

Building a Strategy to Overcome the Psychological Barriers to Climate Change Management in Rural Communities of Fako Division, Cameroon

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Abstract

This study seeks to build a strategy to overcome the psychological barriers to climate change management for rural communities in Fako Division. We employ a five point likert scale in which 100 inhabitants (adults) were surveyed purposefully surveyed in four rural communities (Malende, Bakingili, Bokwai and Miselele) of Fako Division (25 for each community) to identify the observed barriers. Based on the mean values derived from the 5 point likert scale, the study revealed that ignorance (mean=3.27) was the highest psychological barrier while denial stood as the least (mean=2.25). We then, as a recommendation, proposed a strategy for overcoming these psychological barriers which suggests that the government, the councils, NGOs, traditional authorities and the local population should collectively work together to identify people's socio-economic needs and improve climate change management by empowering the population through workshop sensitisation, seminars and the use of the local media to reduce ignorance. Also, we suggest that they should motivate and create a number of incentives which would assist in reducing these observed barriers so as to ensure that developmental activities should respect *stricto sensu*, issues of climate change management.

Keywords: psychological barriers, climate change, management, ignorance, poverty

1. Introduction

Climate change is no longer new in the vocabularies of most institutions today. Its causes and consequences are already a *déjà vu* phenomenon, and its impacts are mediated by psychological and social processes and can be limited primarily by human activity which is also a function of psychology (perception). Mitigation and adaptation remains a plausible way forward as humanity struggles to survive on the planet, amidst the odds of these climatic oscillations which are natural in origin but accelerated by human activities. Psychology determines the way people view the natural environment, their actions which either lead to mitigation or precipitates climate change all revolves around what they think. Although some people in every society are changing their behaviour in response to climate change, humans in the aggregate continue to produce greenhouse gases in quantities that drive further change. Psychology - the scientific study of behaviour and mental processes can help explain this pattern of behaviour (Everett, 2009). According to the American Psychological Association (APA) Task Force Report for 2008 (cited in Everett, 2009), psychology can help to better understand the causes and consequences of climate change and can contribute to humanity's response to the continuing process of global climate change. Psychologists have relevant skills for understanding why and how humans act in ways that contribute to climate change; the psychosocial impacts of climate change; and ways to assist society in responding to current and anticipated impacts of climate change through strengthening both mitigation and adaptation strategies, and to lessen the impacts and actions to reduce greenhouse gas emissions. This will require the adoption of strategies that will limit the barriers of collective action towards the management of this collective problem which logically requires a collective solution.

According to the American Psychological Association (APA) Task Force, one of the main problems is that, while

many people believe climate change to be an important issue, they do not see it as an immediate threat, and as a result there is no sense of urgency to tackle the situation (cited in Everett, 2009). This lack of urgency results from a range of underlying feelings such as ignorance - in which a proportion of the population are not aware that climate change exist just as people often are unaware of other aspects of their surroundings, uncertainty (which reduces the number of occasions in which people are prepared to take positive action), mistrust (whereby citizens are sceptical of messages concerning the risks that are being put forward by government officials or scientists), the guilt of undervaluing climate change risks, denial (some people are unconvinced that climate change is taking place or that human activity has anything to do with it), and others feel that any action they take will be too small to make a real difference and so they do nothing. The taskforce concluded that the final and most important factor is simply habit. The challenge here is that ingrained behaviour is slow and difficult to alter on a permanent basis. But the taskforce indicated that a psychological understanding of these barriers can be used productively to generate positive change. The fact that some people do not seem to believe that climate change is happening and that they have a stake in its management is, in itself, a problem. This could be linked to the low level of education and awareness creation, as well as the limited resources put at the disposal of climate change activists in Cameroon in general and Fako Division in particular.

