Farmers Perception And Adaptation To Climate Change

The production of Zea mays (otherwise called maize or corn), which is an important staple food crop in Nigeria, is limited by the impacts of climate change; thus, posing food insecurity in the country. The primary purpose of this study is to assess the perception of smallholders' maize farmers on climate variability; and, their climate change adaptations practices in Anambra State, Nigeria. A multi-stage sampling technique and structure questionnaires were applied to this study. Collected data were analyzed using both descriptive/ inferential statistics, together with a simple technique of geographic information system (GIS). The results show that, approximately 57.2% of climate variability negatively impacts on maize production in the study area. Basically flooding ($\sigma = 2.02 \pm 1.166$), erratic rainfall ($\sigma = 2.02 \pm 0.816$), and decrease in crop yield by strange pests and diseases ($\sigma = 1.59 \pm 0.896$) affect maize production. The well-informed farmers practice some climate change adaptations techniques such as: planting of grasses to prevent erosion, and, use of improved maize seeds to withstand environmental stress. In conclusion, the lower the standard deviation values, the more knowledgeable the farmers were about issues of climate variability and on climate change adaptations practices; and, vice-versa.

Perceptions of climate variability and change reflect local concerns and the actual impacts of climate phenomena on people's lives. Perceptions are the bases of people's decisions to act, and they determine what adaptive measures will be taken. But perceptions of climate may not always be aligned with scientific observations because they are influenced by socio-economic and ecological variables. To find sustainability solutions to climate-change challenges, researchers and policy makers need to understand people's perceptions so that they can account for likely responses. Being able to anticipate responses will increase decision-makers' capacities to create policies that support effective adaptation strategies. I analyzed Mexican maize farmers' perceptions of drought variability as a proxy for their perceptions of climate variability and change. I identified the factors that contribute to the perception of changing drought frequency among farmers in the states of Chiapas, Mexico, and Sinaloa. I conducted Chi-square tests and Logit regression analyses using data from a survey of 1092 maize-producing households in the three states. Results showed that indigenous identity, receipt of credits or loans, and maize-type planted were the variables that most strongly influenced perceptions of drought frequency. The results suggest that climate-adaptation policy will need to consider the social and institutional contexts of farmers' decision-making, as well as the agronomic options for smallholders in each state.

The impacts of increasing climatic variability and change are global concerns but in Bangladesh, where large numbers of people are chronically exposed and vulnerable to a range of natural hazards, they are particularly critical. This resource book, Climate variability and change: adaptation to drought in Bangladesh, has been tested and prepared as a reference and guide for further training and capacity building of agricultural extension workers and development professionals to deal with climate change impacts and adaptation, using the example of drought-prone areas of Bangladesh. It also presents suggestions for a three-day training course that would be
readily adaptable for any areas of Bangladesh affected by climate-related risks. The information presented on climate change adaptation would enable participants to prepare, demonstrate and implement location-specific adaptation practices and, thus, to improve the adaptive capacity of rural livelihoods to climate change in agriculture and allied sectors.

Climate projections for the Lower Murray catchment estimate elevated temperatures and a decline in rainfall and runoff (Connor et al., 2008), which is very likely to affect agricultural systems. The negative impacts can be mitigated through adaptation, which requires involvement of the local community (Klein et al., 2007), and hence, it is important to gain a better understanding of farmers’ perceptions to climate change, the adaptation options to the current drought circumstances and what limits their actions upon droughts and climate change. The data is collected through a phone-survey in which 43 farmers participated. Although the number of participated farmers is not sufficient to generalize the results beyond this sample population, general trends were identified for further evaluation. The interviewed farmers are aware of variations in climatic conditions, but are inclined to connect these to the natural climatic variability, rather than to human-induced climate change. Adaptation to the current drought exists mainly of purchasing extra water rights and/or improving irrigation efficiency. Factors which influencing farmers perceptions toward climate change and their ability to adapt, are their age, education level and the district where they are living in. Younger farmers tend to be aware of climate change and the impacts on their farm business, while older farmers appear to link this to natural climatic variability. Farmers who have been on university or have followed TAFE are more likely to respond than farmers who have been only on primary school. In addition, farmers who are living in Kingston OM are more likely to adapt to climate change. The main barriers for adaptation to climate change considered by farmers are the lack of financial incentives, their strong dependency on commodity prices and the lack of knowledge on future water availability and adaptation options. This study suggests that the adoption of climate change adaptation measures can be accelerated by financial incentives that reduce the financial risks of the individual farmers and by providing more information about the future climate change impacts and adaptation possibilities.

