</i>	2.38	1.02
<i>Climate change Attention</i>	2.82	1.04
<i>Climate change Conversation</i>	2.06	0.91
<b>Social experiences</b>	2.60	1.11
<b>Risk society:</b>		
<i>World population</i>	4.13	0.86
<i>Thai people</i>	3.98	0.79
<i>Bangkokian</i>	4.62	0.70
<i>Community</i>	2.67	1.04
<i>Me/my family</i>	1.53	0.69
<b>Social support:</b>		
<i>National government</i>	1.30	0.60
<i>Local authorities</i>	1.08	0.34
<b>Socialization agents</b>		
<i>Family</i>	1.55	0.90
<i>Friend</i>	1.64	0.90
<i>Community leader</i>	1.28	0.56
<i>Public address (PA) system</i>	1.43	0.68
<i>Temple</i>	1.26	0.50
<i>Industry</i>	1.30	0.60
<i>Association</i>	1.34	0.58
<i>Expert/scientist</i>	1.23	0.42
<i>TV</i>	3.55	1.27
<i>Newspaper</i>	1.92	1.05
<i>Reference group</i>	1.77	1.06
<i>Internet</i>	1.25	0.56
<i>Radio</i>	2.20	1.00

However, on the other hand, only four factors, namely: social support by central government, the effectiveness of local authorities, distance of climate risks to the world population, and the reference person in socialization (i.e. superstar) were found to be negatively correlated with their perceptions on the phenomena, ranging from  $r = -.151$  to  $r = -.011$  at 0.05 level of significant.

As discussed above, it is important to underline that the means of convincing lay people to keep climate change topic inside their norms of attention is the most critical challenge facing developing countries like Thailand. Regarding to the national development report (ONEP 2010), members of Thai society showed personal and social concerns over intermittent poverty, health, political instabilities (e.g. corruption and violence) rather than climate change over the past decade. Similar evidence is provided by Bord et al. (1998), attention on public interest in global climate change may reflect a socially oriented or normative concern for ecological and environmental issues rather than a well-defined perspective on personal beliefs about climate change specifically. More importantly, lack of a solid support structure from the key stakeholders (e.g. central and local government) is probably the number one reason why low-signal environmental issues like climate change (Funtowicz and Ravetz 1992) often fail to be translated into the local cultural norms. For instance, as the third hypothesis, most Thai local respondents tend to feel an ‘unrealistic optimism’ (Weinstein 1980), particular to the extent that climate change is likely to affect others world regions and/or other provinces but not individuals. Yet, the researchers have pinpointed that some beliefs in *fatalism* can be regarded as one of barriers that could hinder both perceptions and proactive actions in responding to climate change. Climate change issues can also make people feel *powerless* or *guilty* about how they can be part of the solutions. Therefore, people either like to do nothing or prefer to block themselves from certain information in order to follow cultural norms of attention, conversation and emotion, and to maintain their desirable emotional states.

