EXPLORING STAKEHOLDERS' PERSPECTIVES AND PREFERENCES FOR ATTRIBUTES OF POLICY INTERVENTIONS: THREE ESSAYS FROM TWO DIFFERENT POLICY AND GEOGRAPHICAL CONTEXTS

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ABSTRACT

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Researchers, resource managers, and development practitioners increasingly recognize the value of integrating the input and preferences of stakeholders into decision-making processes. Increasing participation of stakeholders in policy decision-making is generally considered favorable since it helps account for public concerns, reduces conflicts, increases public acceptance of and compliance with the resultant program rules, and enhances the overall effectiveness and achievement of program objectives. As part of efforts to improve program planning and foster achievement of program objectives, this dissertation explores the perspectives and preferences of key stakeholders regarding the design of two programs: Ghana's conditional cash transfer (CCT) program known as Livelihood Empowerment Against Poverty program (LEAP) and the Conservation Reserve Enhancement Program (CREP) in Michigan.

The dissertation is built around three essays. The first essay uses qualitative and quantitative data collected in Ghana to explore the socio-cultural context of CCT program implementation in an African context. It examines perspectives of beneficiaries, program managers, and community leaders regarding Ghana's CCT program. The analysis focuses on participants' sociocultural attitudes towards poverty, perceptions of cash transfer as a poverty reduction strategy, and their experiences with LEAP implementation. The findings suggest that stakeholder groups hold a favorable view of CCT, but there is little support for giving money to the poor as a long-term

poverty alleviation strategy. The Ghanaian CCT program is seen as fair and popular, but current payment levels are viewed as inadequate, impractical, and unreliable. The essay also discusses some of the challenges facing LEAP implementation in Ghana and suggests programmatic changes.

The second essay reports the findings from a discrete choice model exploring preferences of Ghanaian households in a LEAP community regarding key CCT program elements including conditionality, targeting, and payment method. The results revealed a preference for CCT designs that target beneficiaries with limited or no productive capacity and are conditional on beneficiaries either investing in children's human capital or performing communal service, relative to unconditional programs. In addition, bank deposit was the preferred payment mode relative to direct cash payment and mobile money.

The final essay also uses a discrete choice model to examine the decision of agricultural landowners in Michigan's Saginaw Bay Watershed to participate in filter strip program for watershed protection. It specifically examines the key programmatic, socio-psychological, and demographic determinants of landowners' decisions of whether or not to enroll in a CREP filter strip program. The study results indicate that making contract durations shorter with enhanced rental payments, and educating landowners about the efficacy, as well as the on- and off-farm benefits of the conservation practice would enhance participation in CREP.

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CHAPTER 1

INTRODUCTION

In response to reported failures of command and control approaches to resource management and international development, researchers and policymakers are increasingly recognizing the value of integrating the input and preferences of stakeholders into decision-making processes (Booth, 2003; Cornwall, 2006; Garmendia & Stagl, 2010; Junker, Buchecker, & Müller-Böker, 2007; Stirling, 2006). For instance, since 1999, debt relief for poor countries has been tied to the development of Poverty Reduction Strategy Papers (PRSPs), which requires greater participation of civil society, in an attempt to promote local ownership of poverty alleviation efforts (Booth, 2003; Dijkstra, 2011). Similarly, Phase II of the U.S Clean Water Act requires resource managers to educate and incorporate public values and preferences in watershed management planning for storm water runoff and non-point source pollution control (Environmental Protection Agency (EPA), 2000).

Increasing participation of stakeholders in policy decision-making is generally considered favorable since it helps account for public concerns, reduces conflicts, and increases public acceptance of and compliance with the resultant program rules (Junker et al., 2007; Stirling, 2006). Stakeholder participation also facilitates the use of local knowledge and enhances the sustenance of initiatives by embedding them into legitimate institutions and cultural values (Cornwall, 2006; Garmendia & Stagl, 2010). Junker et. al., (2007) contends that public involvement in program planning should not be restricted to a small group of influential stakeholders. Rather, input from the wider population, especially those directly affected by the policy, is key to successful program design and implementation.

As part of efforts to improve program planning and foster achievement of program objectives, this dissertation explores the perspectives and preferences of key stakeholders regarding the design of two programs: Ghana's conditional cash transfer (CCT) program known as Livelihood Empowerment Against Poverty (LEAP) program and the Conservation Reserve Enhancement Program (CREP) in Michigan. The dissertation is built around three essays. Data for two of the essays were collected in Ghana to explore the socio-cultural context of CCT program implementation in an African developing country setting. The third essay examines the decision of agricultural landowners in Michigan's Saginaw Bay Watershed to participate in conservation programs for watershed protection.

Conditional cash transfer (CCT) programs make direct payments to targeted households conditioned on pre-specified actions such as school enrollment and regular healthcare checkups (Fiszbein, Ringold, & Srinivasan, 2011). Following positive reviews of the impact of CCT particularly from Latin America, CCT has been heralded within the international community as a pragmatic and cost-effective way to reduce poverty, income inequality, and insecurity (Adato, Roopnaraine, & Becker, 2011; Corboz, 2013; Rawlings & Rubio, 2005). Thus, there are vigorous attempts to integrate CCT into poverty reduction efforts in several African countries. However, there are some debate over key elements of CCT program design such as conditionality (obligations beneficiaries should have in return for grant receipt) and targeting (who should benefit and where programs should be implemented) (de Brauw & Hoddinott, 2011; Hanlon, Barrientos, & Hulme, 2010). Also, there are questions regarding the appropriateness of CCT in Africa given that many of the CCT success stories have emerged from Latin America,

which is contextually different from Africa in terms of politics, sociocultural attitudes, economics, and service delivery (Schubert & Slater, 2006).

Following the failures of many development efforts across Africa, the need for program design to reflect the economic, institutional, political, and socio-cultural context of Africa is recognized as key to program success. Previous studies have also shown that the long-term sustenance of anti-poverty policies like CCT is closely related to socio-cultural attitudes towards poverty (Bullock, Williams, & Limbert, 2003; Lepianka, Gelissen, & Oorschot, 2010; Weiner, Osborne, & Rudolph, 2011). Hence, as a first step to exploring the suitability of CCT in Africa, the first essay presented in Chapter 2, *Improving Implementation of Cash Transfer Programs: Lessons From Stakeholders' Attitudes and Experiences in Ghana*, examines the sociocultural context within which the Ghanaian CCT program is being implemented. Using data from in-depth interviews, participant observation, and a household survey, the paper examines perspectives of LEAP beneficiaries, program managers, and community leaders on LEAP program design and implementation. It specifically focuses on understanding their sociocultural attitudes towards poverty, perceptions of cash transfer as a poverty reduction strategy, and experiences with LEAP implementation. It also discusses challenges militating against successful LEAP program implementation.

Researchers and planners have used various approaches to garner stakeholders' inputs into policy planning efforts. Qualitative techniques such as participatory action research, focus group discussions, and in-depth individual interviews have been used in several policy contexts to solicit information from key stakeholders (Asanin & Wilson, 2008; Johnson, Lilja, Ashby, &

Garcia, 2004). Likewise, sophisticated survey techniques such as the stated choice experiment have also been developed to help capture stakeholders' preferences in an increasingly complex policy environment that requires balancing and making trade-offs among competing alternatives (Champ, Boyle, & Brown, 2003; Kaplowitz & Lupi, 2012; Louviere, Hensher, & Swait, 2000). Unlike standard survey approaches with simple categorical judgment questions, the stated choice experiment method uses hypothetical scenarios that allows researchers to gain a rich and detail insight into stakeholder preferences and trade-off decisions (Champ et al., 2003). Given its hypothetical nature, researchers have the ability to manipulate program attributes and levels to create new programs, mimic real market conditions, and also provide respondents with the same trade-offs scenarios that policymakers face in their decision-making. Through such manipulations, a multi-dimensional response surface is modeled and used to estimate the relative importance (utility) or value of each program attribute to the respondents. The attribute utilities derived from choice experiment model reflect a hierarchy of preferences that can directly inform policy and investment priorities (Louviere et al., 2000).

While widely applied in various policy contexts (Komarek, Lupi, & Kaplowitz, 2011; Loureiro & Umberger, 2007; Putten, Jennings, Louviere, & Burgess, 2011), the use of stated choice experiment to explore preferences regarding social protection programs is virtually non-existent. Consequently, in the second essay presented in Chapter 3, *Households' Preferences For Attributes Of Conditional Cash Transfer Programs: A Choice Experiment in Ghana,* the stated choice experiment method is used to explore preferences of households in a LEAP community regarding key CCT program elements including conditionality, targeting, and payment method. The data for the analysis comes from a survey of beneficiary and non-beneficiary households

drawn from Kintampo Municipal, one of the districts selected for LEAP implementation. The essay illustrates the application of the choice experiment method to social protection programs, and identifies key LEAP program elements and mechanisms that could enhance CCT's social and political acceptability.

The third essay presented in Chapter 4, *Agricultural Landowner's Willingness to Participate in a Filter Strip Program for Watershed Protection,* also uses the choice experiment technique to examine the decisions of agricultural landowners to participate in the Conservation Reserve Enhancement Program (CREP) in Michigan. In response to deteriorating water quality in the Great Lakes, the State of Michigan in partnership with the federal government introduced CREP in 2001. The CREP program offers eligible agricultural landowners enhanced monetary incentives and technical assistance to establish select best management practices on their lands for watershed protection (Michigan Department of Agriculture and Rural Development, 2011). Being a voluntary program, the decision of agricultural landowners to enroll their lands in CREP is very critical to achieving policy goals. Hence, with declining enrollment rates and imminent expiration of a majority of the original contracts in Michigan's Saginaw Bay watershed, policymakers are devising ways to reorganize CREP to help attract new enrollment while encouraging current participants to reenroll their lands when their current contract expires.

To assist with this program redesign effort, the essay examines the decision of agricultural landowners to participate in a CREP filter strip program. Using data from a survey of agricultural landowners in the Saginaw Bay watershed, the paper explores key programmatic, socio-psychological, and demographic factors that will influence landowners with eligible land to

enroll in a CREP filter strip program. Drawing on the results from the analysis, the essay discusses some approaches that could be used to increase participation rates in CREP and enhance the achievement of watershed management goals. The dissertation closes with a brief conclusion in Chapter 5.

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CHAPTER 2

IMPROVING IMPLEMENTATION OF CASH TRANSFER PROGRAMS: LESSONS FROM STAKEHOLDERS' ATTITUDES AND EXPERIENCES IN GHANA

ABSTRACT

Conditional cash transfer (CCT) is popular in the international development arena, with growing interest in promoting CCT in Africa. Most evidence regarding CCT successes comes from Latin America, and little has been reported on how CCT fits African contexts. Given the common failure of development efforts across Africa, there is a need for well-designed programs that reflect economic, institutional, political and socio-cultural circumstances in Africa. Using both qualitative and quantitative data analyses, this paper examines the perspectives of beneficiaries, program managers, and community leaders regarding Ghana's CCT program. The analysis focuses on sociocultural attitudes towards poverty, perceptions of CCT as a poverty reduction strategy, and experiences with CCT implementation. The findings suggest that stakeholder groups hold a favorable view of CCT, but there is little support for giving money to the poor as a long-term poverty alleviation strategy. The Ghanaian CCT program is seen as fair and popular, but current payment levels are viewed as inadequate, impractical, and unreliable.

Keywords: Conditional cash transfer, program development, poverty alleviation, Africa

2.1 INTRODUCTION

Social protection programs are generally seen as critical to addressing poverty, risk, and vulnerability as well as promoting social justice. Over the past fifteen years, conditional cash transfer (CCT) has become a celebrated approach to social protection in developing countries. Typically, CCT programs make direct cash payments to poor households conditioned on pre-specified behavioral changes such as school attendance or regular health check-ups. The cash payments attempt to address short-term poverty reduction goals by financing beneficiaries' immediate consumption needs while the conditions foster investment in their children's human capital to forestall intergenerational transmission of poverty (de Brauw and Hoddinott 2011; Rawlings 2005). Since debuting in Mexico during 1997, CCT programs have spread throughout Latin America and are an essential component of poverty reduction efforts in developing countries worldwide (Handa and Davis 2006; Hanlon et al. 2010).