This study discusses the findings of the research that was carried out in selected Communities of Ekiti State among predominantly smallholder arable crop farmers on their perceptions and adaptations to climate change. A multistage sampling technique was used to randomly select 135 respondents. Data were analysed using descriptive statistics, ordered logit and multinomial regression models. The study discovered that almost all the farmers interviewed perceived changes in climate. The result of factors influencing farmers' perception decisions using ordered logit regression analysis showed that gender, age and level of education were statistically significant in influencing the level of perceptions of the farmers. Finally, multinomial logit regression model was employed to analyse the factors that are influencing farmers' choice of adaptation on climate change and variability. The results indicate that gender, age, farming experience, land tenure, farm size, access to extension services, access to loan, engage in non-farming activities, temperature and rainfall were the main factors influencing farmers' choice of adaptation to mitigate effect of climate change.

Thesis (M.A.) from the year 2017 in the subject Agrarian Studies, grade: Very Good
This thesis studies the field of drought hazard and its findings are consistent with existing literature on drought in Thailand and other regions. In the country and study area, the findings and results of this study may provide effective and useful adaptation strategies to drought and also help understand drought's impacts on agricultural production and farmers' livelihoods, because of the little existing research on drought in the study area. In addition, maybe this thesis can assist the regional and rural planners and extension officials and other agro and rural related sectors and departments to formulate development plans, policies and extend useful and effective services in order to facilitate farmers to be able to sustain their livelihood against the drought by adapting the most effective adaptation strategies. Drought is one of the major threats among all natural hazards to people's livelihoods and socio-economic development. Drought is a normal characteristic of climate and is considered to be the most complex but least realized of all natural hazards which affects more people than any other hazards particularly the farmers and their livelihoods. The first and the most consequence of drought lies on Agriculture and threatened both agriculture sector and those who are dependent on it in that drought affected area. Nong Ya Sai district of Thailand is a drought prone area which the farmers have been suffering from drought during the recent years. Since, it is a long time that the farmers have experienced the drought and its consequences on their farming and their livelihoods, they could have a good perception of drought and its impacts on their agro-based livelihood. Thus, they have applied some adaptation strategies to reduce the drought impacts on their farming and livelihood in that area. Therefore, this study has attempted to focus on farmers’ adaptation strategies to drought in order to find out what strategies or techniques are adapted by farmers to reduce the drought impacts on their both farming and livelihoods. Furthermore, this study has assessed the farmers’ perception and understanding of drought and what are the drought impacts on agriculture and farmers livelihoods. To achieve these objectives, the Nong Ya Sai district of Thailand has defined as the target area of this study where it is a drought affected area and the farmers have experienced and adapted some strategies to reduce the drought impacts.