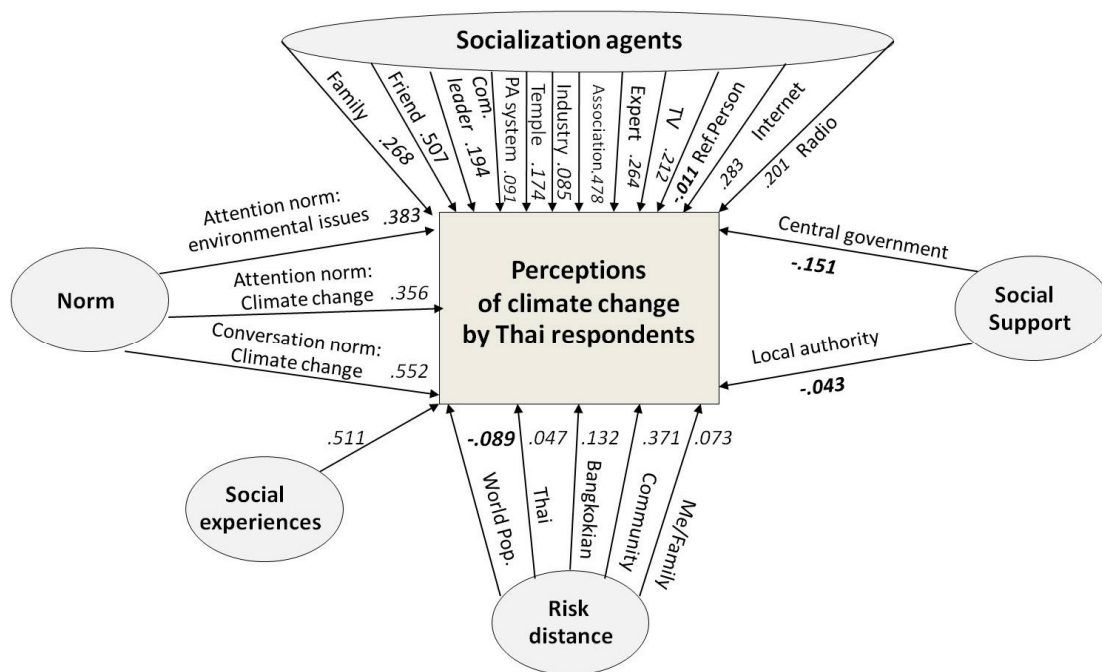


Figure 3 Regression analysis between socio-cultural factors and the perceptions of climate change among local respondents (N= 253)

### Multiple regressions

Following a previous component analysis, multiple regressions were separately computed for all twenty positively correlated factors in order to examine which one can be used to predict the perceptions on climate change by Thai local respondents. Also, as shown in Table 2, a regression model can tell the strength of the socio-cultural factors in predicting climate change perceptions with approximately 60.7% of variance,  $F(20,232) = 17.89$ ,  $p < 0.0005$ .

Among twenty positively correlated factors, only six components, namely: cultural norm of attention in environment, conversation norm on climate change, the agents of socialization as friend, industry, association, newspaper and radio can significantly predict such perceptions by local participants ( $p < 0.05$ ).

**Table 2 Summary of multiple regression analysis results (N= 253)**

Predictor Variables	B	Std.Error	$\beta$	t	Sig.
Cultural Norms					
<i>Environmental Attention</i>	.796	.162	.229	4.926	<b>.000</b>
<i>Climate change Attention</i>	-.007	.170	-.002	-.041	.967
<i>Climate change Conversation</i>	.764	.237	.195	3.223	<b>.001</b>
Social experiences	.409	.210	.128	1.953	.052
Risk Society:					
<i>Thai people</i>	-.326	.207	-.072	-1.577	.116
<i>Bangkokian</i>	.268	.242	.053	1.107	.269
<i>Community</i>	.369	.195	.108	1.896	.059
<i>Me/my family</i>	-.430	.237	-.084	-1.816	.071
Socialization Agents					
Family	-.328	.213	-.083	-1.542	.124
<i>Friend</i>	.972	.241	.246	4.037	<b>.000</b>
<i>Community Leader</i>	-.498	.361	-.079	-1.378	.169
<i>Public address (PA) system</i>	-.046	.271	-.009	-.170	.865
<i>Temple</i>	-.030	.413	-.004	-.073	.942
<i>Industry</i>	-.707	.353	-.119	-2.003	<b>.046</b>
<i>Association</i>	1.240	.350	.204	3.540	<b>.000</b>
<i>Expert/scientist</i>	.366	.698	.043	.525	.600
<i>TV</i>	-.017	.129	-.006	-.132	.895
<i>Newspaper</i>	.600	.179	.176	3.353	<b>.001</b>
<i>Internet</i>	.447	.328	.071	1.361	.175
<i>Radio</i>	.346	.163	.098	2.127	<b>.034</b>
R = .779    R <sup>2</sup> =.607    SEE=2.327					

With regard to the last hypothesis, it is clear that local people are somehow supposed to have acquired a complex set of their values about the phenomenon of climate change through socialization processes. Among the different types of primary and secondary agents, *friend* or *neighbor* was considered as one of the most influential factor of all predictors. This is because of the cultural lifestyle of Thai rural people is shaped by the close relationship with their neighbor. Probably, some local farmers start talking about the weather fluctuations and severe climatic changes during this time rather than over the last 3-5 years. In term of the socialization process, television, radio and newspaper were considered as the most useful source of climate change information in Thai society and this correlates with work done by Wardekker (2004). Boykoff (2008), however, speculates that coverage of climate change in general was found to be somewhat biased in scientific consensus. As part of a discussion, the way to improve climate change perception among laypeople, through their social or cultural processes, can be considered as one of the most critical challenges facing developing countries like Thailand.