Great strides have been made by other disciplines, particularly in the sciences to evoke issues of climate change. For instance, geographers and environmentalists have done their job by articulating the problem of human-induced climate change, and have given us a clear picture of the dangers of doing nothing to arrest it, physical science has also done a grand job by finding the tools and methods that can be substituted to avert the potential catastrophe predicted by environmental scientists; the economist has been able to estimate in economic terms, the potential losses from climate change and the benefits to be derived from adaptation. It is up to other sciences to come up with solutions to achieve the goal. So it is necessary to inspire or “annoy enough” psychologists to get involved in this current challenge which affects the entire world (Mazanov, 2010). The success of this move is a function of how well people are able to surmount the psychological barriers (denial, ignorance and mistrust, among others) which hinder actions geared towards climate change management. This study examines the different psychological barriers to climate change. Solutions proposed revolve around the need for a change in the mind sets of the population which will be reflected in the climate-friendly activities carried out in the division.

Climate change has affected people of all works of life, thus, it is a developmental challenge. Improving the resilience of local communities to climate change requires a sound level of awareness of the population, and the ability of the population to manage the effects of climate change. This definitely becomes possible through an understanding of the link between climate change and psychology. This is so because climate change has been blamed on human activities today, and the way humans affect their environment is a function of psychology (perception). Barriers of perceived risks from behavioral change, ignorance and mistrust, among others continue to work against the much needed efforts of climate change mitigation and adaptation. In the circumstances therefore, a revisit of these psychological barriers is necessary in climate change mitigation and adaptation.

Rural communities in Fako Division have had their own share of the caprices of climate change - the numerous flood situations in Limbe and the wind hazards in Tiko, coupled with a general rise in temperatures have a climate change undertone. As these problems persist, it is evident that their effects are aggravated by the fact that there has been little efforts put in place by the population to manage (mitigate and adapt) these climatic caprices. The inability of the local population to respond to the challenges imposed by climate change rests in part, on the observed psychological barriers such as ignorance, uncertainty, mistrust and denial, among others. Put succinctly, the people's thoughts and actions are yet to suffice as a positive step towards climate change management. It is, perhaps, necessary to note that major success can only be registered in climate change management if the population in question work together to cope with this problem. In addition, previous research placed emphasise on the effects of climatic variations on livelihoods especially crop production and the occurrence of climate related disasters (Balgah and Buchenrieder, 2014; Kimengsi and Mulu, 2013; Kimengsi and Tosam, 2013; Lambi et al, 2012). Very little consideration has been given on the aspect of climate change management from a psychological perspective. On this note, this study examines the psychological barriers (ignorance, uncertainty, mistrust, denial) to climate change mitigation and adaptation and seeks ways of better managing these psychological barriers. It shows the link between each of these barriers which are all mutually reinforcing and has sustained the dramatic but avoidable effects of climate change which these populations continue to suffer. Assessing these barriers and suggesting ways of overcoming the barriers for planning in the face of future climate change scenarios will enhance their willingness to behavioural change to mitigate and adapt to future climate change scenarios. This could be used in the context of other similar localities in Cameroon and parts of

Sub-Saharan Africa.

1.1 Literature Review

Psychologists have long recognized the fundamental unit of analysis for the human caused portion of climate change (Ehrlich and Kennedy, 2005; Gifford, 1987). Improving the management of environmental problems such as climate change over which there are some potential controls by man require actions that occur at individual levels (Clayton and Brook, 2005); these actions when collectively summed up, will be very significant in climate change management. APA (2009) reiterates the fact that one of psychology's unique contributions to climate change management is in the understanding of the behaviour of individuals. Psychology also contributes by helping to design more effective interventions and illuminating the psychological factors affecting behavioural change in organizations, as well as cultural and policy changes. APA (2009), a renowned psychological association, holds the view that people's understanding of climate change underlies their willingness to act, and to support public policies, in response to it (APA Report, 2009). The human dimensions of climate change explains that although climate change is a physical process, it is driven by social processes and understood through social processes, including interpretations of events presented in the mass media (Figure 2). Human behavioural contributions to climate change (on the left side of the model) occur through the use of goods and services that directly influence the environment (environmental consumption), which is linked to economic consumption (expenditures on goods and services). The impacts of climate change (noted on the right side of the model) go beyond the biological, physical health, and changes in human settlements. Climate change impacts may also include individual and social perceptions of the risks, psycho-social well-being, aggression, intergroup outcomes, and community building. Individuals and communities vary in their vulnerability to climate change and capacity to adapt, and these variations can raise ethical issues (APA Report, 2009).