Climate change has a major impact on food security in Nepal. Almost all women farmers in the country depend upon agriculture as a major source of income to enhance their food security. There has thus far been no systematic study about the impact of climate change on food security of women farmers. Therefore to fill this lacuna, the present study was conducted in five Village Development Committees with 150 households of Udayapur district in Nepal. The present research aims to study the perception of farmers about climate change, the impact of climate change on agriculture and food security. It also documents the adaptation strategies that farmers practice. The study also attempts to study the agricultural policies through a gender perspective and identify the gaps in the policy. Both primary and secondary sources were used for data collection. The production of the major food crops like wheat, maize, rice, fruits fresh vegetables and livestock has been in relative decline since the past several years. Sometimes total crop failure occurred due to drought, excessive rainfall or an epidemic of insects, pests and diseases. The change in the climatic pattern has
resulted in decreased crop productivity that increases food insecurity of the people. Farmers use different adaptation measures to cope with the adverse effect of climate change. These helped to minimise crop losses and improve the food security situation of women farmers by preventing crop loss. The national agricultural policy was found lacking in gender sensitivity. Based on the analysis of the data, recommendations have been made to the government.

Master's Thesis from the year 2017 in the subject Geography / Earth Science - Meteorology, Aeronomy, Climatology, grade: 1.5, University of Bonn (Faculty of Agriculture), course: Agricultural sciences and resource management in the tropics and sub-tropics, language: English, abstract: The Central Dry Zone covers about 13 % of Myanmar and is home to nearly a third of the total population of 52 million. The majority of households depend on agriculture-based income (83%). Besides low profitability, poor diversification, and high reliance on credit, these agricultural households are subject to additional stress by soil degradation, erratic rainfall patterns and extreme temperatures, and commodity price fluctuations. Particularly the climate change phenomena have become recently a major constraining factor for agricultural production in the Dry Zone. In this study we explore how farmers perceive agricultural problems in relation to climate change, and which strategies they apply to cope with and adapt agricultural practices to climate change based on traditional knowledge. Based on household surveys, participatory rural appraisals (PRA) and key-informant interviews it can be concluded that most farmers recognize climate change as a key constraint as they perceive their agricultural production being severely impacted, particularly by erratic rainfall. In response to increasingly frequent pre-monsoon droughts, some farmers have actually abandoned during the past 15 years cultivating rice as the main subsistence and market-crop, but also the cultivation of pre-monsoon crops such as sesame. Most farmers have traditionally been dealing with climatic risks by providing supplementary irrigation, e.g. by establishing tube wells, by cultivating short-cycled cash crop instead of rice, and by substituting annual crops by fruit orchards. Some farmers have done changes in cropping patterns and agronomic practices. These differentially affect adaptation to climate change and there are still needs of institutional support with the knowledge and technology for the unfinished-adaptation measures. There are the strong linkages between farmers’ perceptions and their adaptation to climate risks at the farm level, and the adaptation measures are likely conducted on their own knowledge. Traditional knowledge and expert knowledge must be combined in order to work for successful adaptation to climate change.

The purpose of this study is to provide an in-depth exploration of perception, vulnerability and adaptation to climate change by smallholder farmers. This case is based on fieldwork undertaken between February 2012 and June 2012 in Ethiopia to explore farmers’ perception, vulnerability and adaptation to climate change.

