Fighting Climate Change Through Community Based Adaptation (CBA): Assessment of the factors that determine the people's willingness to take part in CBA in agriculture sector

Chatura Rodrigo[1]

Climate change is happening, and the impacts are being visible in different forms of natural disasters and catastrophes, which are impacting the lives and livelihoods of the people and communities in rural areas (Shaw, 2006). Poor communities in poor countries are most vulnerable to climate change and are already feeling its impacts, but ironically have contributed least to the problem. Helping them to adapt to climate change is vital. One such approach that could help vulnerable communities is the community-based adaptation (CBA). Sri Lanka over the years received much attention in implementing community based climate change adaptation initiatives. These initiatives were done by government institutions, NGO/INGOs and also private led institutions. One major limitation of these programmes is the failure to understand the factors that determine the people's wiliness to take part in CBA initiatives. The wiliness to take part is a major determinant of the sustainability of the programme. Without the willingness to participate, the CBA programmes will only succeed to a certain extent, mainly until the project funds are available. Even though CBA programmes are built on the voluntary participation of people, little attention has been put to identify the factors that determine people's wiliness to take part in CBA initiatives. Therefore this research hopes to address the research problem "what factors would determine the people's wiliness to take part in CBA activities in Sri Lanka".

Vulnerability to climate change is not just a function of geography, or dependence on natural resources; it also has social, economic, and institutional dimensions which influence how climate change affects different groups and how they respond (Action Aid, 2005). Climate change will also have psychological and cultural effects, for example beliefs and traditions associated with the rainfall patterns and other weather events are important (Jenning and McCrath, 2009). All these factors will determine the people's wiliness to take on CBA initiatives, but they would greatly vary based on the country context and the sector that the vulnerable communities represent, i.e., agriculture, plantation, fisheries etc.... (Brink and Rantala, 2012) Therefore in order to successfully implement CBA activities it is very essential that the determining factors are identified in each country and sector context.

One area that is heavily affected by climate change in Sri Lanka is the agriculture sector. Climate change affects the production process of rice, vegetables, export agriculture crops and plantation crops. However among these majorities of farmers are engaged in paddy farming. Paddy farming is heavily affected by climate changes impacts especially with the changing rainfall patterns, intensities and floods. The changing rainfall patters have caused problems in supply of irrigation water while high intensity rainfalls have caused floods that destroy the crops. All these have ultimately resulted farmers to lose their income and drag them towards poverty. Therefore

[1] Chatura Rodrigo is a research economist at the Institute of Policy Studies, Sri Lanka.

climate change adaptation is very crucial for agriculture farmers in Sri Lanka. However, as mentioned before there are many factors that could determine the farmers' wiliness to participate in CBAs.

In order to assess these factors, three farming communities were selected from Ampara, Puttalam and Pollonnaruwa districts. These districts represent farming communities that are highly engaged in paddy framing while being constant victims of heavy rainfalls droughts and floods. Data was collected through a semi-structured questionnaire and 50 farming households were selected from each farming community. Therefore the total sample was 150 faming households who are actively engaged in paddy farming. The questionnaire used geographic, socio-economic, psychological and institutional factors that could determine the farmer's wiliness to take part in the CBA activities. The data was analyzed using a probit regression analysis where the dependent variable is the "farmer's willingness to take part in CBA initiatives". In addition, three Focus Group Discussions (FGDs), one per farm locality was carried out to verify the findings of the quantitative analysis.

According to the findings, the probability of farmer being willing to take part in the CBA activity increases as the level of education increases. In addition, the probability of willingness would increase as farmers are more experiences with climate change events such as heavy rainfalls, droughts and floods. Having a higher income from farming activities pushes farmers to be more willingly to take part in CBA initiatives. The level of risk of the farmer, whether he is a risk averse person, risk neutral or risk lover is also important. Risk averse farmers are more likely to take part in CBA initiatives. Some farmers have established their own coping strategies to deal with climate change issues. These farmers are more likely to take part in CBA activities. Farmers have many coping strategies that they have developed through their own experiences, believes and knowledge. On that account, increase in the number of such coping strategies has also positively impacted the farmer wiliness to take part in CBA. Over the years farmers received support from institutions to cope with disasters due to climate change, and these supports have also persuaded farmers to positively look at CBA. Awareness on climate change and its impact also is positively related to the farmer's wiliness to participate. Finally, the government has declared farming areas as flood prone, based on the historical data. Therefore, knowing that the areas they farm is a disaster prone locality, has encouraged farmers to adopt CBA initiatives more and more.

In conclusion, farmers willingness to take part in CBA initiatives are based on the geographic factors such as the farm lands being located in disaster prone areas, socio-economic factors such as education, income, past experience with disasters, psychological and cultural factors such as farmers own risk evaluation, farmers own coping mechanisms and finally institutional factors such as disaster relief support and awareness creation.