Quantitative studies have used randomized controlled trials to assess CCT program impacts primarily in Mexico, Brazil, and other Latin American countries. Those studies highlight positive effects on a range of welfare indicators including child health, nutrition, and use of educational and health services. The studies also support the assertion that CCT may be a pragmatic and cost-effective approach to reduce income inequality and insecurity as well as help some countries meet the Millennium Development Goals (Attanasio et al. 2010; Davis et al. 2012; Rawlings and Rubio 2005; Soares et al. 2010). Consequently, there is considerable interest in the donor community to integrate CCT in poverty reduction efforts in Africa where poverty rates are still high. Following failures of many development approaches across Africa, there is a need for well-designed programs that suit specific local conditions. However, little is known about the

appropriateness of CCT program design in Africa. Given the differences between Africa and Latin America in capacity for service provision, socioeconomic characteristics, and political contexts, Africa-specific studies of CCT programming are needed to inform program design and implementation (Schubert and Slater 2006).

Previous studies have shown that long-term viability of anti-poverty policies like CCT is closely related to socio-cultural attitudes towards poverty, perceptions of intervention programs, and the extent to which the public blames the poor for their poverty (Bullock 1999; Hanlon et al. 2010; Weiner et al. 2011). However, there is paucity of studies in developing countries on sociocultural attitudes towards poverty, or views on giving money to the poor as a poverty reduction strategy, especially in sub-Saharan Africa. Since attitudes toward poverty tend to be culture-specific, a country-specific analysis of such sociocultural attitudes appears essential for designing programs that reflect local contexts (Shirazi and Biel 2005).

In 2008, Ghana launched a CCT program known as Livelihood Empowerment Against Poverty (LEAP) aimed at empowering people living in extreme poverty. LEAP provides conditional cash payments and health insurance to extremely poor households who either have no means of meeting their subsistence needs or have limited productive capacity. While LEAP is expanding, questions remain concerning its appropriateness and sustainability in Ghana. This paper addresses three research questions:

a) What are the sociocultural attitudes of beneficiaries, program managers, community leaders and households towards poverty, the causes of poverty, and deservedness of government support through cash transfer?

b) How do beneficiaries, program managers, and community leaders view giving money to the poor as a poverty reduction strategy?

c) How do beneficiaries, program managers, and community leaders assess the implementation of Ghana's CCT program?

Two sets of data are used. First, qualitative data from individual and group interviews, focus group discussions, and participant observation of LEAP's payment system are used to explore the perceptions of beneficiaries, program managers, and community leader concerning LEAP as a poverty-alleviation strategy and current experience with its implementation. Second, quantitative data from a household survey of beneficiaries and non-beneficiaries in rural and suburban settings are used to examine socio-cultural attitudes towards poverty.

2.2 BACKGROUND

2.2.1 Elements of Successful CCT Programs

CCT was first introduced in Mexico as *PROGRESA* (now *Oportunidades*) in 1997. In response to positive impact evaluations, CCT programs spread across Latin America (Rawlings, 2005). Now, other developing countries in Asia and Africa are beginning to use CCT programs (Hanlon et. al., 2010). The principal quantitative evaluations of CCT programs were conducted in Latin America with studies focused on CCT's role in improving child health and nutrition and demand

for educational and health services (Coetzee 2013; Debowicz and Golan 2014; Soares et al. 2010). One outcome of those studies is some insight on key elements of successful CCT programming. In their comprehensive overview of CCT programs worldwide, Hanlon et al. (2010) articulate five elements of CCT programs that achieve their stated objectives: CCT programs must be 1) fair, 2) popular, 3) assured, 4) practical, and 5) "not just pennies."

First, as Hanlon et al. (2010) explain, CCT programs are **fair** when most citizens view grant recipients as deserving of support. Deciding on who are "the poor" that CCT programs target can be contentious, resulting in social divisiveness and exclusion (Farrington and Slater 2010; Watkins 2008). Successful identification of recipients widely seen as deserving of support is crucial to CCT program success (Hanlon et al., 2010).

Second, Hanlon et al. (2010) observe that successful CCT programs must be **popular** and politically acceptable because successful expansion of most CCT programs is driven largely by political and voter pressure based on perceived usefulness of the program. Diaz Langou (2013) reports on how a positive evaluation of the *Bolsa familia* (a CCT program) led to a major shift in policymakers' attitudes and commitment to expand its coverage in Brazil. Political acceptability often underlies the conditionality component of CCT design, framing CCT as a social contract between the government and recipients rather than a handout (Díaz Langou 2013; Fiszbein and Schady 2009).

Third, Hanlon et al. (2010) argue that CCT grant payments must be **assured**. Recipients must be certain they will regularly receive their cash payment so that they can make long-

term plans and investments in productive activities (Gertler et al. 2012; Syukri et al. 2010). Likewise, the introduction of a riskless cash flow to CCT participants improves creditors' perception of their ability to repay loans (Svarch 2011).

Fourth, Hanlon et al. (2010) articulate the need for CCT programs to be **practical** and pragmatic and benefit from the use of trained civil servants and reliable payment systems to administer the program and reach targeted beneficiaries. For example, Colombia's CCT program made payments through bank accounts and was found to have excluded an estimated 12% of the nation's poor who did not have access to banks (Coady et al., 2004). CCT program feasibility at the local level is crucial (Farrington and Slater 2010).

Fifth, Hanlon et al. (2010) observe that CCT amounts need to be "**not just pennies**", but large enough to support real changes toward desired behaviors among beneficiary households. Households incur opportunity costs in enrolling in a CCT program and fulfilling its conditions. For example, choosing to send children to school under CCT implies the loss of income were the child employed. If CCT grants are too small, targeted households may opt out or refuse to comply with conditions, thereby undermining achievement of program goals. Conversely, when grant amounts are too high, dependency and labor market distortions may result (Standing 2008).

Hanlon et al.'s five elements of successful CCT programs highlight the need for programs to be not only technically feasible but also socially desirable and politically acceptable. Although

practical aspects of CCT programs could be enhanced through investment and capacity building in the civil services, such undertakings are often moderated by political and social factors.

Previous studies demonstrate the connections between sociocultural attitudes towards poverty and the resulting institutional strategies towards poverty alleviation (Bullock et al. 2003; Lepianka et al. 2009). Many studies in Europe and the United States have shown that social legitimacy as well as the viability of social policies including welfare schemes are inversely related to the degree to which members of a target group are seen as being personally responsible for their neediness (Bullock et al. 2003; Oorschot and Halman 2000). For example, an increase in the U.S. public's perception of the poor as being at fault for their poverty due to 'laziness' has been associated with reductions in welfare protections (Weiner et al. 2011). Conversely, in Brazil where poverty is largely blamed on a lack of state effort and political will, state-funded programs like CCT enjoy considerable support (Reis and Moore 2005). Studies on sociocultural attitudes towards poverty are virtually non-existent in sub-Saharan Africa. Considering the cultural specificity of attitudes towards poverty (Shirazi and Biel 2005), country-specific studies seem essential as part of the process to design successful poverty reduction strategies. CCT program designs should reflect the values, attitudes, and preferences of relevant actors. Understanding and incorporating stakeholders' views and preferences can help program designers account for public concerns, embed initiatives into legitimate institutions and cultural values, and devise acceptable program rules, which in turn enhance compliance (Cornwall 2006).

Empirical studies exploring popular explanations of poverty typically employ multiple survey questions subsequently examined using factor analysis. A customary classification of the

public's attribution of poverty uses the following belief categories: individualistic (blames the poor for their poverty), structural (blames external and economic forces in society), and fatalistic (blames events beyond the control of individuals and society)(Bullock et al. 2003). While providing useful insights into popular beliefs about poverty, this approach and its three-tiered typology of poverty attribution has been criticized as overly simplistic and unable to capture the complexity of beliefs about poverty (Lepianka et al. 2009). Lepianka et al. (2009) suggest combining the use of surveys with other research methods that allow respondents to better express their ambiguity and enable researchers to detect the subtleties in public views regarding poverty. Therefore, our study combines a traditional factor analytical approach with an in-depth qualitative research approach in an effort to shed light on the complexity of the public views of poverty in one West African context.

2.2.2 Ghana's Livelihood Empowerment Against Poverty Program

Livelihood Empowerment Against Poverty (LEAP) is the flagship program of Ghana's National Social Protection Strategy aimed at combating extreme poverty and vulnerability (Ministry of Manpower, Youth and Employment 2007). Like most CCT programs, LEAP transfers cash to extremely poor households aimed at achieving both short- and long-term poverty reduction goals. LEAP assists poor households with short-term basic livelihood security. Furthermore, it enables recipient households to access social services (especially in health and education), engage in productive activities to increase their incomes, and contribute to national development over the longer term. LEAP provides free health insurance to beneficiaries through a National Health Insurance Scheme. At the time of data collection for this study, participating households

received GH₵ 8-15[1] per month depending on the number of eligible beneficiaries in the household (plus health insurance for the eligible household members).

LEAP selects beneficiaries using geographical, community-based and categorical targeting techniques. Geographically, LEAP focuses on the country's poorest districts as indicated by a poverty map developed by the Ghana Statistical Service and National Development Planning Commission. At the district level, a District LEAP Implementation Committee (DLIC) selects beneficiary communities following locally identified poverty criteria. The DLIC is made up of representatives of relevant government agencies, religious and non-governmental organizations, and community leaders. At the community level, initial beneficiary selection is through a similar community-based process, involving community leaders known as Community LEAP Implementation Committees (CLICs). Extremely poor households without means of meeting their subsistence needs and without productive capacity are targeted. Eligibility is based on having a household member in at least one of three demographic groups: single parent with orphans and vulnerable children, elderly poor above 64 years old, and persons with severe disability who are unable to work. The nominated participants from CLICs are verified centrally with a proxy means test to determine the final list of beneficiaries. LEAP grants are unconditional to individuals with no productive capacity (e.g. the elderly poor and persons with severe disability), but otherwise conditional on beneficiary households enrolling and retaining their children in school; not allowing child labor; enrolling all household members in the National Health Insurance Scheme; registering the birth of all their children; and completing the Expanded Program on Immunization (Ministry of Manpower, Youth and Employment 2007).

[1] The exchange rate at the time of data collection was $1 = Gh¢ 1.94

The program's cash transfers are channeled through the Ghana Postal Services. A payment team delivers cash to beneficiaries at designated pay points bimonthly. The payment team includes a postal agent in charge of the actual transfer, a Department of Social Welfare (DSW) representative for monitoring, and a police officer for security purposes. The primary caregiver or female head of the household or an appointed deputy receives the cash on behalf of the household. The primary recipient or appointed deputy is officially recognized and receives identification to ensure transparency and accountability.

Since LEAP was piloted in March 2008, the program has expanded across Ghana. As of 2012, over 68,502 households in 94 districts had received payments from the LEAP program and up to about 200,000 households are predicted to enroll by 2015. As LEAP expands across the country, questions remain over how well the program is working and about its appropriateness to the Ghanaian sociocultural context.

2.3 METHODS

2.3.1 Research Setting

Study participants were drawn from Kintampo Municipality in Ghana's Brong Ahafo region, one of LEAP's pilot districts. Geographically, Kintampo is in central Ghana. As a major transit point between southern and northern sectors of Ghana, Kintampo is home to a vibrant marketing center where traders from the North and South meet.

Kintampo Municipality is known for its vast fertile agricultural lands. With about 140,000 people occupying about 5108 km^2 of land, the Municipality's low population density (about 27.4 persons per km^2) suggests the availability of land for farming and other purposes. The relative ease of acquiring land makes the municipality an important destination for migrant farmers from different parts of Ghana (Kintampo Municipal Assembly 2010). Kintampo municipality is thus one of the most ethnically diverse areas in Ghana. It is governed by the Kintampo Municipal Assembly, which implements national and local policies in the area. In various communal regions in Kintampo, the Municipal Assembly works cooperatively with a traditional system of governance administered by a tribal chief and a council of elders.

Despite Kintampo Municipality's fertile arable land, problems associated with poverty, disease, illiteracy and deprivation are commonplace, especially in its rural areas containing about 73% of the population. Most residents are poor farmers depending on rainfed agriculture and lacking access to electricity, sanitation facilities, and other basic human needs. About 64% of the population relies on streams for drinking water (Kintampo Municipal Assembly, 2010). The general lack of access to credit, farm inputs, markets for produce, and poor transportation infrastructure contribute to poverty. Kintampo Municipality is also a net receiver of immigrants from northern Ghana who come as settler farmers and in some cases are fleeing recurring tribal conflict. These migrants typically do not have a strong social support system, which appears to exacerbate the incidence of poverty. Kintampo's status as one of Ghana's poorest municipalities led to its inclusion in the pilot LEAP program in 2010. As of June 2012, about 868 households in 11 communities within the municipality had enrolled in LEAP.