There are increasing and urgent calls for global economies to join in the fight
against the impacts of climate change (World Bank, 2020). With reports such as the World Bank (2020) of climate change costing billions of dollars in losses for economies, the purpose of my dissertation is to examine the effects of climate change-related extreme events and their potential economic effects in three areas: agriculture, migration, and the labor market. My first essay focuses on the factors that influence farmers' perception of risk and adaptive strategies against the effects of climate change-related extreme events. I examine whether farmers' social networks play a role in their climate actions. I do this by collecting primary data in Jamaica; a developing country which has a heavy reliance on agricultural production. This study contributes to the climate change literature by investigating the perceptions and adaptation strategies of farmers in Jamaica. The results indicate three main things: (1) The presence of social networks, i.e., having nearby farmers who perceive climate change effects on livestock production or take adaptive actions, leads to greater likelihood of a farmer perceiving effects of climate change and utilizing adaptive strategies; (2) Farm size has a positive and significant effect on adaptation; and (3) farmers closer to the capital of the country are more likely to take adaptive measures relative to farmers in other parts of the country. The policy implication of this essay suggests that social networks can be leveraged to encourage the spread of climate adaptation actions. My second essay focuses on the impact of climate change-related extreme events on migration to the US. The economic consequences of climate change-related extreme events such as storms, floods, droughts, and extreme temperature are predicted to costs billions of dollars. This study contributes to the climate change literature by estimating the effect of climate change-related extreme events on migration to the US. I do this using legal migration data from the US Department of State – Bureau of Consular Affairs and use extreme events information from the International Disaster database (EM-DAT). I find evidence that the monetary damage of storms, floods, and droughts reduce migration inflows to the US. Furthermore, I find the number of lives affected by storms reduces migration to the US. Only for the number of lives affected by extreme temperature is the effect on migration to the US positive. Both effects for the non-pecuniary damages are however economically insignificant. The findings in this essay also indicate that generally the cumulative monetary damage and cumulative number of lives affected across all events do not have a statistically significant effect on legal migration but rather it is the type or category of extreme events which affect the flow of migration to the US. In my third essay I focus on the labor market outcomes of recent Puerto Rican migrants who moved to New York and Florida after Hurricane Maria. Using data from the American Community Survey, I test if after Hurricane Maria recent Puerto Rican migrants faced worse labor market outcomes relative to earlier arrivals. I answer this using the synthetic control method, which provides a counterfactual to answer whether the post-Hurricane Maria internal migration affected the unemployment and labor force participation rates. The results indicate that
despite a large and sudden increase of recent Puerto Rican migrants, there was no significant impact on labor market outcomes. This dissertation, through a mixed methods approach, investigates Missouri farmers’ perceptions of climate change and variability in relation to their adoption of adaptation strategies. Using a combination of geospatial and statistical analysis, it examines the similarities and differences in on-farm and off-farm adaptation behavior stratified by farmers' perception of climate change occurring or not occurring. We further analyze the diffusion of financial risk management instruments among farmers in Missouri to uncover associations between perception of climate change and the utilization or adoption of income guarantee financial tools, as well as other risk management instruments such as forward/risk management contracts. Results from the study reveal that while farmers tend to remember their experiences of extreme weather events such as flood and drought, they cannot, with certainty, link these experiences to the changing trends of temperature and precipitation. Additionally, farmers' adaptation behaviors were independent of their climate change perceptions. Although the farmers in our study cohort adopt more on-farm adaptation measures, there was a shift towards increased use of financial risk management instruments between 1995 and 2018. This is a significant finding with important implications because it suggests that farmers will adopt adaptation practices to protect crop production and income potential independent of their climate change perceptions. This research holds value for policy makers because it adopts a bottom-up approach that provides an understanding of the farmers’ perspective which is vital for decision making in the face of predicted increase in frequency and intensity of extreme weather events that have cascading effects on agricultural production and food security across local, regional and global scales. It also provides insight for improving the communication of climate science to stakeholders in the agricultural sector.

Farms' Perception and Adaptation to Climate Change in the Central Dry Zone of Myanmar

Climate change poses problems for agriculture in the Global South. Smallholders in the Global South are often considered highly vulnerable to climate change as a result of their farms being located in marginal environments, their insecure land tenure and lack of technology, and their participation in unpredictable regional and world markets. Analyzing how smallholders perceive climate change and attendant risk, the factors that enable and constrain their adaptive capacity, and the social impacts of state led projects designed to mitigate the impacts of climate change may provide crucial insights for developing effective climate adaption projects and policies. This research examined smallholder perceptions of climate change and their ability to adapt to it in the Loess Plateau region of China. The study also investigated the outcomes of the introduction of a drip irrigation project designed to address water scarcity problems in Gansu, China, as well as smallholder farmer perceptions and knowledge of water saving irrigation technologies in general. Data were collected through interviews and a household survey of smallholders in the region. Smallholders were found to have low levels of perceived ability to adapt to climate change without government assistance. Further, it was found that smallholder perceptions of climate change are structured through their observations.
of and interactions with dynamic, networked socio-natural assemblages. The labor demands of drip irrigation technology are shown to contradict extant irrigation and livelihood practices and the social institutions that underlie them, both creating new vulnerabilities for farmers and causing system abandonment. The dissertation results suggest that adaptation interventions designed to mitigate the impacts of climate change on smallholders in the Loess Plateau region of China should be holistic and address the day-to-day problems and risks that smallholders face if the interventions are to successfully adapt smallholders to future climate change without causing unintended consequences.

