CHAPTER-7

Summary and Conclusion

7.1 Summary

The brunt of climate change is well discernable to everyone; the perception to climate change has been differential based on the occupation, education, ecology, surrounding and mobility of a person, group or community. By the term climate change we mean and understand the change in meteorological parameters over times, in term of both eventualities and predictabilities. The agricultural sectors are going to be the worst hit economy and sociology in India and all over the world. The sea level rise (3.5 mm per year) is imminent to swallow the costal line of agriculture, again which is inviting new threats and challenges. The impact of human health especially for the farmers who are destined to work under scorching sun and torrential rain is going to be harsh and results into increased health hazards and diseases. To respond to the brunt of climate change, we may need to change both the sequence and mix of crops. The propensity of extreme weather like drought,

flood, and cyclones is related to the loss of income, livelihood, in addition to the loss of lives and assets. The change in pattern of livelihoods, the increased uncertainties of income and wages of the farmer can well be relegated to the characteristic of climate change. The sowing of seeds are frequently be rescheduled, and the transplantation of paddy are frequently be affected by drought or excessive or untimely rain. Some pest and disease problems are revisiting with increase vigour and ferocity. These all have made the prospects of agriculture and occupation uncertain, unpredictable and unmanageable either.

7.1.1 Research setting

The village Bhaluka of Amdanga Block of North-24 Pargana district and Hatikanda village of Haringata Block of Nadia district were selected purposively and a total number of 70 respondents were selected by simple random sampling method. The independent variables selected for the study were, Age (Chronological Age) **(X_1),** Family size (Number of Family Member) **(X_2),** Education **(X_3),** Gender ratio **(X_4),** Total **s**ize of holding (bigha) **(X_5),** Fragments (X_6), Cropping intensity **(X_7),** Family income(Rupee value/per capita) **(X_8),** Interaction with TV **(X_9),** Fertilizer dealer **(X_{10}),** Newspaper **(X_{11}),** Market interaction **(X_{12}),** Livestock **(X_{13}),** Fertilizer dose(kg/bigha) **(X_{14}),** while seven dependent variables selected for the study were, Community perception on climate change **(Y1),** Community perception on climate change effects on biodiversity **(Y2),** Community perception on climate change effects on crop production **(Y3),** Community perception on climate change effects on crop disease and pest **(Y4),**

Community perception on climate change effects on human health **(Y5),** Community perception on climate change effects on Food security **(Y6),** Community perception of climate change effects on livelihood **(Y7)**

All these .have been done to establish and estimate the pattern, direction, and intensity of interaction to ultimately estimate the agro- ecological and socio-ecological behaviour of this Gangetic alluvial zone (Nadia and North 24 Pargana) to ultimately derive and elicit their behavioural traits in the changing climatological, biological and physical setup.

7.1.2 Research Methodology

After collection of data, data were processed and analyzed in accordance with the outline laid down for the purpose at the time of developing the research plan. The process implies editing, coding, classification and tabulation of collected data. The main statistical tools and techniques used in the present study are as follows:

1. Minimum
2. Maximum
3. Mean
4. Standard deviation
5. Coefficient of Variance
6. Correlation of coefficient
7. Multiple regression analysis
7. Stepwise Regression analysis
8. Factor analysis

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A Pilot study was conducted before construction of data collecting schedule.

The Coefficient of Correlation recorded the relationship of Dependent variables with Independent variables. The regression analysis has been carried out to show the effects of the causal variables on the Dependent ones. The Factor Analysis presented for the conglomeration of apparently different variables into a clustered factor based on intrinsic homogeneity called Eigenvalues.

7.2 Conclusion

Climate change i9s the green reality for global agriculture with 1 ^{0}C change in nocturnal temperature, the rice, and wheat productivity will go down by 20 and 12 percent respectively. The third world countries will be the recipient of worst impact of climate change on 17600 km coastal line of India around 30 percent of the total area will be inundated by 2050 with shimmering seawater level and will trigger up the migration of 230 million of people thriving with coastal line eco-system. The vagaries of monsoon will account for uncertainties of wages and livelihood for millions of farm families. With this background, the present study attempted the focus and estimate the aspects of food security and perception of climate change by farming communities with the following objectives….

1. To assess the level and nature of climate change perception through a quantitative approach.
2. To estimate the level of food security and livelihood security as the impacted consequences due to perceived climate as the dependent variables.

3. To estimate the agro-ecological, socio-economical and psycho-perceptual variables as the independent characters and to estimate the level direction with the level of interaction with the consequent variables food security and livelihood.

The results presented empirical evidence on the stronger correlation between Community Perception on Climate Change and family size, the total size of farm holding as well as family income. So, climate change perception has become an estimated that made a score agro-ecological and socio-economic prediction. The number of fragments pertaining to any size of holding has become out as an important predictor of livelihood security. This is an important revelation that land fragments can have a journey through the integration between Community Perception on Climate Change as well as Livelihood Security. The total size of holding has also been as an important predictor for perceiving climate change effects on disease and pest as evidence through stepwise regression. So, land resources, as well as family resources, stand as important contributors to the community perception of climate change as well as livelihood security. The perceived effects of climate change effects on biodiversity have been reflected by the functional variable livestock. So, livestock has become the discernable sector wherein biodiversity erosion are so harshly reflected and disposed of to the community persuades and life process.

All the fourteen variables have been gone through Principle Component Analysis to isolate five basic component or factors which successfully accommodate all these fourteen exogenous variables. The family ecology factor has contributed 23.156 percent variance of their interaction which

also accommodates four important variables in it. The another important prospects on climate change have been on food security and it is also interesting to observe that the communication variable interaction with TV has been contributed swashbuckling manner to dictate the direction of their relationship.

Modelling Community Perception on Climate Change itself is a difficult work. However, the multivariate analytical techniques have associated us to assist the complexity of different agro-ecological and socio-economic variable contributing both in clandestine and calibrated way to estimate the climate change on food security and livelihood. The empirical evidence can go extremely important for generating micro-level policies towards mobilizing community for ushering for effective adaptation and mitigation to combat the colossal effects of climate change.

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