2.3.2 Data Collection Procedures

To address our research questions, we used a two-phased mixed-method approach. Phase 1 employed qualitative methods to explore the views and experiences of relevant actors on poverty and CCT programming. Phase 1 involved multiple interviews and focus group discussions with LEAP program managers, beneficiaries and community leaders. It also included participant observation (Spradley 1980) of the LEAP payment scheme in action. The flexibility and iterative nature of the qualitative approach allowed for exploration of the issues in greater depth and detail (Maxwell 2012). Interviews and focus groups yielded informative discussions in which participants expressed their views. In some cases, emerging themes were further explored in subsequent interviews. Participant observation enabled the researchers to verify interview data and gain first-hand insights into beneficiary experiences of LEAP. Phase 2 involved administering a household survey to beneficiary and non-beneficiary households. The multiple methods complemented each other and facilitated better understanding of the issues. For instance, insights from qualitative interviews helped determine areas needing further inquiry through the household survey. The qualitative interviews also helpful in adapting question wording to reflect local parlance and context. The quantitative surveys provided data and analytical results that were triangulated with findings from the qualitative phase, an approach that improves the study's validity and generalizability (Maxwell 2012; Rubin and Rubin 2012).

Phase 1 qualitative interviewees and focus group participants were selected using purposive and snowball sampling (Patton 2001). Interviewees and focus group participants were screened to ensure they had some experience with LEAP programming. Program managers were drawn from employees in regional and district offices of the DSW, LEAP's implementing agency.

Community leaders interviewed were predominantly CLIC members in beneficiary communities or assembly members with working knowledge of LEAP. These selected community leaders then referred researchers to program beneficiaries for subsequent qualitative interviews. An interview/discussion guide (Rubin and Rubin 2012) for the in-depth interviews and focus groups was used and centered on core issues related to poverty, LEAP program design and implementation, size of the LEAP grant, and use of the transfer (payment). The interviews/focus groups were conducted at participants' offices and homes in May-June, 2012. Overall, twenty-two individual interviews, five group interviews, and two focus groups were conducted. All interviews and focus group sessions were documented using handwritten notes and audio recorded with informants' permission. Recorded interviews/discussions were transcribed with those conducted in the local language translated into English. Participant observation of the LEAP payment scheme was undertaken in Kintampo and Kadelso. The observations focused on understanding the payment process and beneficiary experiences at the pay-points. During the observations, the researcher interacted informally with LEAP beneficiaries and CLIC members soliciting their views on the process. Participant observation was documented using handwritten notes and photos. The interview transcripts and expanded notes formed textual data for subsequent analysis.

For Phase 2, a household survey was designed using an iterative process following survey best practices (Dillman et al. 2008; Kaplowitz et al. 2004). Insights from the qualitative phase and pretesting were incorporated in the final design. The survey instrument consisted of multiple sections including Likert-like scale items exploring respondents' perceptions of income inequality, description of the poor, perceived causes of poverty, and demographic characteristics.

The survey was administered to a stratified random sample of households in the Kintampo Township representing the suburban setting and six rural communities in Kintampo Municipality - Babatokuma, Soronoase, Kunsu, Techira No.1, Techira No.2 and Asantekwa. The six rural communities represented communities north, east, and west of the Kintampo Township. Within Kintampo Township, respondents were randomly drawn from the thirteen different communities as per the Kintampo Demographic Surveillance System. The number of completed surveys in each area was directly proportional to its population size. Five trained enumerators administered the survey to the households using face-to-face survey methods (Fowler 2013). Overall, 600 completed surveys were collected: 301 from the suburban sector and 299 from the rural sector. Seven out of 607 houses approached were replaced due to refusals and/or absence of households during the survey period resulting in interviews with 98.8 per cent of the sampled houses, a rate that reflects both the cooperation engendered by having community leaders encourage participation and Ghanaian norms of friendly conversation.

2.3.3 Participant Characteristics

Table 2.1 presents the number of respondents participating in each qualitative method used. Overall, twelve individual and three group interviews were conducted with beneficiaries or their officially recognized primary caregivers. Three of the individual interviews and two of the group interviews were conducted in the rural setting. All beneficiaries interviewed were in the program for at least one year. A total of eighteen beneficiaries and caregivers participated in Phase 1, and 50 per cent were females. Community leaders in seven out of eleven beneficiary communities were also interviewed. A total of thirty community leaders participated involving six individual interviews, two group interviews, and two focus groups. The community leaders in

the individual interviews were CLIC members. Focus group participants included traditional leaders who were not CLIC members but knew about the operation of LEAP in their community. Only three out of the twenty-seven community leaders who participated in Phase 1 were female. The four participating program managers were drawn from the regional and district office of the DSW. They included the LEAP Regional Coordinator, DSW Municipal Director, and two Kintampo Municipality DSW office staff members. Only one of the program managers was female.

Table 2.1 Number of Respondents by Qualitative Method

	Number of respondents		
Method	Beneficiaries	Community leaders	Program managers
Individual interviews	12	6	4
Group interviews	6	5	0
Focus groups	0	19	0
Total	18	30	4

Phase 2 household survey respondents were drawn from both rural and suburban settings. A high proportion (66 per cent) of Phase 2 participants were female. This probably reflects the traditional role of many women in Ghana to work from home due to childcare responsibilities[2]. On average, Phase 2 respondents had lived in their community for about thirteen years. A vast majority of these (84.6 per cent) reported having less than high school education and were at least twenty-five years old (85.6 per cent), with a reported mean age of forty years. On average,

[2] Traditionally, women engage in economic activities such as petty trading or food processing from home, also joining their husbands in the field for a few hours.

the sampled households consisted of six persons and reported a monthly household income from all sources of Gh¢342.20 (US $167.11). While 34.2 per cent of respondents reported being aware of a government program that provides financial assistance to the needy in the community, only 9.6 per cent of them reported ever receiving such assistance.

2.3.4 Data Analysis

Analysis of Phase 1 (qualitative) interview data followed a grounded-theory approach (Corbin and Strauss 2008). Transcripts and expanded notes were reviewed multiple times to identify key themes and concepts. Drawing on the existing literature and open coding of a subset of transcripts, major themes were identified. Recurring themes were noted and used for developing categories of a coding scheme that was subsequently used to code all transcripts in Nvivo (Rubin and Rubin 2012). The coding scheme specified the concepts and themes, their definition, rules for applying codes, and examples of when they apply. As subsequent transcripts were coded, revisions to the coding scheme were made to clarify code descriptions, consolidate similar codes and/or create new codes not yet represented in the scheme. During the coding process, recurring themes, insights, and noteworthy observations were documented. The resulting themes, codes, and insights were subsequently compared across the three main groups – beneficiaries, community leaders, and program managers – using a conceptually clustered matrix to identify areas of agreement/disagreement (Miles et al. 2013). Summary statements were also written for the resulting themes and insights.

The analysis of the Phase 2 (quantitative) data included descriptive statistics and statistical tests of differences in responses. Likert-scale items exploring perceptions related to poverty were

analyzed using principal component factor analysis to identify key factor groupings. The contribution of perceived causes of poverty to individuals' support for cash transfer was explored using regression (Wooldridge 2012).

2.4 RESULTS

This section presents and discusses results from Phases 1 and 2 and focuses on respondents' sociocultural attitudes towards poverty, knowledge and perceptions of CCT as a poverty reduction strategy, and assessment of LEAP program implementation. Where applicable, the results of both qualitative and quantitative analysis are presented together.

2.4.1 Sociocultural Attitudes Towards Poverty

Qualitative interviews explored perceptions of three groups – program beneficiaries, community leaders and program managers – regarding poverty, the category of poor they deem deserving of social assistance through cash transfer, and causes of poverty in their community. The household survey elicited participants' responses regarding who they consider poor in their community, perceived deservedness of four categories of poor to receive government cash transfer, and perceived causes of poverty in their community. The qualitative data analysis yielded a general consensus across the three respondent groups regarding who is considered poor in the community, those poor deserving of government support through cash transfer, and perceived causes of poverty. Findings from the quantitative and qualitative data analyses regarding these three principal findings generally reinforced each other.

2.4.1.1 Perceptions of Poverty

The qualitative analysis revealed that all three respondent groups perceived poverty as a lack of basic necessities of life such as food, clothing, health, education, and shelter. According to the participants in the qualitative interviews, poverty often manifests in there being too little and low quality food, overcrowded and dilapidated shelters, illiteracy, and/or tattered clothing. Acknowledging the difficulty in establishing characteristics that exclusively define the poor, these respondents outlined additional essential features. First, poverty was associated with the inability to work and provide for one's self and dependents. All three groups associated poverty with persons who are unemployed or lack productive capacity to earn a living due to old age or severe disability. Such individuals were seen to be at the mercy of others' benevolence and as such deemed poor.

Second, program beneficiaries, community leaders, and program managers articulated a view of poverty in terms of a loss of one's primary means of support. Given the patriarchal nature of the society, the loss of a husband or father implied the loss of a primary means of support for his dependents. In such circumstances, extended family members are often called upon to help cater for the surviving dependents. However, in recent times such social safety nets have been weakened and are no longer reliable. As a result, individuals losing their primary breadwinner and without relatives to help them tend to be consigned to poverty. Respondents commonly associated poverty with widows, single-parenting women and their children, orphans, and older individuals without children or relatives to help them.

Third, participants in the qualitative phase described poverty in terms of social isolation that could result from the poor's inability to fulfill societal expectations. For example, the poor generally were described as unable to afford appropriate clothing for social events. Consequently, they may not attend relevant social events such as funerals, or they may show up in tattered clothing, a socially unacceptable behavior. The respondents went on to describe how these behaviors cause poor people to lose the respect of peers and become alienated from the community.

The perceptions of the poor from Phase 1 were supported in survey results in Phase 2. Survey participants were presented with six characteristics and asked to rate them based on how well they describe the poor in their community. As shown in Table 2.2, while rating all six characteristics as indicative of poverty, the description of the poor as being unemployed, widowed or single mothers with many children, inhabiting dilapidated housing structures, and unable to interact easily in society were rated highest in both rural and suburban settings.

Table 2.2 Rating of Perceived Characteristics of the Poor from Household Survey*

(1-Strongly Disagree To 5- Strongly Agree)

Perceived Characteristics of the Poor	Rural		Suburban	
	Mean	Rating	Mean	Rating
Widowed or single mothers with many children	3.71 (0.06)	1st	3.33 (0.08)	2nd
Often unemployed or do worst job in society	3.61 (0.60)	1st	3.68 (0.06)	1st
Live in uncompleted building, kiosks, etc.	3.32 (0.68)	3rd	3.26 (0.08)	2nd
Have families with large number of children	3.28 (0.07)	3rd	3.06 (0.08)	5th
Unable to interact easily with others	3.23 (0.19)	3rd & 6th	3.29 (0.08)	2nd
Poor wear dirty and worn out clothing	3.11 (0.08)	6th	2.98 (0.08)	5th

*Each rank (1st, 2nd, etc.) is significantly different, $p < 0.05$. Standard deviation in bracket

2.4.1.2 Perceived Deservedness of the Poor

Qualitative interviewees also expressed views regarding which categories of poor in their community deserved government assistance through cash transfer. Across the three groups of Phase 1 study participants, the results revealed widespread support for government assistance to those poor without productive capacity such as the aged and persons with disability. Almost all participants in the qualitative interviews from beneficiary households did not deem those poor who are able to work as deserving of government support through cash transfer. They often cited the ability of working poor, unlike those without productive capacity, to engage in some labor

allowing them to survive. As one beneficiary reported: *"The assistance should be targeted at those who cannot survive on their own and not those who can see themselves through - B9'*. Program managers and community leaders shared this view. However, the interviewees generally agreed that the working poor also need help and suggested support such as skill training and employment opportunities for the working poor, especially the youth.

The household survey results correspond with the three groups' perceptions concerning deservedness. Results from a ranking of four categories of the poor based on the extent to which respondents deem them to deserve assistance through cash transfer revealed the working poor as the least deserving (See Table 2.3). Survey respondents in both rural and suburban settings rated in descending order of perceived deservedness of support 1) persons with disability, 2) orphans and vulnerable children, 3) elderly in need, and 4) working poor.

Table 2.3 Ranking of Perceived Deservedness of Government Support for Four Categories of Poor People from Household Survey * (1-Most Desirable 4- Least Desirable)

	Rural		Suburban	
Poor Group	Mean	Rating	Mean	Rating
Persons with disability	1.74 (0.89)	1st	1.82 (0.95)	1st
Orphans and vulnerable children	1.98 (0.84)	2nd	1.86 (0.79)	1st
Elderly in need	2.10 (0.85)	3rd	2.82 (0.95)	3rd
Working poor	3.37 (0.92)	4th	3.46 (0.94)	4th

From household survey. Each rank (1st, 2nd, etc.) is significantly different, $p < 0.05$. Standard deviation in brackets.