This book brings together contributions on the challenges of the environment, agriculture and cross-border migrations in Africa; key areas that have become critical for the continent’s development. The central theme running through these contributions is that Africa’s development challenges can be attributed to its human and natural ecology. Contrasted with the Cold War epoch, current developments have ushered us into a world of long and uncertain transitions characterized by a search for new pathways including investment in large-scale agriculture by big finance, attempts to revitalize existing agriculture and reworking of social policy. A major twist relates to environmental questions, especially climate change and its global effects, leading to all forms of cross-border migrations and the emergence of new areas of strategic interest such as sub-regional developments as in the Gulf of Guinea. This book provides some intellectual clues on how to interpret these emerging predicaments and chart a way forward into a new era for Africa.

Does digitally-mediated farmer-to-farmer learning facilitate farm-level adaptation to climate change? Utilizing semi-structured interviews with small-scale organic farmers in the Cascadia Bioregion, I document how farmers perceive climate change and in what ways they are responding and/or adapting to these changes. Such small-scale farms have limited economic capacity to adapt to climate change. Access to innovative, low-cost but locally relevant solutions will require novel knowledge-dissemination mechanisms. A modern option is "participatory media"--A social network based approach, linking farmers to farmers through internet-exchange of photos and video. This project engages in a "bottom-up" approach to the development and sharing of knowledge. In collaboration with local farmers, I explored the efficacy of a participatory media method in moving towards improving farmers' perception of and adaptation to climate change, as well as overall farm-level resilience.

Master's Thesis from the year 2013 in the subject Agrarian Studies, course: Graduate studies, language: English, abstract: Ethiopia, one of the developing countries, is facing serious natural resource degradation problems. The main objective of this study was to examine the farmer’s perceptions and adaptation to climate change through conservation agriculture. The data used for the study were collected from 142 farm households heads drawn from five kebeles. Primary data and secondary data were used. In addition to descriptive statistics, Heckman two stage sample selection model was employed to examine farmer’s perceptions and adaptations of climate change. Farmers level of education, household nonfarm income, livestock ownership, extension on crop and livestock, households’ credit accessibility, perception of increase in temperature and perception of decrease in precipitation significantly affect the adaptation to climate change. Similarly, farmers’ perception of climate change was affected significantly by information on climate, farmer to farmer extension, local agro -ecology, number of relatives in development group and perception of change in duration of season. A binary logit model was employed for farmers’ participation in conservation agriculture shows education level, number of active family labour and main employment of farmers were significant variables in determining participation in conservation agriculture.

Changes in climate and climate variability have an effect on people’s behaviour around the world, and public institutions have an important part to play in influencing our ability to respond to and plan for climate risk. We may be able to reduce climate risk by seeking to mitigate the
threat on the one hand, and by adapting to a changed climate on the other. Another theme of
the book is the integrated role of adaptation and mitigation in framing issues and performing
analyses. Adaptation costs fall most heavily on the poor and special attention needs to be paid
to adaptation by the poorest populations. An integrating framework is also presented to provide
the context for an expansive typology of terms to apply to adaptation. The 12 papers collected
here use methods from a variety of disciplines and focus on different time frames for decision
making, from short term to the very long term. Readership: Technically trained readers familiar
with the policy issues surrounding climate change and interested in learning the scientific
underpinnings of issues related to societal adaptation.