The impacts of climate change affect and are affected by the ways that individuals and communities adapt (bottom right hand corner of Appendix A). Adaptation includes a range of coping actions that individuals and communities can take, as well as psychological processes (such as appraisals and affective responses) that precede and follow behavioural responses. Efforts to mitigate climate change (bottom left hand corner of Appendix A) can both decrease the human contribution to climate change and improve individual's psychological well-being. However, mitigation policies can also meet resistance. A number of institutional, cultural, and individual influences (bottom centre of Appendix A) influence patterns and amount of consumption, the impacts of climate change on individuals and societies, adaptation processes, and management attempts. The bottom line is that people's perceptions are governed by their psychology and this dictates their interpretation of the effects of their activities on the environment and the manifestation of the effects of climate change on them. This largely guarantees their level of response to these problems and how they climate-proof their developmental activities.

Using an exploratory research design, this study seeks to answer the following research questions: What are the psychological barriers to climate change mitigation and adaptation? How can these barriers be overcome in Fako Division? Addressing these questions will enhance their willingness to behavioural change to mitigate and adapt to future climate change scenarios. This could be used in the context of other similar localities in Cameroon and parts of Sub-Saharan Africa.

2. Method

Fako Division (Appendix B) is found in the South West Region of Cameroon. It has four Subdivisions, namely, Limbe, the head quarters, Buea, the Regional Capital of the South West Region, Tiko and Muyuka. It is bounded to the north by Meme Division, to the south west by the Atlantic Ocean and to the east by the Littoral Region (Figure 1). The division is found within the equatorial forest belt of Cameroon, and is marked by two distinct seasons – the wet and the dry seasons (Ngwa, 1978). Fako Division, at different times of year is under the influence of either continental winds from the north-east trade winds (harmattan) from the Sahara Desert or the maritime winds from the south west (South West Monsoon) winds which originate from the Atlantic Ocean (Molua and Lambi, 2006). The maritime climate is experienced along the sea-facing slopes of Mount Cameroon that receive the monsoon winds at right angle. Agriculture is the mainstay of the population. It has a total population of 445636 and a surface area of 2060 km², giving of it a population density of 216 pers/km² (Bureau Centrale De Recensement et D'etudes de la Population, BUCREP, 2010).

This study employed the use of a five point likert scale survey which had options ranging from "strongly agree" to "strongly disagree". Four communities drawn from the four subdivisions were chosen for the study to include Malende (Muyuka Subdivision), Bakingili (Limbe Subdivision), Bokwai (Buea Subdivision) and Miselele (Tiko Subdivision). One hundred persons (25 for each community) were surveyed using a close ended questionnaire in

the four communities. The mean scores for each of the causes were then obtained by multiplying the number of times that each of the rating on the four-point likert scale appeared by the rating amount (ranging from 1- SD to 5=SA). This was done to obtain the mean values for the different psychological barriers identified. It also makes use of reports from institutions concerned with environmental management. The target population of this study consists of adults irrespective of their sex drawn from the four chosen communities. The respondents targeted were mainly those who have lived in these communities for at least 5 years. The values obtained were summed up for each factor considered and divided by the total number of responses (100). The established cut off for the major or minor psychological barriers was 2.5; mean values above 2.5 were considered as the major barriers, while those below 2.5 denoted the minor barriers.

3. Results

A number of psychological barriers were used for investigation and analysis. They include ignorance, uncertainty, mistrust, denial and poverty. These values are analysed using the five point likert scale (Appendix C). Ignorance with a mean value of 3.27 ranked as the highest psychological barrier limiting actions geared towards climate change management in Fako division. Similarly, uncertainty (mean = 2.92), mistrust (2.54) all exceeded the established mean value of 2.5 and they are considered as the major psychological barriers. Denial and poverty with mean values of 2.41 and 2.25 respectively fall below the 2.5 mean threshold and are therefore considered as minor psychological barriers.