2.4.1.3 Perceived Causes of Poverty and Support for Cash Transfer

Respondents in Phase 1 provided multifaceted views of the reasons underlying poverty in their community, acknowledging both external and personal causes. External factors reflect the notion that people become poor due to structural and supernatural factors beyond their control such as disability and lack of state effort to provide viable economic opportunities. Conversely, personal factors blame the poor for their neediness. These factors explain poverty in terms of negative personal traits such as laziness and mismanagement of their resources. From the qualitative analysis, a comparison of responses from the three groups of respondents – program managers, community leaders, and beneficiaries – revealed no substantial differences in terms of which factor they emphasized as the cause of poverty in the community. Program managers, community leaders, and beneficiaries acknowledged some role of personal factors, but largely cited external factors as the dominant cause of poverty in the community. Beneficiaries were less likely to cite personal factors as reasons for poverty relative to program managers and community leaders even when prompted. As one beneficiary explained:

> *The people here are not lazy. Given the opportunity, they will work but the jobs are not available and the money to begin their personal businesses is hard to get. That is why they are suffering. —B4*

When further probed, community leaders and program managers citing personal factors such as laziness as a cause of poverty often estimated their contribution to poverty to be less than 20 per cent. In such instances where personal factors were cited as a cause of poverty, the examples given related mostly to the poor youth who they considered generally uninterested in farming.

Some widely mentioned external causes of poverty across the three groups include limited employment opportunities and resultant dependence on farming, limited access to credit and markets for farm produce, breakdown of community self-help structures such as the extended family system, lack of access to educational resources, and ill-health or old age. The following quotes highlight some of the external factors of poverty raised by respondents:

> *The predominant occupation here is farming so if a farmer does not get market for his produce, everything goes bad and they have to wait for the next year's harvest. Also, traders need money to buy goods for sale, but they cannot get money to expand their businesses. The bank requires them to give collateral, which they cannot do so they are denied loans – C1*

> *The extended family system is also losing its potency. Gone are the days that children were taken care of by their relatives to get education. Now, it's like 'everyone for himself, God for us all' – C8.*

The notion that the poor are stuck in a vicious cycle of poverty was commonly shared among respondents. As one beneficiary remarked:

> *Poverty here is a generational problem. If your parents are poor, it is only by a miracle that you will succeed in life - B2.*

Poverty was also attributed to certain cultural practices and beliefs. For instance, one community leader noted the presence of some traditional beliefs that implicate women for the death of their

children or husbands. Victims of such beliefs, widows and their children, are often alienated from social support systems causing them to remain poor. Other cultural practices such as polygamy and attendant high birth rates were also mentioned as a contributing factor to poverty, as reflected in the response below from a program manager:

> *In Ghana, especially in the Northern sector, they like marrying two, four wives. When you give birth to so many children, you cannot take care of them - G4.*

Household survey participants were asked to indicate their level of agreement with 15 statements reflecting possible causes of poverty. These statements included individualistic, structural, and fatalistic attributions of poverty commonly used in previous studies (Bullock et al. 2003; Lepianka et al., 2009). Principal component factor analysis (varimax rotation) was conducted on these items to determine factor groupings (Brown 2012). From the analysis, a four-factor solution accounted for the greatest amount of variance (50 per cent of the variance). Table 2.4 presents the items in each factor and loadings above 0.4.

The first factor consisted of "fatalistic" (e.g. natural disaster) and "culture of poverty" attributions and accounted for about 23.5 per cent of the variance. The second factor, which reflected "structural" (e.g. government programs working against poor) and "individualistic" (e.g. laziness) attributions of poverty accounted for about 10.4 per cent of the variance. The third and fourth factors largely reflected combinations of specific structural and individualistic factors and accounted for about 8.7 per cent and 7.3 per cent of the variance respectively. The tendency

Table 2.4 Factor Loading of Perceived Cause of Poverty from Household Survey

Survey items	Factors and their loadings			
	1	2	3	4
	FC	SI	S	I
They have too many children	.63			
They often are victims of natural disasters	.83			
They are too sick or physically handicapped	.68			
They do not save	.54			
They are lazy and lack motivation to work		.57		
They do not want to change old ways and customs		.60		
Government programs work against the poor		.74		
They are taken advantage of by the rich people		.49		
The government does not provide enough good jobs			.59	
Their employers pay them low wages			.59	
They have limited opportunities for education			.62	
The extended family system has broken down			.49	
They waste resources				.59
They lack the talent and ability to succeed				.71
They have loose morals and character				.64
Cronbach alpha	0.67	0.56	0.45	0.58

of some poverty attribution items to load together onto the same factor is commonly reported by previous studies (Bullock et al. 2003). Scholars attribute this to the multifaceted nature of some causal explanations. For example, the poor's perceived lack of saving habits could be perceived as a personal choice or as a result of their inability to have something to save due to external factors such as natural disasters. All the same, the results highlight the relative importance participants place on external factors as causes of poverty.

Previous studies suggest a relationship between support for welfare programs such as CCT and the extent to which people blame the poor for their neediness. To test this hypothesis, further analysis was conducted to determine the extent to which these beliefs appear to influence views regarding cash transfer. Items in the four poverty groupings were used to calculate mean scores for each survey respondent. The resultant scores, reflective of respondents' attributions of poverty – fatalistic/culture of poverty (M=3.69 SD=.80), structural/individualistic (M=3.68 SD=.76), structural (M=3.60 SD=.73), and individualistic (M=3.67 SD=.80) – were then included as independent variables in a regression model explaining support for cash transfer in both rural and suburban settings. The dependent variable, an index of support for cash transfer, was created from six Likert-type scale items capturing respondents' views regarding cash transfer. Table 2.5 shows the scale items. These items demonstrated internal consistency in the reliability analysis ($\alpha = 0.52$).

The results of the regression (Table 2.6) indicate that respondents' perception of the causes of poverty contributes to their reported level of support for cash transfer. Beliefs that the poor are responsible for their poverty (individualistic) were found to significantly decrease support for cash transfer programs in the suburban setting. Conversely, where factors beyond the individual's control are seen as the cause of poverty, support for cash transfer increases. In both settings, individuals that blamed poverty on fate and a culture of poverty were significantly associated with increased support for cash transfer programs although structural attributions did not significantly influence support for cash transfer. Puzzlingly, the combined structural/individual attribution category was found to increase support for cash transfer in both

rural and suburban settings. This may signal the multifaceted nature of the causal explanation category and merit further inquiry.

Table 2.5 Items in Index for Support for Cash Transfer from Household Survey

Survey item	Mean	Standard deviation
I will support the CT program even if I have to pay higher transportation fares	4.12	1.04
I will **never** support a program that just gives money to the poor (R)	1.64	0.69
The poor must always work for the money(R)	2.97	1.23
Just giving money to the poor will only make them more lazy (R)	2.27	1.04
Government should give the poor food instead of cash (R)	2.14	1.00
I would not support the program even if it did not cost my household anything (R)	1.54	0.70
Giving money to the poor is unacceptable (R)	1.67	0.69

(R) item was reverse coded before included in the index

Table 2.6 Regression of Support for Cash Transfer on Poverty Attributions

	Rural	Suburban
Perceived causes of poverty	Coefficient	Coefficient
Individualistic (I)	0.007 (0.04)	- 0.11** (0.04)
Structural (S)	0.05 (0.04)	- 0.01 (0.04)
Structural/Individual (SI)	0.13*** (0.04)	0.09** (0.04)
Fatalistic/Culture (FC)	0.12*** (0.04)	0.11** (0.04)
Constant	2.74*** (0.17)	3.79*** (0.22)
Adjusted R-square	0.15	0.05
# of observations	292	294

*P< 0.1 **P<0.05 ***P<0.01. Standard error in bracket

2.4.2 Knowledge and Perceptions of CCT as a Poverty Reduction Strategy

The Phase 1 qualitative inquiries also explored informants' views concerning the use of cash transfer as a poverty reduction strategy. Generally, beneficiaries and community leaders were well informed about LEAP, typically describing it as "*the program that gives money to the aged, disabled, and orphans.*" Most informants who were beneficiaries seemed unclear about the role of program conditions. While aware of the requirement to enroll in the National Health Insurance Scheme and ensure regular school attendance of children, the beneficiaries did not perceive such activities as "conditions" for their continual receipt of the grant. Rather, they reported viewing them as recommendations from program managers to help them make the most of their grant.

This misperception was reinforced by their reports to us that fulfillment of the "conditions" is not monitored.

The qualitative interviews also revealed misunderstandings regarding the program selection process and payment amounts beneficiaries receive. The informants who were beneficiaries generally knew that LEAP targets persons with disability, elderly in need, and orphans. However, they were unaware of the proxy means test, the actual mechanism for selecting beneficiaries after their initial identification as being in one of the broader categories. Some informants questioned why certain individuals who appear equally poor and in the same demographic category as current program beneficiaries are not presently enrolled in LEAP. The absence of clear selection information seems to have created misinformation that is spreading. For example, some claim the LEAP selection process is by random draw using a computer:

> *The truth is that the computer rejected some of the applicants because the government cannot support everybody - B1.*

Some community leaders reported being accused by non-beneficiaries of favoritism in the selection process:

> *Some of the non-beneficiaries think the selection is done along party lines so they become jealous and they accuse me of being biased - C6.*

Another source of misunderstanding relates to the LEAP payment amount. Beneficiaries commonly were not sure how much money they were entitled to receive given the irregularity of

the payments and the varying amounts of grant payments they have received so far. Hence, some beneficiaries have become suspicious of their community leaders and the payment team:

> *There are LEAP beneficiaries who insult me because they think their colleagues are getting more than them. Meanwhile I have no hand in the distribution of the benefits - C5.*

During the qualitative sessions, respondents repeatedly asked for increased education and information dissemination to shed more light on the program mechanics.

The qualitative data revealed a generally favorable view of CCT across beneficiaries, community leaders, and program managers. However, a consensus appeared that giving money to the poor might not be a viable poverty reduction strategy in the long term. While acknowledging the benefits of CCT grants as immediate help to support consumption in beneficiary households, respondents expressed concern that most recipients may be unable to invest the money into productive activities to help them escape poverty. When questioned about potential strategies that could help alleviate poverty in their community, no respondent cited cash transfer. When asked specifically about the use of cash transfer, respondents did not report seeing it as a way to alleviate poverty in the long run. Instead, providing employment opportunities especially for the youth was widely regarded as the most viable strategy to help break the cycle of poverty. As one respondent put it:

I am against giving money to the poor, especially those who are fit to work. It will be better if we get them some employment. As for the money, they will spend it in no time - C7.

Analysis of beneficiaries' usage of LEAP grants showed the bulk of them going towards fulfilling basic household consumption needs. Beneficiaries report spending their grant on feeding, cleaning detergents, clothing, and payment of insurance for other household members ineligible for free health insurance under LEAP. Some respondents emphasized how the grant allowed them to access more nutritious meals including fruits and vegetables and high quality protein. There were some reported instances where beneficiary households used their grant to support their children's educational needs and engage in productive ventures:

There is an old lady in my area that used her money to buy a bag of charcoal and is selling it – C7.

There appears to be no social stigma associated with receiving LEAP funds. The LEAP grant is generally considered free money from the government. Hence, a number of people in the community desire to be beneficiaries. When asked how other people in the community view LEAP recipients, one beneficiary responded:

They sympathize with our plight. There are some who wish they were a part of it. When they see me on a payday, they start calling me names like "osikani"[rich person]. I tell them the money is not much; they don't believe me —B4

2.4.3 Assessment of LEAP Program Implementation

To help gauge how well LEAP is being implemented, Phase 1 respondents were asked to assess key elements of the program. Analysis of interview responses and participant observation of the payment scheme revealed several challenges bedeviling the current payment system. First, obtaining the cash payment appears very time-consuming to beneficiaries and caregivers. Beneficiaries do not know the exact day and time payments will be made. CLIC members often have a day's notice to inform all beneficiaries to converge at the designated pay point. The time of day the payment team will arrive at the pay point is also often unknown. Beneficiaries often gather at the pay points for several hours awaiting the payment team. In addition, upon the payment team's arrival, beneficiaries have to stand in long queues for several hours to receive their money. Secondly, the current system routinely puts beneficiaries at risk of losing their grant for a pay period. As per the program manual, if a beneficiary or designated caregiver is absent at payment time, they should receive that payment at the next payment period. However, in practice, absentee beneficiaries or caregivers end up forfeiting their grant and are unable to recover it at the next pay period. In light of this risk, beneficiaries and their designated caregivers are forced to endure long hours of waiting. In assessing the payment scheme, some beneficiaries and community leaders complained about the payment team staff and their security personnel mishandling the payment process. The response below illustrates respondents' frustration with the payment scheme:

> *Most of us [caregivers] are workers and abandon our work to come and spend about six hours at the pay point because if you miss, there is no way to get the money again. If a*

caregiver should fall ill and cannot go for the money, the beneficiary will not get the money. That is unfair to them —B9.