Thesis (M.A.) from the year 2017 in the subject Agrarian Studies, grade: Very Good (3.5),
course: Regional and Rural Development Planning, language: English, abstract: This thesis
studies the field of drought hazard and its findings are consistent with existing literature on
drought in Thailand and other regions. In the country and study area, the findings and results
of this study may provide effective and useful adaptation strategies to drought and also help
understand drought's impacts on agricultural production and farmers' livelihoods, because of
the little existing research on drought in the study area. In addition, maybe this thesis can
assist the regional and rural planners and extension officials and other agro and rural related
sectors and departments to formulate development plans, policies and extend useful and
effective services in order to facilitate farmers to be able to sustain their livelihood against the
drought by adapting the most effective adaptation strategies. Drought is one of the major
threats among all natural hazards to people's livelihoods and socio-economic development.
Drought is a normal characteristic of climate and is considered to be the most complex but
least realized of all natural hazards which affects more people than any other hazards
particularly the farmers and their livelihoods. The first and the most consequence of drought lies
on Agriculture and threatened both agriculture sector and those who are dependent on it in that
drought affected area. Nong Ya Sai district of Thailand is a drought prone area which the
farmers have been suffering from drought during the recent years. Since, it is a long time that
the farmers have experienced the drought and its consequences on their farming and their
livelihoods, they could have a good perception of drought and its impacts on their agro-based
livelihood. Thus, they have applied some adaptation strategies to reduce the drought impacts
on their farming and livelihood in that area.

Forest conversion - soil degradation - farmers' perception nexus: Implications for sustainable
land use in the southwest of Ethiopia. Resettlements in the forest regions instigate
considerable impacts on the natural resource base. This study presents a comparative
assessment of the biophysical processes of resource degradation and the farmers’ awareness
in a cereal-based farming system of the settlers and an indigenous coffee-based farming
system. The study analyzes the extent of forest conversion and soil degradation in the two
farming systems. Furthermore, the farmers’ response and coping mechanisms are assessed.
The need for providing land management technologies to farmers to use their resources
sustainably is emphasized and a review of the resettlement policy is underlined.

This study was intended to examine farmers' perception of climate change/variability, the
household level impacts of climate change, and local adaptation strategies in the highlands.
The study was carried out in Menz Gera Midir district located in the North Shoa Zone of the
Amhara Regional State. A total of 180 sample households selected through stratified random
sampling procedure were selected and interviewed using a structured survey questionnaire. In
addition, 12 focus group discussions and 16 key informant interviews were conducted.
Meteorological data that spans for about 30 years was used to analyse the patterns of rainfall
and temperature changes.

Climate change is happening now and is already taking its toll on the Philippines. Because the
agricultural sector remains to be the backbone for the sustainable achievement of food
security, and is still one of the major sources of livelihood in the country, adaptation to the adverse impacts of climate change is imperative to safeguard livelihoods, especially of the poor, as well as to guaranty food security. Using a mixed methods design, the researcher conducted a case study in Aurora Province to investigate and document farmers’ perceptions of climate change, their current adaptation strategies, and the factors that influence their adaptation decisions. In addition, this study also looked into the outcomes of adaptation on farmers’ economic well-being. Farmer surveys, as well as one-on-one key informant interviews were conducted to selected participants. The data were analyzed using descriptive statistics and thematic analysis. Findings revealed that farmers have perceived changes in climate over the past 10 years and this had negative impacts on their crop production and livelihood. In response to these changes, farmers have employed various adaptation strategies which increased, decreased, or did nothing to their income. Hence, to ensure successful adaptations at the farm level and enhance farmers’ adaptive capacity, policy recommendations were formulated.

This collected volume deals with emerging issues related to climate variation, climate change and adaptation technologies, with a special focus on Latin American countries. Presenting a variety of adaptation strategies and projects currently being undertaken and implemented, the book showcases how Latin American nations are struggling to meet the challenges of climate change. Latin America as a whole and Central America in particular is one of the most vulnerable regions of the world and is severely affected by recurrent extreme climate-related events. This volume documents and analyzes the main challenges and lessons learned, serving to disseminate knowledge beyond the region and enhance international research and policy cooperation.

Climate change is the global issue at present. Assessing the local impact of climate change is essential to plan coping strategy. The study prioritized the potential impacts, climatic hazards and identifies the effective adaptation strategy through participatory approach with the local communities. Binary logit regression model was used to study the factor affecting to practiced different adaptation strategies. Trend Analysis of the climatic data of Rampur station for last 42 years (1968-2009) for rainfall, and last 30 years (1980-2009) for temperature, showed the increasing trend of annual rainfall by 6.83 mm per year and also increasing trend for both maximum and minimum temperature by 0.019°C per year and 0.069°C per year, respectively. Analysis of the climatic data strongly supports the farmers’ perception about the climate change. Studying the impacts of climate change experienced by farmers could form the base for further research and development of adaptation measures for sustainability of agriculture and preparing farming community in alternative agriculture to tackle the emerging problem of food insecurity.

The objective of this paper is to determine the ability of farmers in Africa to detect climate change, and to ascertain how they have adapted to whatever climate change they believe has occurred. The paper also asks farmers whether they perceive any barriers to adaptation and attempts to determine the characteristics of those farmers who, despite claiming to have witnessed climate change, have not yet responded to it. The study is based on a large-scale survey of agriculturalists in 11 African countries. The survey reveals that significant numbers of farmers believe that temperatures have already increased and that precipitation has declined. Those with the greatest experience of farming are more likely to notice climate change. Further, neighboring farmers tell a consistent story. There are important differences in the propensity of farmers living in different locations to adapt and there may be institutional impediments to adaptation in some countries. Although large numbers of farmers perceive no barriers to adaptation, those that do perceive them tend to cite their poverty and inability to borrow. Few if any farmers mentioned lack of appropriate seed, security of tenure, or market accessibility as problems. Those farmers who perceive climate change but fail to respond may
require particular incentives or assistance to do what is ultimately in their own best interests. Although experienced farmers are more likely to perceive climate change, it is educated farmers who are more likely to respond by making at least one adaptation. This thesis explores adaptation to climate change and variability by paddy farmers in Lao PDR. Agriculture is recognized as the most weather dependent sector of the economy, climate change, in particular changes in temperature and rainfall, will directly impact agricultural production, especially rainfed crop production. Higher temperatures during critical growth stages may negatively affect the yield and quality of crops. Changing patterns of rainfall are expected to affect the supply and demand for water. For smallholders and subsistence farmers, climate change threatens food security and will compound poverty. Taking into account the adverse effects posed by climate change, this thesis explores the perceptions and adaptations made by paddy farmers, and those factors (incentives and barriers) that influence their decision and capacity to undertake adaptation. These are explored by employing qualitative methodologies, including interviews with farmers, government officials and representatives of NGOs working in Laos. Fieldwork was conducted in Laos in October, 2013. The thesis illustrates that farmers have noticed changes in temperature and rainfall, in particular changes in the pattern of rainfall. These perceptions are backed by the views of the government officials and NGO officials. Farmers’ adaptation measures in response to climate change vary in terms of the farmers’ individual livelihood strategies. Two types of actions are identified: those that respond to climate change and variability, and those that respond principally to other forces but nonetheless reduce the vulnerability and improve the resilience of farm households. While resource availability (land, funding, labor, and knowledge) are necessary to enable farmers to undertake change, some adaptations depend on the direct intervention by the Government or NGOs whether in terms of community infrastructure, inputs, or knowhow. Many adaptations have been implemented in response to climate change and variability but it is hard to untangle this motive from broader drivers in favor of sustainable development. Key Words: Adaptation; Agriculture; Climate Change; Variability; Farmers; Laos; Vulnerability; Resilience; Adaptive Capacity; Sustainable Development. Master’s Thesis from the year 2013 in the subject Agrarian Studies, grade: A, Wollega University, language: English, abstract: Climate is a primary determinant of agricultural productivity. Ethiopia, one of the developing countries, is facing serious natural resource degradation problems. Adaptation strategies for environmental conservation require cooperation and local participation in environmental rehabilitation which in turn requires examining the local peoples’ willingness, beliefs, knowledge, attitude, interest and perception about climate change and conservation agriculture. The main objective of this study was to examine the farmer’s perceptions and adaptation to climate change and participation in conservation agriculture. The data used for the study were collected from 142 farm households heads drawn from the five kebeles of Sasiga district and four kebeles of Guto Gida district. Primary data were collected using a structured questionnaire. In addition, secondary data were extracted from relevant sources to supplement the data obtained from the survey. In addition to descriptive statistics such as mean, standard deviation and percentages used, Heckman two stage sample selection model was employed to examine farmer’s perceptions and adaptations of climate change. Farmers level of education, household nonfarm income,
livestock ownership, extension on crop and livestock, households credit availability, temperature and precipitation were those variables which significantly affect the adaptation to climate change. Similarly, the farmers perception of climate change was affected significantly by information on climate, farmer to farmer extension, local agro-ecology, number of relatives in development group and perception of change in duration of season. A binary logit model was employed to analyze determinants of farmers’ participation in conservation agriculture. Education level of the household head, number active family labour and main employment of the household head were significant variables in determining participation in conservation agriculture. Based on the results obtained, the following points were found to be of paramount importance: the government and policy makers should encourage the way farmers get extension on crop and livestock than ever in order to increase the farmer’s adaptability to climate change. Perceiving the occurrence of climate change is prerequisite to adapt to the change. So, the government, policy makers, and NGOs should focus on the experience sharing between household farmers through conducting farmer to farmer extension. Climate change is one of the biggest challenges facing the world today. Agriculture and Climate are mutually dependent. There is a need to understand the effect of climate change on agricultural sector both at Global and as well as at regional level, especially from the point of view of providing food to vulnerable section of the population. With unpredictable weather, farmers keep changing crop management practices by growing resistant varieties and be prepared for constant change in the farming practices. Impacts of climate change are diversified and need to be understood, so as to workout pragmatic strategies to mitigate ill-effects of climate change. With this background, this study has been designed to understand farmer’s perception about the changes in climate and their adaptation measures initiated in Eastern Dry Zone (Zone-5) of Karnataka, India.

Climate change is expected to have serious environmental, economic, and social impacts on South Africa. In particular, rural farmers, whose livelihoods depend on the use of natural resources, are likely to bear the brunt of adverse impacts. The extent to which these impacts are felt depends in large part on the extent of adaptation in response to climate change. This research uses a "bottom-up" approach, which seeks to gain insights from the farmers themselves based on a farm household survey. Farm-level data were collected from 794 households in the Limpopo River Basin of South Africa for the farming season 2004-2005. The study examines how farmer perceptions correspond with climate data recorded at meteorological stations in the Limpopo River Basin and analyzes farmers’ adaptation responses to climate change and variability. A Heckman probit model and a multinomial logit (MNL) model are used to examine the determinants of adaptation to climate change and variability. The statistical analysis of the climate data shows that temperature has increased over the years. Rainfall is characterized by large interannual variability, with the previous three years being very dry. Indeed, the analysis shows that farmers' perceptions of climate change are in line with the climatic data records. However, only approximately half of the farmers have adjusted their farming practices to account for the impacts of climate change. Lack of access to credit was cited by respondents as the main factor inhibiting adaptation. The results of the multinomial logit and Heckman probit models highlighted that household size, farming experience, wealth, access to credit, access to water, tenure rights, off-
farm activities, and access to extension are the main factors that enhance adaptive capacity. Thus, the government should design policies aimed at improving these factors.

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