The notion of ignorance stands out clearly as a major psychological impediment to climate change management. The mere fact that people are ignorant of what to do may enhance their uncertainty and make them to deny any possibility of taking actions to combat this problem.

In addition, mistrust is very important as a psychological barrier to climate change management. It was observed that most of the respondents contacted do not have the spirit of mutual trust in collectively pulling their resources (especially material and financial) to tackle the problem of climate change. They expressed worries over the fact that some groups of persons and NGOs crop up these days just to rip local populations of their meagre resources all in the name of carrying one form of developmental activity or the other. This particular mind set does not augur well for the division as far as the need to mobilize resources and collectively work towards the mitigation and adaptation to climate change in their respective works of life. This phenomenon touched both the academically and economically advanced persons and the non academic and economically disadvantaged persons.

The observations above agree very much with APA's (2009) report which noted that many people are unaware of the problem of climate change, some are not sure of the facts and are ignorant of what to do while others do not trust or believe in the conclusions of experts. Some argue that the problem is occurring elsewhere and believe that solutions outside of human control will address the problem, an indication of denial. In addition, some group of people have other worthy goals and aspirations where their time, effort, and resource are expended upon (APA, 2009).

A controversial observation was noted for poverty and denial which all fall within the level of minor psychological barriers. This is because of we have to go by the adage that poverty exacerbates environmental degradation and environmental degradation in turn aggravates poverty, then it is startling to realise that it was not indicated as one of the major psychological barriers. However, since it was largely a perception study, some bias might have been displayed on the part of the respondents or the interpretation of the notion of poverty might have been limited to the financial sense. Furthermore, there is no gainsaying the fact that these other barriers, in one way or the other are connected to poverty if we have to look at poverty beyond the financial standpoint, to incorporate the level of information dissemination and awareness creation. When a society has poor information dissemination, there is a high probability that people will be more and more ignorant and they will tend to express their uncertainty and in some cases, deny the existence of a phenomenon like climate change around their locality. This is a possible explanation for the connections between poverty and some of the other psychological barriers indicated.

4. Conclusion

The level of awareness in the management of climate change is still glaringly low in rural communities of Fako Division, this therefore works against the cumulative efforts needed to affront the challenges confronting humanity as a result of climate change. Little awareness means that a majority of the population is ignorant and this in itself is a major barrier to climate change management. If these barriers can be successfully overcome, it would be a very significant blueprint for the division in the face of expected population increase and the mounting dramatic signatures of climate change.

Judging from the results obtained, ignorance plays a vital role as a psychological barrier to climate change management. When people are not aware of what is happening or what to do to solve a problem, then the future will be bleak for such a population. In this wise, it is recommended that to tackle ignorance, the local population should be sensitized through the media, in schools, workshops, community radios, churches and social gatherings, and other local information dissemination channels to make them to be aware of the dangers of living with such ignorance about what to do to reduce the impact of climate change or to cope with the problem.

In addition, when communities agree to pull their resources together to work collectively towards sensitising their population about the effects of climate change and how they can live with the problem, there should be proper accountability to the population so that the issue of mistrust should be solved. Also, it is necessary that the government, NGOs and the local councils should support such initiatives financially and materially so as to ensure their success.

Local climate change sensitisation experts should be trained and kept as community workers in all the rural communities of Fako Division. Just like agricultural extension workers, their target should be to ensure outreach to the local people by advising and empowering them on the basic tips they can adopt in their respective works of life to reduce the damaging effects of climate change in their localities.

In sum, the strategy for overcoming these psychological barriers (Appendix D) provides the major answer to the problem being investigated. It begins with an identification of the needs and preferences of the people. These needs could be economic, social or cultural. The identification of these needs and the psychological barriers will then give a better opportunity on how to address the barriers. The major way forward then includes sensitisation and awareness creation, motivation and the provision of incentives, increasing economic opportunities to fight against poverty which is a major cause of environmental degradation and the creation of local environmental groups. These actions should be carried out by the local population in synergy with the government, councils, traditional authorities and other environmental NGOs. This strategy could be modified to suit the context of other communities that strive for the need to climate-proof development by overcoming the observed psychological barriers.

Local level actions are very much needed in this fight against climate change. The process of decentralization in Cameroon should consider shifting responsibilities and resources to local communities having it in mind that enormous challenges abound in trying to develop local capacities by creating a meeting point between conflicting interests and of individuals and groups.

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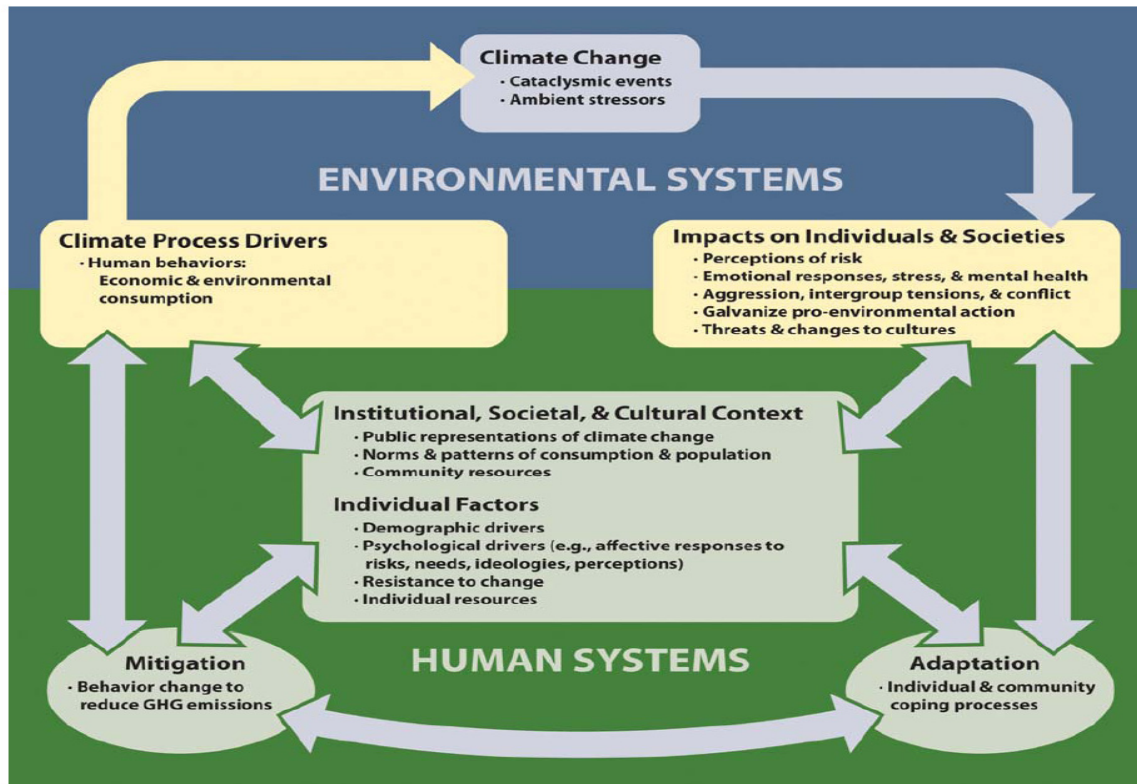
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Appendix A

A Conceptual Framework on Perceptions to Anthropogenic Climate Change Drivers, Impacts and Responses (APA, 2009)