Community leaders and beneficiaries also expressed concern over the frequency of the payments and the size of the grant. Contrary to the bimonthly payment outlined in program guidelines, respondents describe payments as irregular and routinely in arrears for over six months. Also, while appreciative of the help, beneficiaries and community leaders described the size of the grant as too small, appealing to the government to increase its size:

The money is too small. They give me GH₵16 and tell me it is for two months when they have not been here in about four months - B4.

Program managers also shared in these sentiments, submitting that,

If the irregularity is addressed and the [grant] levels are raised commensurate with the trend of inflation, it will make big impact in the lives of people - G1.

Further probing revealed that beneficiaries appeared most frustrated by the fact that the payment team does not pay all the arrears from previous months they have missed. When probed on the frequency and size of the grant, most beneficiaries indicated a preference to receive an accumulated amount over time relative to regular bimonthly payments given the small size of the monthly grant and, presumably, the high transaction cost of collecting the payment. As one beneficiary explained:

If the government gives me an accumulated sum, I could use some of the money to start a small trading business to supplement what we get from the government - B4.

When asked about alternative payment methods, most of the beneficiaries and community leaders interviewed suggested that the cash transfers should be paid through the rural bank system. The household survey interviews revealed a similar preference in both rural and suburban areas (see Table 2.7). A few beneficiaries in the qualitative interviews however were wary of the potential additional cost they may incur on transportation to travel to the nearest bank. Others were also concerned that they may not understand the banking system well due to illiteracy.

Table 2.7 Ranking of Payment Methods from Household Survey*
(1-most desirable to 3-least desirable)

	Rural		Suburban	
Payment Method	Mean	Rating	Mean	Rating
Bank	1.49 (0.65)	1st	1.25 (0.51)	1st
Cash payment	2.03 (0.86)	2nd	2.38 (0.60)	2nd
Mobile money	2.48 (0.59)	3rd	2.37 (0.74)	2nd

* Each rank (1st, 2nd, etc.) is significantly different, $p < 0.05$

Interviews with program managers and visits to implementing agencies' offices revealed a general lack of facilities (e.g., computers, photocopiers, vehicles, furniture) and personnel to

effectively monitor fulfillment of conditions and ensure regular disbursement of funds. As one Municipal Director of Department of Social Welfare put it:

> *Look at our building and dilapidated furniture. It is even because of the LEAP that they brought us this new furniture. There is no computer. We are supposed to have 10 or 12 staff members here yet we don't have the staff.*

2.5 SUMMARY AND CONCLUSIONS

As a first step, this study explored the suitability of CCT in Africa by focusing on the perspectives and experiences of key actors within a pilot site of Ghana's LEAP program. The results provide some useful insights into poverty and CCT programming in Ghana. First, our findings reinforce the necessity of defining poverty as a multidimensional concept rather than relying on income or consumption per capita. Both our qualitative and quantitative analyses highlight the diverse manifestations of poverty such as lack of basic necessities, physical disability, loss of primary means of support, and social exclusion. In a developing country context where social capital is highly valued, using an income measure alone may not accurately identify the poor. Effectively targeting the poor for interventions appears to benefit from a socio-cultural understanding of what constitutes poverty within a particular jurisdiction.

Furthermore, Hanlon et al (2010) elements for successful CCT programs provided a useful lens to objectively and systematically assess Ghana's LEAP program design. On the basis of the Hanlon et al. proposed design elements, LEAP appears popular and relatively fair. It targets

those poor with limited or no productive capacity (persons with severe disability, orphans and vulnerable children), and, as this study revealed, groups the public generally deems as deserving of support through cash transfer. Likewise, our results revealed that poverty is largely blamed on factors external to the poor. While acknowledging the role of personal factors such as laziness, the data show that factors such as limited employment opportunities, overdependence on farming, limited access to credit and markets for farm produce, breakdown of community self-help structures (e.g. extended family system), lack of access to educational resources, and ill health or old age as the primary causes of poverty. Consequently, government assistance to the poor, especially those without productive capacity, appears to be socially acceptable. This is also apparent in that respondents did not associate LEAP grant receipt with any negative social stigma. LEAP appears to be well suited to the Ghanaian sociocultural context.

Nevertheless, our findings revealed several challenges in Ghana's LEAP program that undermine some of the recommended CCT program design elements advanced by Hanlon et al. - being practical, assured, and "not just pennies." The data show that LEAP grant payments are irregular and that beneficiaries incur high transaction costs to receive their grant. Also, the current size of the grant is widely deemed to be too small. At the time of data collection in summer 2012, the grant amount had not been adjusted for inflation since the program's introduction in 2008. In addition, beneficiaries made it clear that they were unaware of the accurate amounts they were entitled to at each pay period. Such flaws undermine recipients' ability to adequately include the grant in their livelihood planning. Moreover, input from program managers and observations at implementing agencies' offices revealed a general lack of facilities and personnel to effectively administer the program. As LEAP expands, these challenges must be fully addressed to help the

program achieve its poverty reduction goals. It is recommended that CCT grants be linked to inflation to ensure that the 'size' (value) is at least maintained, if not increased. Given the previously discussed challenges associated with the LEAP payment system, the government should consider alternative payment schemes that are beneficiary-friendly and facilitate regular disbursal.

Beyond Ghana's LEAP, the present study suggests the need for an effective campaign to educate program beneficiaries and relevant actors on CCT programs. The analysis revealed some knowledge gaps regarding aspects of the program related to beneficiary selection and grant size. These knowledge gaps could potentially foster misinformation and associated social tension, which could undermine the popularity and eventually the sustenance of CCT programs. The study highlights the need for a comprehensive analysis of the institutional context of CCT programs in developing countries. The reported challenges with LEAP implementation illustrate some discrepancies that could arise between program design and implementation when institutional capacity is inadequate. The popularity of CCT especially within the international community may be driving its integration into Africa's development strategies. However, global popularity alone is not enough to yield desired poverty reduction outcomes, particularly in the presence of weak administrative capacity. Policymakers might consider incorporating an assessment of existing local administrative capacity as part of efforts to appropriately design CCT programs.

APPENDIX

APPENDIX

Interview and discussion guide

Participant's Code #_____

Place: _____

Date: _____ Time_____

Hello [Participants name]

I am Kwame Yeboah, a graduate student at Michigan State University in USA. Thank you for making time to meet with me and participate in this study.

As I shared with you earlier, this study is being conducted to understand the public views on how government programs should be designed and implemented to better address the needs in our society. It is part of the requirement for my doctoral program. The results will be shared with policymakers to help design future programs to improve our communities.

This interview should take no more than 45 minutes to complete. We will be talking about your experiences about life here in this community and your views on some government programs in the community. A follow up interview may be requested if more information is desired. It is important to know that there are no right or wrong answers. I just want to know how you see things in the community. Your participation is voluntary and you may choose not to participate at all, refuse to answer certain questions, or stop your participation at any time without any consequences.

To ensure that I do not miss anything we talk about, I would like to audio-record our conversation. All your responses will be kept confidential and you privacy will be protected to the maximum extent allowable by law. All reports and publications resulting from this interview will be written and shared using pseudonyms and code numbers.

If you have any questions or concerns regarding your participation in this study, you may contact the people on the information sheet [hand sheet to respondent]. My contact information and that of the professor leading the study is also on the information sheet. If you feel your rights have been violated or you are dissatisfied with any aspect of the study, please contact Judy McMillan, Director of MSU Human Research Protection Program. Her contact is on the sheet as well.
At this point do you have any questions? Yes No [if yes, answer questions and proceed]

Is it okay for you if I audio-tape our interview Yes No

May I begin? Yes No [If no, thank and end]

Questions for all Groups

Thank you again for agreeing to participate in this study. To begin, could you please tell me a little bit about yourself?

a. Are you from this community?
b. How long have you lived here?
c. What work do you do in the community?

Defining poverty and perceived causes of poverty

a. In our community, we often describe people in many different ways; sometimes by their tribe, the work they do etc. We also hear people referring to themselves or others in the community as poor people. What does it mean to you when we say a person in this community is poor?

i. If you were walking in this community now, how would you know that a person/household is poor?

[Probe for how the poor differ from the rich in the community]

b. Can you tell me about a person/household you know very well that you will consider poor.

i. What is it about him/her makes you consider him to be poor?
ii. How is he able to provide for himself or his family day by day?
iii. How do people in the community often relate to him?
iv. Thinking of this person, what would you say made them poor?
v. Now thinking about this community in general, what would you say are some of the things that make people poor or stay poor in our community?
[Listen for various sources of support for poor and the reasons behind that support]

Perceived deservedness of poor for governmental assistance

c. Let's now turn our attention to the national level; do you think the government has any responsibility towards the poor?

i. What do you think the government should do to help reduce poverty in this community?

ii. [If CCT not mentioned] what is your view on the government giving money to the poor to help address poverty in this community? Based on your experiences here, do you think giving money to the poor will be able to reduce poverty in this community? Why and why not? How?

iii. Assuming the government puts you in charge of the CT program in this community, which group of people [those you consider poor] will you use the money to support and why.

[*Probe for views related to deserving and undeserving poor and views on use of CCT as PRS*]

Preferences of CCT program elements

iv. If you were to design this government program, will you require anyone or household receiving the money to do something for it? If yes, what kinds of things would you ask them to do?
v. In your opinion, what will be the best way to give the money to those you select to receive the money
vi. If you were to implement the program across Ghana, which parts of the country will you consider first? What will you base your area selection on?

Beneficiaries

LEAP experiences

a. How did you learn about the LEAP program?
b. How did you become a participant?
c. Why do you think you were selected to receive the transfer?
d. How many eligible beneficiaries are in your household?
e. How long in the future do you expect to continue receiving this money?
f. How are you usually informed that the payment was ready to be collected at the payment point? How do you receive the money?
g. When the payment becomes available for collection at the payment point, how many days do you have to collect it from the payment point before it expires?
h. Are you happy with the way you receive the money now? What would you suggest would be an appropriate payment method?

Social stigma

i. Would it be a problem for you if others in the community knows that you are receiving payments from the LEAP cash transfer program? What do those who know you are a recipient often say about you?

Use of grant

j. In what ways has the LEAP grant being helpful to you and your household?
What kinds of items do you typically spend your LEAP grant on?

[Probe for the impacts of LEAP on household and community level]

Community LEAP Implementation Members (Community Leaders)

a. Please tell me about what your work as a Community LEAP Implementation Member entails.

b. Do families participating in the LEAP program have to follow any rules in order to continue receiving payments?

c. Is anyone checking to see if cash transfer families are following the rules?

d. How well would you say the LEAP program is working in this community?

i. In your opinion, how helpful would you say the LEAP program has been to the poor in this community?

ii. Have the LEAP program brought any changes in the way people relate to each other in the community (social tension)? Please explain

iii. How do others who are not part of the program often say about the program and its beneficiaries?

e. What problems/challenges would you say makes the LEAP program implementation faces during your time as a CLIM?

f. What changes would you suggest be made to the LEAP program so it could better address the needs of the beneficiaries?

For program implementers/government officials

I have heard of this government program called LEAP to help the poor in the community. Could you please tell me what this program is about?

a. How did the LEAP program come about?
b. What did the government want to achieve with LEAP?

i. How will you assess the progress of LEAP towards meeting those set objectives?

c. How did the government decide on who should benefit from the program?

i. Why the focus on the extreme poor/destitute and not the working poor?

d. Can you please tell me about how the program is ran — how is money transferred to beneficiaries? Who is funding it? Any future plans for program expansion?
e. What will you say are the key challenges of LEAP so far [expanding LEAP to other parts of the country?
f. Do families participating in the LEAP program have to follow any rules to continue receiving their benefits? What are the rules? What are the penalties?

Thank you very much. All the information you provided are very helpful. In the even that I have a few further questions or need you to clarify something we discussed today, can I please contact you again? *[If yes, confirm contacts and asked for preferred contact mode]*
Thank you

Table A1 Coding Scheme Used to Code Interview Transcripts

Concept and theme	Code	Definition	Rule for Applying Code
a. Perceptions of poverty, causes of poverty, the deserving poor			
Characteristics of poor	COP	Definitions of poverty including perceived observable characteristics that distinguish the poor from the rich	Direct or indirect references to observable characteristics that defines the poor. Apply to statements attempting to define poverty in general
Causes of poverty			
Negative personal traits	NPT	Negative personal traits of the poor that are perceived to explain why they are poor or negatively contribute to their poor situation. Such traits could be overcome e.g. laziness	References to traits that are perceived to negatively contribute to poverty but can be overcome. Apply to concepts like laziness, negative attitude to work and lack of management skills and planning
Structural	STR	The notion that people are poor because of structural inequalities such as lack of state efforts and political will to provide them with resource to make needed investment in themselves	References to loss of one's means of support perceived to be causing poverty. Apply also to references attributing poverty to structural inequalities in society
Fatalistic	FAT	The idea that people are poor due to circumstances beyond their control such as ill health that make it impossible for them to work	Apply to text attributing poverty to ill health, natural disasters and/or loss of support for poor due to death of relatives.
Culture of poverty	CUL	The notion that the poor are stuck in subculture of poverty as a result of factors such as the break down of the nuclear family system and being born into a poor family.	References to text attributing poverty to factors like break down of nuclear family system, poverty breeding poverty
Coping strategies of the poor			
Community support	CS	Perceived or expected actions that village/town community members take to support the poor who are not their close relatives	References to support the poor receive from community members who may not be close relatives including NGOs, churches

Table A1 (cont'd)

Familial support	FS	Perceived or expected actions that family members take to support their poor close relatives	References to support that poor receive or are expected to receive from their relatives as norms
Government support	GS	Perceived or expected actions of government to support the poor or alleviate poverty.	Apply to text indicating what the government is expected to do or is doing to support the poor.
Personal actions	PA	Perceived or observable actions that the poor take to support themselves	References to actions that the poor take to support themselves independent of familial, community or governmental support. Apply to economic activities of the poor
b. Perception of cash transfer as PRS			
Negative	NEG	Negative support for giving money to poor due to perceived perverse incentives that a cash transfer program will have on poverty.	Apply to statements expressing perceived negative consequences that a CT program may have on beneficiaries and society in general.
Positive	POS	Positive support for giving money to the poor due to perceived contribution to reducing poverty in the area.	Apply to statements indicating informant's likeness for CCT as a way to reduce poverty in their area.
Poverty reduction strategies	PRS	Perceived or suggested strategies respondents believe could help reduce poverty in their area.	References to approaches that could help alleviate poverty in the area
c. Perceptions on LEAP programming and implementation			
Perceived impacts of CCT on beneficiaries			
Social impact	STIG	Impact of LEAP on social relationship between beneficiaries, non-beneficiaries and program implementers/managers in the community	Applies when respondents makes comments about regarding how LEAP has impacted social relations in the community.
Economic impact	ECO	Quotes referring to how the LEAP grant receipt has benefited the household or community economically	Applies when respondents make statements about how the grant helps them to overcome economic challenges

Table A1 (cont'd)

Cash usage	CU	Uses to which beneficiaries often put the cash grant to.	Applies when respondents outline the kind of activities, items or services that they use the cash they receive for.
Household dynamics impact	HD	Perceived impact of the grant receipt on household dynamics	Applies when respondents make comments to suggest how the grant has changed relationship or interaction with each other at the household level
Perspectives on Conditionality			
Conditions	COND	Comments regarding conditions that beneficiary households should fulfill in return to the cash they receive	Applies when respondents discusses/oppose/suggest conditions for beneficiaries to make the program desirable
Monitoring	MON	Perceptions on how conditions are being monitored and enforced	Apply to references to statements assessing how well conditions are being monitored
Payment method			
Assessment	ASS	Assessment of the efficacy of the current payment system to adequately meet beneficiary's needs.	Direct or implied references to how desirable/undesirable informant deem the existing payment method
Payment frequency	PF	Views on how frequently payment is or ought to be made to make program achieve set objectives	Direct or implied references regarding how often payments has been effected
Payment amount	PAmt	Views on the amount of money received by beneficiaries as payment	References regarding the size of the grant that beneficiaries receive
Bank	Bank	Assessment of bank as an alternative payment method	References regarding the use of bank deposit as a payment scheme
Mobile money	MM	Assessment of mobile money as an alternative payment method	References regarding the use of mobile money as a payment scheme
Payment procedure	PP	Narration of the process by which current payment is effected	References current payment procedure

Table A1 (cont'd)

Views on targeting			
Beneficiary Selection	BS	Perceptions regarding the procedure currently used to select beneficiaries	References to procedure used to select beneficiaries of LEAP
Eligibility	ELIG	Perceived deservedness of each category of the poor to be a beneficiary of CCT	Applies when respondent discusses the categories of the poor they deem deserving or underserving as beneficiary of CCT
Tax payment	TP	Perceived willingness to pay increased transportation fares or taxes to support the poor.	Direct or implied references pertaining to their wiliness to accept tax increases to support the program
Quotes	QUOTE	Important quotes that can be used in the write up	

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CHAPTER 3

HOUSEHOLDS' PREFERENCES FOR ATTRIBUTES OF CONDITIONAL CASH TRANSFER PROGRAMS: A CHOICE EXPERIMENT IN GHANA

ABSTRACT

Conditional cash transfer (CCT) are increasingly being integrated into poverty reduction strategies in developing countries. However, debate remains over key elements of CCT program design. Using a discrete choice model, this paper examines Ghanaian households' preferences regarding key CCT program design elements including conditionality, targeting, and payment method. The results revealed a preference for CCT designs that target beneficiaries with limited or no productive capacity and are conditional on beneficiaries either investing in children's human capital or performing communal service, relative to unconditional programs. Also, bank deposit was the preferred payment mode relative to direct cash payment and mobile money.

Key words: conditional cash transfer, choice experiment, program design, targeting, conditions

3.1 INTRODUCTION

Conditional cash transfer (CCT) programs increasingly are being adopted as a poverty reduction strategy in developing countries (Hanlon, Barrientos, & Hulme, 2010). Typically, CCT programs make direct cash payments to targeted poor households conditioned on pre-specified household actions such as school attendance and regular healthcare check-ups for pre-school children (Fiszbein, Schady, & Ferreira, 2009). The cash payments are aimed at addressing short-term poverty reduction goals by financing immediate consumption needs of beneficiaries while the attendant conditions are aimed at fostering investment in human capital of children in beneficiary households to forestall the intergenerational transmission of poverty (de Brauw & Hoddinott, 2011; Rawlings, 2005).

Several evaluation studies on existing CCT programs, especially from Mexico, Brazil and other Latin American countries highlight positive effects of CCT on a range of welfare indicators including child health, nutrition and the use of educational and health services among beneficiary households (Angelucci, Attanasio, & Di Maro, 2012; Orazio Attanasio et al., 2010; Orazio Attanasio & Mesnard, 2006; Coetzee, 2013; Khandker, Pitt, & Fuwa, 2003; Skoufias, 2001; Soares, Ribas, & Osório, 2010). These studies provide support for CCT programming as pragmatic and cost-effective ways to reduce income inequality and insecurity and help countries meet the Millennium Development Goals. Hence, there is interest within the international community to integrate CCT into development efforts in Africa where the incidence of poverty remains high.

However, debate remains over the relevance of some key elements of CCT program design related to conditionality (obligations beneficiaries should have in return for grant receipt) and targeting (who should benefit and where should programs be implemented) (de Brauw & Hoddinott, 2011; Fiszbein et al., 2009; Schubert & Slater, 2006). CCT program design decisions such as who benefits, what obligations (if any) to impose on beneficiaries, and where programs should be implemented are as political as they are technical. Making such decisions so that they reflect public preferences is essential for the sustainability and success of CCT programs, which like most social welfare programs, require broad public support especially from taxpayers and governments (Hanlon et al., 2010). Interestingly, with the exception of a recent report (Samuel, Jones, & Malachowska, 2013), there are no known empirical studies attempting to understand and account for public opinion and preferences in the design of CCT programs.

Also, it is important to note that much of the empirical evidence regarding CCT programming has emerged from Latin America. Little is known about the appropriateness of CCT in Africa and African contexts. This study provides some insights into CCT program development in an African context. By examining the preferences of households in a CCT pilot community in Ghana regarding key CCT program elements, this study identifies the range of conditionality, targeting, and payment methods that would be socially and politically acceptable. The study also breaks new ground by using a stated choice technique to explore public preferences for a social protection (i.e., poverty alleviation) program in a developing country setting.

3.2 BACKGROUND

3.2.1. Poverty Alleviation and CCT

Conditional cash transfer (CCT) is increasingly becoming an integral tool for social protection and poverty reduction around the world. CCT was first introduced in Mexico as *PROGRESA* (now *Oportunidades*) in 1997. Following positive evaluation of its impacts, CCT programs spread across Latin America within five years of its introduction (Lomelí, 2008). Eventually, other developing countries in Asia and Africa began to integrate CCT programs into their poverty reduction efforts. As of 2010, over 40 national programs had been implemented worldwide. These programs vary in scope and design and address a range of objectives including social protection and security, poverty alleviation, and reductions in inequality (Hanlon et al., 2010). The literature is replete with evaluations studies on the impacts of existing CCT programs (Coetzee, 2013; Debowicz & Golan, 2014; Soares et al., 2010; Martins et al., 2013).

Generally, the evaluation studies demonstrate the efficacy of CCT to reduce short-term consumption poverty among beneficiary households (Angelucci et al., 2012; Rawlings, 2005; Soares et al., 2010). Evidence from Mexico, Brazil and Columbia shows positive effects of CCT on both the composition and level of aggregate consumption among beneficiary households. The studies report increases in spending and consumption of food with high-quality sources of nutrients (e.g., fruits and vegetables) among CCT program beneficiary households (Orazio Attanasio & Mesnard, 2006; Skoufias, 2001; Soares et al., 2010). In addition, the fungibility of money is reportedly providing beneficiary households with greater flexibility to meet a wider range of needs as evidenced in increases in expenditure on children's education, clothing, and health. There are also reports of CCT beneficiary households investing part of their grants in

productive ventures which enable them to smooth consumption in times of adverse shocks (Gertler, Martinez, & Rubio-Codina, 2012; Syukri, Arif, Rosfadhila, & Isdijoso, 2010).

Moreover, CCT programs are reported to contribute to achieving long-term poverty reduction goals by incentivizing beneficiaries to invest in the human capital of their children. Several studies highlight the role of CCT in apparently triggering demand for educational and health services especially among demographic groups that have been observed as least likely to patronize such services. Regarding education, among CCT program participants, there are reported increases in school enrollment and attendance, years of schooling completed, and declining rates of school drop-outs (Attanasio et al., 2010; Rawlings & Rubio, 2005; Skoufias, 2001). Similarly, positive effects for health services have also been observed in CCT program beneficiaries (Barham, 2011; Lagarde, Haines, & Palmer, 1996). For instance, the Colombian *Familias en Acción* program reportedly increased the proportion of children under six enrolled in growth monitoring by 37 percentage points, reduced incidence of diarrhea among them by 10 percentage points, and had positive impacts on both weight-for-height and weight-for-age among beneficiaries (Attanasio, Battistin, Fitzsimons, & Vera-Hernandez, 2005). Barham (2011) also indicates that *PROGRESA* significantly reduced infant mortality but had no effect on neonatal mortality on the average. Nonetheless, the overall impacts of CCT on health and educational outcomes are questionable. In a synthesis of evaluation studies on CCT programs in Mexico, Brazil, Nicaragua, Honduras and Columbia, Lomeli (2008) reported little or no positive effect of CCT on beneficiary performance in school, the amount learned in school, and/or cognitive development. Proponents of CCT however attribute these failures to supply-side constraints such as lack of quality schools and health clinics (Hanlon et al., 2010; Soares et al., 2010).

While empirical evidence suggests that CCT programs may have strong, positive effects on a range of welfare indicators, there are debates over the relevance of some elements of CCT program design. For instance, it remains contentious whether cash receipt should be unconditional (e.g. South African Pension scheme) or conditional on pre-specified actions (e.g. Mexico's Opportunitades) or gained by taking part in public works (e.g. Indian Rural Employment Guarantee Program) (Case & Deaton, 1998; Hoddinott, 2008; Jha, Bhattacharyya, Gaiha, & Shankar, 2009; Schubert & Slater, 2006). Some scholars assert that conditions are necessary to help correct some of the market imperfections (e.g. information asymmetry) that constrain investment in desirable activities such as education of children (de Brauw & Hoddinott, 2011; Fiszbein et al., 2009). From their view, conditions only nudge beneficiaries to prioritize the human capital development of their children and exercise their rights to existing social services. Others also argue that conditions are necessary to enhance the political acceptability of CCT as they cast CCT as a "social contract" for investment in poor children instead of a "pure handout" (Fiszbein et al., 2009). However, critics opine that conditions add significant cost to CCT program budgets and hence reduce the effective size of cash transferred to beneficiaries (Caldés, Coady, & Maluccio, 2006). Likewise, conditions are also perceived to place direct costs on beneficiaries, which potentially could erode the welfare gains from the program and/or constrain the participation of some poor (Heinrich, 2007; Molyneux, 2007). Additionally, critics posit that the processes involved in satisfying conditions create distortions and opportunities for corruption. Heinrich (2007) reports on teachers in Argentina relaxing standards for students from CCT beneficiary households to pass courses to help them maintain their eligibility for the program. Still others have cited conditions as demeaning and paternalistic, operating on the

implicit assumption that the poor are irrational or incapable of acting in their own best interest (Freeland, 2007). Unfortunately, there is a dearth of empirical evidence on the public's view on the use of conditions and its importance to achieving poverty alleviation program outcomes.

Furthermore, deciding on the programmatic targets of CCT schemes is central to efficient use of program resources. However, deciding on CCT program targets raises ancillary questions of who qualifies to receive a grant and how potential beneficiaries of CCT programs are identified (Farrington & Slater, 2010). Though there appears to be a consensus that CCT should target the poor, some debate remains over which groups of poor (e.g. persons with disability, poor with productive capacity) should be covered by the CCT program. Some argue that cash transfer programs should focus solely on the ultra poor without productive capacity (Ravallion, 2003), and others have advocated for inclusion of other categories of poor people to enhance CCT's political acceptability (Hickey, 2006). The World Bank Development Report of 2006 calls for the inclusion of those poor with labor or productive assets, as they are more likely to make productive investments and permanently graduate from poverty (World Bank, 2005). Besides who to target in CCT programs, there are additional issues with where and how to select potential beneficiaries. Policymakers face choices between simpler targeting such as those based on easily identifiable social or demographic characteristics (e.g. elderly and children) and more complex targeting based on verifiable financial poverty indicators and/or targeting based on poverty maps (geographical targeting). Each of these targeting approaches has implications for program design and outcomes and related social exclusion and divisiveness (Farrington & Slater, 2010; Watkins, 2008). Unfortunately, empirical evidence on the efficacy and social acceptability of these targeting approaches remains inconclusive.

Slater and Farrington (2010) submit that decisions regarding the design approach that a program adopts must be made with careful consideration of three interrelated issues: 1) appropriateness of the approach to contribute to or enhance the achievement of program objectives and goals, 2) the feasibility of its implementation given available capacity and resources to government, donors and program managers, and 3) acceptability of the approach to the public, government and other key stakeholders. While the technical aspects (appropriateness and feasibility of implementation) are essential, they are moderated by the acceptability of the selected approach to key stakeholders. For example, the amount of resources devoted to a poverty alleviation program as well as the program's objectives are influenced by the values of government, policymakers, program managers and the general (voting) public. Popular support from these key stakeholders is also essential to ensure sustainable program delivery. Therefore, CCT program design approaches should incorporate and reflect the values, attitudes, and preferences of the relevant actors and should avoid creating or worsening social stigma. Understanding public preferences for various CCT program design characteristics should enable policymakers to make informed decisions that will be politically and socially acceptable and, in turn, garner broad support for the proposed poverty alleviation strategies. However, empirical studies exploring public preferences in CCT program designs, to our knowledge, are nonexistent. Moreover, most studies on CCT "success stories" and program design are based on experiences in Latin America. Surprisingly little is known about or reported concerning the experiences and/or appropriateness of CCT programs in Africa despite vigorous efforts within the international community to promote CCT in this region. Therefore, this study provides an opportunity to shed some empirical light on Africa's experience with CCT as well as sociocultural and political contexts within which CCT programs are being implemented in Africa. The study also contributes to the literature by

empirically exploring public perceptions of CCT and preferences for alternative CCT program design characteristics in ways that can be used to inform the design of effective strategies to promote CCT as a poverty reduction strategy.

3.2.2 CCT in Ghana

With steady economic growth and improving governance over the past decade, Ghana is often hailed as a development success story in Africa. The country is on track to halve poverty by 2015, having reduced the incidence of poverty from 51.7% in 1992 to about 28.5% in 2006 (Ghana Statistical Services, 2008). The discovery of oil is expected to spur further growth in Ghana's real gross domestic product, which has exceeded 6% since 2006. Despite these successes, income inequality has increased and a significant portion of the population still lives in extreme poverty. Recognizing this need, the Government of Ghana launched the National Social Protection Strategy (NSPS) to develop targeted interventions to empower persons living in extreme poverty and related vulnerability and exclusion. A key intervention of NSPS is the Livelihood Empowerment Against Poverty (LEAP) program that was introduced and piloted in 2008 (Ministry of Manpower, Youth and Employment, 2007).

The LEAP program provides conditional cash payments as well as health insurance to extremely poor households who have no alternative means of meeting their subsistence needs and productive capacity. LEAP seeks to assist the poor with basic livelihood security in the short term while freeing recipients to access existing social services, and engage in productive activities to support themselves and contribute to national development in the long term. The LEAP grant is unconditional to individuals with no or limited productive capacity (e.g. the

elderly poor and persons with severe disability) but otherwise conditional on beneficiary households enrolling and retaining their children in school; not allowing child labor; enrolling all household members in the National Health Insurance Scheme; registering the birth of all their children with the Birth and Death Registry; and completing the Expanded Program on Immunization (Ministry of Manpower, Youth and Employment, 2007). The program combines geographical, community-based and categorical targeting techniques to identify potential beneficiaries. It is focused on the poorest districts in the country, targeting extremely poor households with one or more household members falling in the eligible category: persons with severe disability, orphans and vulnerable children, and elderly above 65 years of age.

As of 2012, over 68,502 households in 94 districts had benefited from the LEAP program and up to about 200,000 households are expected to have enrolled by 2015. However, as LEAP expands across the country questions about payment conditions and targeting remain, including: should the program be expanded across the nation or focused only on the poorest districts in Ghana; should LEAP benefits be conditional or unconditional; what are the most effective ways to select and disburse funds to targeted beneficiaries; and should other constituents who are equally poor such as the working poor be included in the program? Decisions regarding these programmatic design characteristics ought not only be technically sound but also appropriate to the local context as reflected in the public values, attitudes, beliefs and preferences. This study examines LEAP program design characteristics by exploring households' preferences for CCT program design elements with an eye on shedding some light on public values, attitudes, beliefs and preferences regarding the CCT program.

3.2.3 The Choice Experiment Approach

The choice experiment approach is a survey-based methodology originally developed in economics and marketing research to determine consumer preferences for multi-attribute goods or programs (Louviere & Woodworth, 1983). The technique uses specifically designed hypothetical scenarios to elicit information about respondents' preferences. It is based on the Lancastrian consumer theory (Lancaster, 1966), which proposes that utilities (values) for goods can be decomposed into separable utilities for their characteristics or attributes. Hence, in stated choice surveys, alternatives that are described by a set of attributes are shown to respondents who are asked to either rank the alternatives or choose their most preferred alternative. Each bundle of attributes making up an alternative can yield a different level of utility to the respondents. In some instances, each of the alternatives is associated with a price allowing respondents' choice to mimic actual market behavior, which involves trade-offs among desirable features of a good or program. Stated choice experiments draw on random utility theory (McFadden, 1974) so that when respondents make a choice from a set of alternatives, they are assumed to select the alternative that provides them the highest utility. As a result, a respondent's choice between alternatives reveals the marginal contribution of each element or attribute of the alternative as well as the extent of the trade-offs respondents make between the attributes (Louviere, Hensher, & Swait, 2000; McFadden, 1974). The resulting attribute utilities derived from choice experiments reflect a hierarchy of preferences that can directly inform policy and investment priorities.

The stated choice method has been successfully used to understand people's preferences in a variety of contexts including food safety (Loureiro & Umberger, 2007), transportation (Horne,

Jaccard, & Tiedemann, 2005), health-care (Green & Gerard, 2009), recreation (Boxall & Macnab, 2000), and environmental management (Kaplowitz & Lupi, 2012; Komarek, Lupi, & Kaplowitz, 2011; Smyth, Watzin, & Manning, 2009). There have also been stated choice applications in developing country settings in issues related to agriculture (Baidu-Forson, Ntare, & Waliyar, 1997; Rubey & Lupi, 1997; Tano, Kamuanga, Faminow, & Swallow, 2003), water (Hope & Garrod, 2004), transport (Tiwari & Kawakami, 2001) and health sectors (Baltussen, Stolk, Chisholm, & Aikins, 2006; Kruk, Paczkowski, Mbaruku, de Pinho, & Galea, 2009; Youngkong, Baltussen, Tantivess, Koolman, & Teerawattananon, 2010). Interestingly, no known development study has used this technique to examine preferences related to social protection programs such as conditional cash transfer.

3.3 MATERIALS AND METHOD

3.3.1 Study Site

The study was conducted in Kintampo Municipal District in Ghana's Brong Ahafo Region, one of the few districts where LEAP was piloted. The municipal capital, Kintampo is about 278 miles north from Accra, the country's capital. Geographically, Kintampo is strategically located at the center of Ghana and serves as a major transit point between the southern and northern sectors of the country (See Figure 3.1). The district hosts many tourist attractions including waterfalls and historical heritage sites and is known for its low population density and vast amount of fertile arable land. The availability and relative ease of acquiring land makes the area an attractive destination for migrant farmers from different parts of the country (Kintampo

Municipal Assembly, 2010). The district is thus one of the most ethnically diverse areas in Ghana.

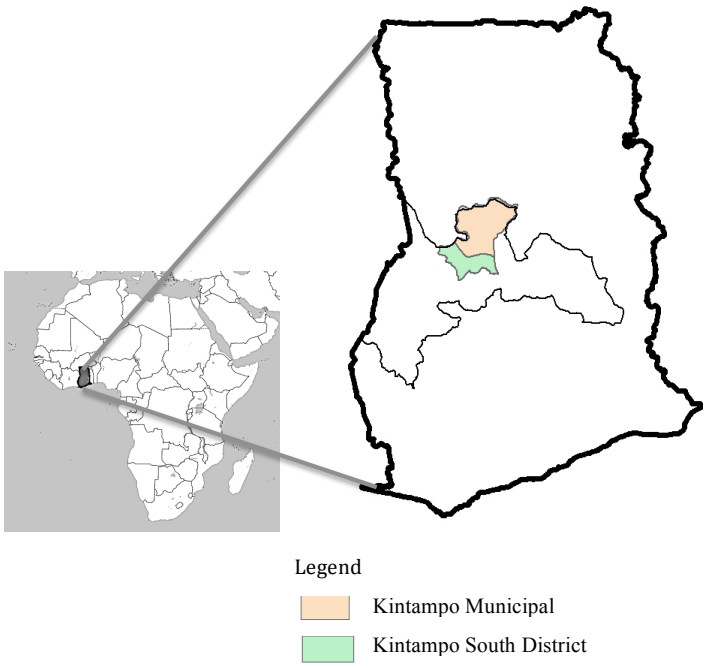

Figure 3.1 Map of Ghana Showing Kintampo Municipal

Although endowed with a vast amount of fertile arable land, problems associated with poverty, disease, illiteracy, and deprivation are commonplace in Kintampo Municipal District especially in the rural areas where about 73% of the population lives. Most of the residents are poor farmers who depend on rain-fed agriculture and lack access to electricity, sanitation facilities, and other basic human needs. About 64% of the population relies on streams for drinking (Kintampo Municipal Assembly, 2010). The general lack of access to credit, farm inputs, and markets for produce, as well as poor transportation infrastructure, consigns the majority of the population to

poverty. The district's status as one of the country's poorest merited its inclusion in the pilot LEAP program. As of June 2012, about 868 households in 11 communities within the municipal had enrolled in the LEAP program. The ethnically diverse nature of the populace of Kintampo Municipal and its status as a site for LEAP piloting made it an interesting destination to explore public perceptions and preferences on developmental issues in Ghana.

3.3.2 Survey Instrument Design

The choice experiment survey instrument was designed using an iterative multiple-methods approach (Kaplowitz, Lupi, & Hoehn, 2004). First, a draft instrument was designed following a literature review and key informant interviews with district and regional LEAP program managers about the goals, scope and design elements of the program. Next, the draft instrument was pretested with 20 individuals drawn from the study site. Input from government officials associated with LEAP, opinion leaders and survey design experts was also sought and duly incorporated. The final survey instrument consisted of multiple sections exploring respondents' perceptions of income inequality, perceived causes of poverty, demographic characteristics, and the choice experiments on preferences for CCT program elements.