## CONCLUSION AND IMPLICATONS

There is now substantial lack of understanding among the public in various parts of the world. In Thailand, so far, there has been very limited research study conducted on the mutual relation between ecological impacts of climate change and the perceptions of community members. In order to bridge the huge gap between local perceptions and the reality of climate change, these findings have led scholars suggest that the different key actors and stakeholders should be integrated into a multi-disciplinary policy planning and decision making process. The roles of interpersonal and media socialization agents in climate change communication should be strengthened both locally and nationally and appropriately adapted to the cultural norm of attention and conversation. As a result, some relevant issues arise indicating specific directions for further study and these also provide the recommendation for related stakeholders, as following:

1. Public uncertainty about the complexity of global climate change and extreme weather events in local communities should be better understood by all societal stakeholders, including policy makers, academia, media, practitioners, and the wider public. Also, sources of misconceptions should be made clearer and correctly communicated to local Thai society.
2. Practitioners must seek out the most effective ways to translate the global discourse on climate change to the local norms like attention, awareness and conversation. Through this process, the linkages between global climate change, poverty eradication, and political contexts seem to be particularly challenging. From the perspective of risk perceptions, media and educators need to make climate change more *local* and to discuss the issues and potential solutions in the *present* tense.
3. Academic researchers should conduct more multidisciplinary and empirical research to fully understand the reason *why* some negative feelings (i.e. fatalism, powerless, helplessness) can exert powerful influence over an individual's risk perception and their behavior to tackle climate change in the Thai context.
4. Communication on climate change and related issues should be highlighted on a *regular basis* in the public mind and also be *more sustained in a cyclic of their media attention*. Mass inconsistencies and fluctuations in relevant information must be minimized.
5. According to Thai society and culture, both primary and secondary agents of socialization, especially *family, friend, community leader, PA system, temple, industry, association, expert, TV, newspaper, internet and radio*, should place more emphasis on actions in shaping public understanding of and their behavioral response to life and dead environmental problems like global climate change.

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[33] Appendix A :Questionnaire

	Strongly Disagree	Dis Agree	Neutral	Agree	Strongly Agree
<b>Sociocultural domain</b>					
<b>Norm: Attention</b>					
<i>The following issues is most important to me personally and my society in general at present:</i>					
-Poverty	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
-Unemployment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Health and sanitation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Religious and cultural	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Education	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Political	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Environmental issues	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 <i>The following environmental issues is most important to me personally and my society in general at present:</i>					
- Air pollution	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Deforestation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Wastewater, air and odor pollution	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Solid waste disposal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Any changes in climate and its impacts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 <b>Norm: Conversation</b>					
<i>I always talk about any changes and/or the variations in the climate and its impacts with my family, my friend and my neighbor in our daily life</i>					
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 <b>Social experiences</b>					
<i>My community has experienced the adverse impacts of any changes and/or the variations in the climate (i.e. extreme weather; severe drought and floods)</i>					
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 <i>Risk society</i>					
<i>In my opinion, negative impacts of any changes and/or the variations in the climate</i>					
- People around the world	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Thai people	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- People who live in Bangkok	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- My local community	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- Me and myfamily

*Social support*

I think the following organizations is doing enough to deal with climate change problem in proactive ways

- |                             |                          |                          |                          |                          |                          |
|-----------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| -The government of Thailand | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| - Local authority           | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

*Socialization*

I know more about climate change issues from the following:

- |  |                          |                          |                          |                          |                          |
|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| - Myfamily                                   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| - Myfriend/neighbor                          | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| - Mycommunity leaders                        | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| - Temple                                     | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| - Factories/industries in mycommunity        | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| - My association (i.e. farmer, housekeepers) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| - Expert/academic scientist                  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| - TV   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| - Reference person                           | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| - Superstar                                  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| - Newspaper                                  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| - Internet                                   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| - Radio                                      | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |