

Development Strategy Based on the Psychophysical Processes for Climate Change in Bangladesh

Dr. Kazi Saifuddin¹
Fatema-Tu-Zohra Binte Zaman²
Dr. Nazmul A. Khan³

Abstract: The chain effects of the climate change and global warming have been discussed in many aspects throughout the world. Scientists have significantly taken in account these giant-global consequences of the climate change. Unfortunately, one of the biggest affected countries is likely to be the Bangladesh. Such consequences for Bangladesh can be multiple because of its level of poverty and the nature of geographical setting. Many strategies and initiatives are under consideration by the peoples, organizations and institutions concerned. It is however, important to consider some psychophysical factors when preparing the strategies in this regard. Without considering such factors when making the strategy, the goal can't be achieved as much as expected. The five-dimensional factors are: i. Mass perception; ii. Cognitive development; iii. Temporal dynamism; iv. Psychophysical health; and v. Action mechanism. The paper strongly suggests herewith that to consider the above five-dimensional factors when the principles of the development strategies for Bangladesh regarding climate change will be prepared.

Introduction:

Climate change is the change in climate over a time period that ranges from decades to centuries. The term refers to both natural and human-induced changes. To understand the significance of climate change variability should be discussed. The term 'climate variability' refers to shorter term (years to decades) fluctuations in climate such as those caused by El Nino/ Southern Oscillation. The United Nations Framework Convention on Climate Change (UNFCCC) defines climate change as: "a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural-climate variability observed over comparable time period" (1). In other words, the UNFCCC uses the term climate change to mean only those changes that are brought about by human activities. The Earth's climate changes in responses to external forcing, including greenhouse gases, variations in its orbit around the Sun (orbital forcing),

¹ Associate Professor and Chairman (Environmental and Health Psychology Lab.) Dept. of Psychology, Jagannath University, Dhaka 1100

² Assistant Professor, Dept. of Psychology, Jagannath University, Dhaka 1100

³ Assistant Professor, Dept. of Public Health, North South University, Bashundhara, Dhaka

changes in solar luminosity, and volcanic eruptions, all examples of the Earth's own variation in temperature, for which the UNFCCC uses the term climate variability.

The phenomena climate change likely can bring about for Bangladesh a massive permanent flooding over the low laying coastal areas. Because of the phenomena of global warming leads to an obvious rise of normal sea level. No doubt, whether such massive submerge under sea water can be called as natural disaster. Such a great natural disaster can be defined differently by different people: to some 'disaster is a summative concept' (2) or a 'sponge world' (3). Some researchers mentioned disaster as a 'collective stress situation' (4) while identified it with 'social crisis period' (5).

However, it is the time to realize the up-coming disaster over Bangladesh and to take proper initiatives to prepare scientific and effective strategy. Most of the initiatives ongoing are mainly based on the physical properties. That could be successful partially but, should introduce other non-physical concept to the maximum efforts. That is the psychological and/ or psychophysical factors. Below are some discussions over mainly five factors on psychophysical processes necessary for making development strategy against the mass-effects of global-climate change.

2.0 Five-Dimensional Factors

2.1 Mass Perception

Human perception toward climate change is very much important, making and implementing development strategy to overcome the future challenges. When we try to develop such strategy it should be understand what we introduce in the strategy able to make the people understood about the environmental phenomena concern. That is environmental perception should be enriched by which the inhabitants can deal with the natural environment effectively and friendly. A harmonic interaction should be developed in between randomized form of nature and the randomized form of brain waves (6,7) of the individuals. It means that the individual should understand the normal and polluted particles in the natural environment. And they must be conscious about the differences effectively. That's why the individual of collective perception process over environmental pollutants should be learned enough (Figure 1.1). The effective mass-learning process should be taken under practice in which five sensory channels are included.

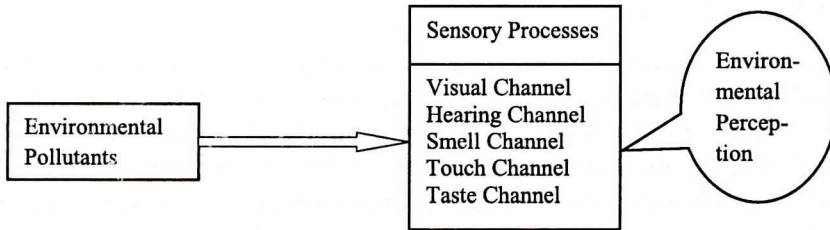


Figure 1.1. Environmental-perceptuāt process through five-sensory channels in which, higher level cognition can be affected by environmental pollutants.

2.2 Cognitive Development

Environmental perception and cognition are very important to take any action over environmental degradation. If a massive disaster take place over the Bangladesh for the longer period of time different types of initiatives must be taken. But it should be remembered that all of the initiatives will come from the cognitive process of human which also will influences the cognitions of other peoples concern. So the strategies of working activities should consider the psychological processes by which the necessary cognitive development can be successful (8). In this regard, the cognitive behavior therapy as a learning process or we can say behavior-modification process should be used to make expected action (or response) to the environment (Figure 1.2).

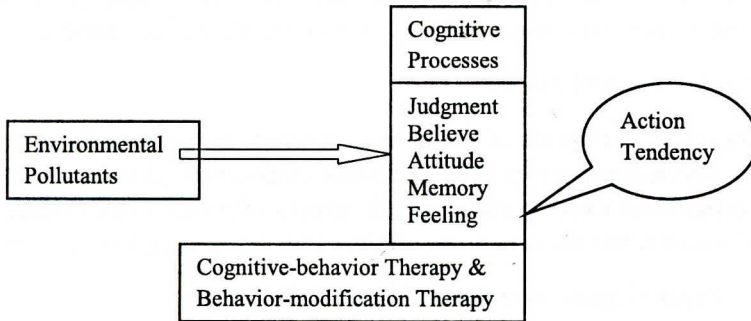


Figure 1.2. Environmental-cognition processes through sensation and perception in which, cognitive processes are concerned about the environmental pollutants to make behavioral action by using cognitive-behavior therapy and behavior-modification therapy.

2.3 Temporal Dynamism

The term 'temporal dynamism' is an important factor when the development strategy of climate change is to be formulated. Normally, a time frame is used at any type of planning for development work. But the 'time' is not a universal concept. We using the time in everyday life is in fact the mechanical time. There are so many verities of time in the reality such as psychological time, circadian time, etc. In this connection, we can discuss time as 'life' a dynamic existence which is mainly three types (9) as below:

- a. Life of body;
- b. Life of mind;
- c. Life of idea.

The 'life of body' means the life span of the human being, including other physiological activities which are responsible well to exchange with the changing environment. The 'life of the mind' means the individual perception and judgment which are changing with a special rhythm over mechanical time. And the 'life of idea' meaning here the durability and effectiveness of the knowledge and experience which is going to apply in the practical field. However, these three changeable factors should be taken with each other under brilliant consideration. Any type of environmental planning strategy should consider such three ever changeable factors to make itself more sustainable and acceptable.

2.4 Psycho-physical Health

The important exposures of the natural disaster can be obtained through psycho-physical processes (10,11). In this connection, significant results of investigations were found in which, psycho-physical consequences of natural disaster are classified into mainly two types as below (12,13):

- a. Psychological symptoms (Figure 1.3); and
- b. Psycho-somatic symptoms (Figure 1.4).

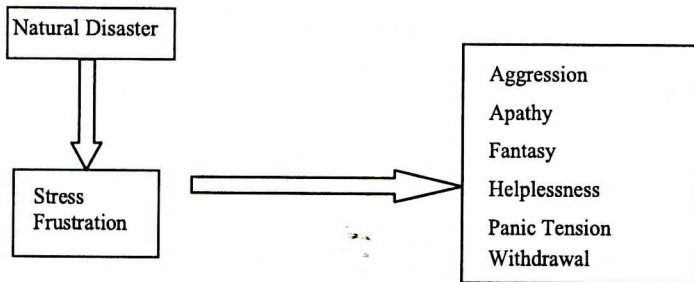


Figure 1.3. Psychological reactions as abnormal symptoms to the stress extracted from that mass-natural disaster.

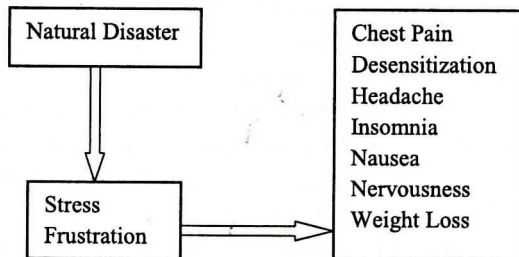


Figure 1.4. Psycho-somatic reactions as abnormal symptoms to the stress extracted from that mass-natural disaster

The psychological and psycho-somatic symptoms related to that of such natural disaster can be divided into two types when considering their intensity and duration. The types of the symptoms are as follows:

- a. Chronic symptoms (longer duration but lower intensity); and
- b. Acute symptoms (shorter duration but higher intensity).

2.5 Action Mechanism

Action mechanism is related to that of the behavioral spectrum of the individual with the environment. This mechanism is however, important for the individual and the group to have a successful interaction with the changing event in need in a disaster environment. In this action mechanism individual uses different strategies cited below (Figure 1.5). If the action mechanism is operated by cognitive process and executed by the habitat that could be the higher level effective measures.

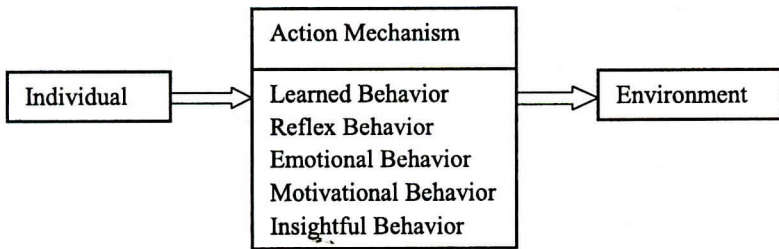


Figure 1.5. Individual and the group using the learning strategies to cope with the environment, when, it is labeled as natural disaster.

2.6 Bangladesh Perspectives

When preparing the national-development policy for Bangladesh against the massive effects of climate change above scientific phenomena should be taken in account. Obviously, unlike those advance countries that are still under treat by the same environmental events Bangladesh should prepare its own strategies inclusively based on the same psychophysical phenomena and others. Usually, psychophysical phenomenon is neglected when such of developmental strategy is prepared. And that's why the strategy can not be sustained up to expected level. However, those psychophysical phenomena can be adopted with the making mechanisms of the development strategies as shown below.

- a. Environmental education (perceptual approach)
- b. Environmental education (cognitive approach)
- c. Environmental movement (social approach)
- d. Environmental movement (health approach)
- e. Environmental movement (survival approach)

The environmental education should be introduced in the school curriculum of Bangladesh in which the new perception of the learners towards environment is grown. The perceptual process then goes through the deep cognitive process and then makes the individual understand and raise the realization for proper responses. The environmental movement will be organized on the basis of the environmentally educated people through social and health approaches. Social approach meaning here the individual existence in the group and the health approach meaning the biological coexistence in the living world. All the approaches will maintain two ways of inter-changing system in between the individual

and the environment that is obvious, the survival approach which in effect is the real existence of the human from the devastating threat of the global climate change.

The strategic development process of the country under LDC status a "7-A Strategic Diversity Process" is found highly effective for achieving the development goals (Figure 1.6). To making the development strategy for Bangladesh the 7-A strategic diversity process can play vital role in this regard which, corresponds well with the psychophysical phenomena. The whole process grossly indicates the behavioral modification and the modification of the cognitive process of the people living in such of countries like Bangladesh. However, the 7-A strategic processes are no doubt corresponding with the psychophysical processes. Those processes are described below in brief.

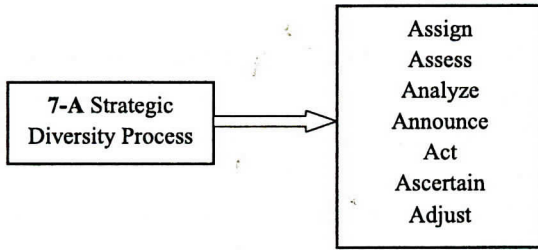


Figure 1.6. Diagramed presentation of the seven components of associated with the development strategy (<http://www.basicdiversity>).

1) Assign (Titling)

- Assign key roles and responsibilities as a citizen when disaster appearing.
- Identify your business drivers to achieve the final goals.
- Map out where you want to be with the temporal framework.

2) Assess (Measuring)

- Audit your current diversity features of the climate change.
- Select & train diversity teams as part of the management system for emergency.

3) Analyze (Planning)

- Determine stepping-stones as part of the mass design.
- Build on existing strengths for the proper placement of the weaknesses.

- Eliminate weaknesses when, where and how much ever possible.

4) Announce (Communication)

- Engage & inform key stakeholders individually and as part of the team itself.
- Motivate the members by circulating necessary masses as in need.
- Develop a clear & concise diversity statement by using latest available knowledge.
- Weave the diversity message throughout every mainstream communication vehicle.

5) Act (Implementation)

- Adjust internal processes, practices and systems as considering the social behavior.
- Custom design educational programs institutionally as well as individually.
- Conduct proper training as per need assessed purposefully in the mean time.
- Diversity improvement process concerning with the behavioral modifications.
- Organize, develop and facilitate diversity councils and/or tasks forces (optional).

6) Ascertain (Measure)

- Measure the achievement which is acquired from each step of objectives.
- Measure the impact of programs and activities in respect of the practical approach.
- Analyze, explain and describe numerically the compile data and present reports.
- Celebrate the successes by making confirmation of the achievements.

7) Adjust (Modify)

- Modify the processes as necessary when and after the evaluation in each step.

- Adjust areas that fell short of success and readjust as part of the evaluation process.
- Determine new stepping-stones for further advancement of the treatment approaches.

3.0 Conclusion

It is the time for us to conduct a massive study that how much vulnerability can take place if the sea-level is raised, significantly, by the chain effect of global warming and climate change. Then, on the basis of the findings of the study, we need to prepare a master plan to save the possible victims across the coastal areas of Bangladesh. The master plan of action should be made giving special consideration on the psycho-physical processes of the individuals habitually living around the coastal areas. Among the many, five important psycho-physical factors should be considered at first. Then the knowledge on those areas should be applied by the five learning-action mechanisms stated above (see 2.5) which are mainly based on the cognitive-action theories of psychology. The paper discussed about these mechanisms and theories in brief can bring significant results in this regard.

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