Appendix B

The Map of Fako Division



Appendix C

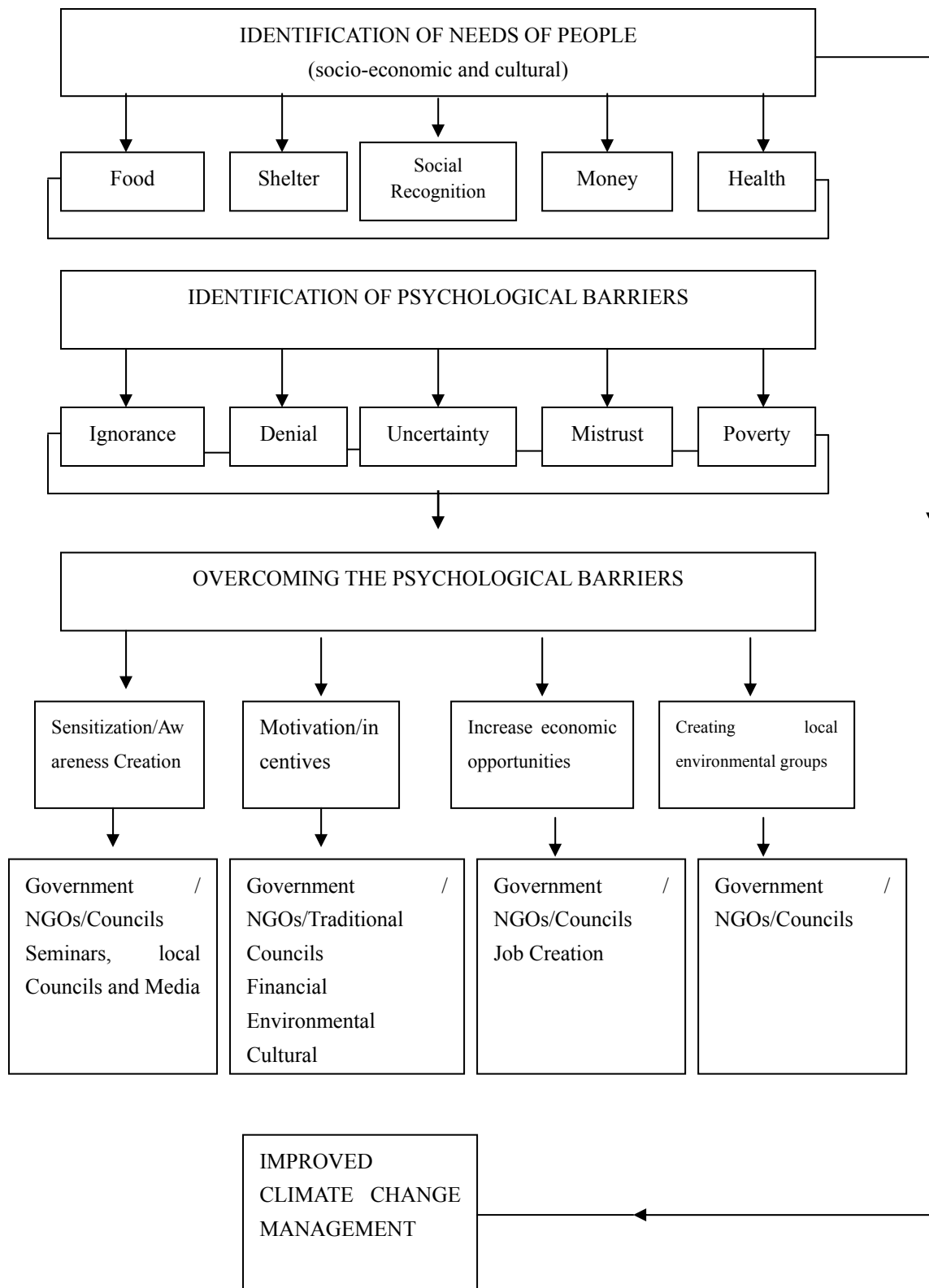
Survey Results of Psychological Barriers

Causes	Score	Responses	Mean	Rank	SD	D	A	SA
Ignorance	327	100	3.27	1	6	9	37	48
Uncertainty	292	100	2.92	2	14	8	50	28
Mistrust	254	100	2.54	3	24	13	48	15
Denial	241	100	2.41	4	26	17	47	10
Poverty	225	100	2.25	5	22	44	21	13

Cut-off = 2.5 (≥ 2.5 = major barrier; < 2.5 = minor barrier)

Appendix D

Strategy for rural communities to overcome the Psychological Barriers to Climate Change Management (Authors' conception)



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