Prior to the choice experiment, the survey presents respondents with information on the choice context for each of the possible program elements. Text and images representing various levels of the program elements were used as information treatments to facilitate respondents' understanding. The information treatments were designed to ensure that respondents acquire relevant knowledge on LEAP program elements and potential trade-offs so that they can make informed choices. In line with our research questions, four main attributes were considered: i)

who should be eligible for support, ii) where the program should be implemented, iii) what recipients have to do in return for the support, and iv) what payment method should be used to transfer cash to recipients. To reflect that any CCT program requires financial resources, a fifth attribute called annual cost to respondent's household was included. This was described as how much the respondent's household average annual expenditure on transportation would increase due to a petroleum tax used to fund the CCT program. Table 3.1 presents the attributes and the range of levels used in the choice experiment. After learning about the program elements and contexts, respondents were presented with a choice task that asked them to select their most preferred and second most preferred choice between two alternative programs and the status quo (See Figure 3.2 for an example choice task).

3.3.3 Experimental Design

In a choice experiment, the program alternatives in each choice task consist of different bundles of attributes. Attribute variation within and between alternatives as well as across choice tasks within a survey and across respondents affects the quality of the information that can be obtained from the survey. For instance, the attribute variation affects the model's ability to determine statistical relationships within the data (statistical power) and eliminates collinearity between variables (Johnson, Kanninen, Bingham, & Özdemir, 2007). The experimental design for our study was derived using NGene software (Choice Metrics, 2011). After inputting the number of alternatives, attributes, and their levels in the software, NGene generated a design of 100 choice sets of three alternatives (Program A, Program B, and Current Program). From the design's 100 choice sets, we generated 20 different versions of the survey booklets; each respondent was asked to respond to five choice tasks.

Table 3.1 CCT Program Attributes and their Levels in the Choice Experiment

Attributes	**Levels**
What do recipients have to do?	Nothing
	Send children to school
	Do communal labor
	Do communal labor + send children to school
*Who is eligible for support?	Elderly in need
	Persons with disability
	Orphans and vulnerable children
	Working poor
Which place?	Poorest districts only
	All districts
Payment method	Bank Deposit
	Mobile money
	Cash payments
Annual cost to your household	Gh¢ 5-15

* All combinations of the four levels were included resulting in 15 combinations

	Program A	Program B	Current Program
Who is eligible for support?			
 Elderly in need	✓		✓
 Persons with disability		✓	✓
 Orphans and vulnerable children	✓		✓
 Working poor		✓	
Which place?	 All districts	 Poorest districts only	 Poorest districts only
What do recipients have to do?	 Do communal labor	 Nothing	 Send children to school
Payment method	 Bank deposit	 Mobile money	 Cash payments
Annual cost to your household	Gh¢5	Gh¢6	Gh¢10
#1. Which program is best?	☐	☐	☐
#2. Which program is second best?	☐	☐	☐

Figure 3.2. Example of a Choice Task

3.3.4. Sampling Procedure and Implementation

The survey was administered to a random sample of residents in the Kintampo Township representing a suburban setting and to residents of six villages representing a rural setting. To ensure that each setting (suburban/rural) was adequately represented, a stratified random sampling technique was used to select potential participants. For the suburban setting, houses were randomly drawn from the 12 different regions in the Kintampo Township as per the Kintampo Demographic Surveillance System. The number of completed surveys in each of the 12 areas was directly proportional to its population size. A similar procedure was adopted for the rural settings where communities north (Tamale road), east (Kunsu area) and west (Mo area) of the Kintampo Township were selected (Communities south of Kintampo fall outside the district). Babatokuma and Soronoase represented communities north of Kintampo while Kunsu represented communities east of Kintampo. Techira No.1, Techira No.2 and Asantekwa represented communities west of Kintampo.

A number of the physical houses in the study site were compound houses, houses that shelter more than one household. For this study, the goal was to reach one household per house selected using our sampling plan. Hence, using house numbers in each community, housing structures were first randomly selected. Subsequently, the house was visited and a household member in the selected house was asked to participate in the survey. Where there were multiple households in a selected house, one of the households was randomly selected. Ideally, the male or female head of the household was targeted for participation but in his/her absence, an alternate household member over 18 years of age was asked to represent the selected household. Where no member of the randomly selected household was available during the survey period, when

possible we replaced them with another household in the same housing structure. Similarly, selected houses that were determined to have no available household to interview (after three visits) were replaced with another randomly selected house in the neighborhood. With this sampling technique, households in the population were randomly selected regardless of their LEAP program eligibility.

In each community, the survey was administered using face-to-face interviews by enumerators drawn from the Institute of Statistical, Social and Economic Research at the University of Ghana and the Kintampo Health Research Center. The enumerators underwent a ten-day training program to learn about this study and how to administer the survey instrument to respondents. Prior to the survey administration, community leaders in the selected communities were consulted and notified of the survey. In some communities, the leaders informed residents there would be a survey and appealed for their cooperation. These 'community entry' consultations facilitated survey implementation: they enabled us to identify the best times to reach residents and helped increase the level of cooperation of potential respondents. On the other hand, some persons in the community who were not selected by virtue of our random sampling procedure felt left out and voiced their disappointment to enumerators.

3.3.5 Estimation Procedure

This study focuses on determining preferences of respondents for CCT program design attributes and their levels, which are assumed to yield different utilities to the respondent. Typically, a conditional logit model is used for such estimation (Ben-Akiva & Lerman, 1985; McFadden, 1974). However, in the present study, respondents were asked to indicate their most preferred

choice and their second best choice among three alternatives, which provided a complete ranking of the alternatives presented. Thus, we used a rank-ordered logit model to allow for a more efficient estimation of the parameters (Beggs, Cardell, & Hausman, 1981; Fok, Paap, & Van Dijk, 2012). Letting respondents' ordinal rankings of the CCT programs index the order of the utilities derived from the alternatives, the preference of respondents can be represented using the random utility framework. An individual *i* facing a choice among *j* alternatives obtains utility $U_{ij,}$ for choosing alternative *j* over other specific alternatives. U_{ij} can be represented as $U_{ij} = V_{ij} + \varepsilon_{ij}$ which is the sum of a deterministic component $V_{ij} = \beta X_{ij} + \alpha_j Z_{i,}$ which in turn is a function of the specific program attributes of alternative (X_{ij}) and the individual's characteristics (Z_i), and an error term, ε_{ij} representing the unobserved aspect of the utility. Therefore, an observed ranking of *j* CCT programs from best to worst as 1, 2…., j implies that $U_{i1} > U_{i2} > \ldots\ldots > U_{ij}$. The estimated indirect utility function is given by

$$V_{ijt} = \gamma_{o+} \beta X_{jt} + \alpha_o Z_i + \varepsilon_{ijt} \qquad (1)$$

where V_{ijt} is the utility of CCT program *j* to individual *i* on choice task *t,* γ_o is alternative specific intercept related to the status quo (j=0), X_{jt} is a vector of CCT program attributes specific to alternative *j*, Z_i is a vector of individual-specific characteristics, β captures the preferences related to CCT program attributes, α_o captures the effect of individual characteristics on the status quo, and ε_{ijt} is an error term accounting for the unobserved aspects of utility. Under the assumption that the error terms follow a type 1 extreme value distribution, the probability that CCT program *j* is ranked higher than *k* and *l* where $j \neq k \neq l$ was estimated using a rank ordered logistic regression by maximum likelihood estimation (Beggs et al., 1981). Because each

individual completed five different choice tasks, the errors we report are robust and clustered by respondent.

3.4 RESULTS AND DISCUSSION

3.4.1 Characteristics of the Sample

Overall, 600 completed surveys were received – 301 from the suburban setting and 299 from the rural setting – and over 2700 choice tasks were completed. A total of 7 out of 607 houses approached were replaced due to refusals and/or absence of households during the survey period resulting in interviews with 98.8%[3] of the sampled houses, a rate that reflects both the cooperation engendered by having community leaders encourage participation as well as Ghanaian's norms of friendly conversation. Respondents on the average had lived in their community for about 13 years and reported a mean age of about 40 years. As Table 3.2 illustrates, the sample in both rural and suburban settings overrepresented female respondents (67.2%) who reported on behalf of their household; this is probably a reflection of the tendency of women to traditionally work from home allowing them to combine work with childcare[4]. A vast majority of the respondents (84.6%) have less than high school education. Respondents in the suburban setting reported on the average higher years of formal education. About 92.3% of the respondents in the rural setting had less than high school education relative to 76.8% of the

[3] For the purpose of this study, the goal was to interview one household per each randomly selected house. Hence, the response rate is computed as a ratio of number of participating houses to number of houses randomly selected to participate.

[4] Traditionally, women engage in economic activities such as petty trading or food processing from home. They join their husbands in the field for sometime in mid morning but return by mid afternoon to prepare for the evening's meal while the husband continues working on the farm.

Table 3.2 Demographic Characteristics of Respondents*

Characteristic	Rural (N= 301)	Suburban (N= 299)
Gender (%)		
Male	37.5	30.3
Female	62.5	69.7
Highest educational level completed (%)		
Less than Middle school	74.3	48.5
Middle school	18.0	28.3
High school	5.7	10.8
Technical degree	1.7	8.8
Bachelors degree	0.0	2.7
Graduate degree	0.3	1.0
Mean Age (years)	41.4 (16.1)	38.5 (14.3)
Mean monthly income (Gh¢)	320.76 (321.95)	283.93 (321.10)
Mean years living in the community	15.1 (14.8)	12.0 (14.3)
Mean # of people in household	6.4 (3.8)	5.8 (3.9)

* Standard deviation in brackets

suburban sample. The sampled households on average consisted of 6 persons and reported a mean monthly household income from all sources of Gh¢302.28 (US $155.81)[5] with variations across settings. About 59.3% of those indicating income reported a monthly household income less than Gh¢300 (US $153). Also, while 34.2% of the respondents reported being aware of a

[5] The exchange rate is $1 = Gh¢ 1.94

government program that provides financial assistance to the needy in their community, only 9.6% of them reported ever receiving any such payment from government. Over half of the respondents (58.3%) indicated that at least one of their household members would fall in one of the four groups presented as potential beneficiaries.

3.4.2 CCT Program Design Choice Parameters

Table 3.3 presents the parameters and standard errors of the variables in the CCT program choice model for the rural and suburban settings that were estimated using Stata ® software. The effect of program attribute levels are measured in reference to a baseline attribute level. Therefore, when an attribute level is not significantly different from zero at the 5% level, it implies that respondents' preferences for that particular attribute level were not significantly different from the baseline level. Each choice task consisted of a status quo option and two experimentally designed alternatives, which varied across choice tasks. Since the two alternatives were not labeled, the effects of individual specific characteristics were measured only in relation to the status quo option provided. Hence, the coefficients on the individual level characteristics are related to the likelihood a respondent with those characteristics prefers the status quo.

3.4.2.1. Targeting (Eligibility and Geographical Area)

Regarding the potential beneficiaries of the CCT program, respondents were asked to evaluate four potential beneficiary groups: orphans and vulnerable children (OVC), persons with disability (disabled), elderly in need (elderly) and working poor. All combinations of the four groups were included in the experimental design resulting in 15 different levels. This enabled us to account for the possibility that the CCT program supports multiple groups of poor

simultaneously. Generally, respondents from the rural setting did not appear to differ from those in the suburban settings in terms of their ratings of the target category of the poor they preferred to be beneficiaries. As Table 3.3 shows, in both rural and suburban settings the coefficients on all the eligible groups with the exception of the elderly group are significantly different from zero at the 5% level. That is, respondents expressed indifference between a CCT program supporting only the elderly and an alternative program supporting only the working poor. However, the results revealed that alternative programs targeting only the disabled or OVC and programs targeting any combination of the four groups were preferred to those supporting only the working poor. In both rural and suburban settings, the magnitude of the coefficients increases as the number of potential eligible groups increases indicating a preference for programs supporting more than one group. However, statistical tests reveal that programs supporting all four groups [elderly, disabled, OVC and working poor] were generally not significantly preferred over those supporting only three of the groups. For instance, in both rural and urban settings, programs supporting all four groups were only significantly preferred to an alternative program that supports elderly, OVC and working poor but not the disabled. That is, programs designed to support all four groups relative to three of the groups were only significantly preferred if persons with disability were excluded from the three groups being supported. An examination of the various combinations of the eligible group reveals that the magnitude of the coefficients associated with those combinations involving the working poor are lower than those combinations without the working poor. For example, when considering programs targeting only two groups, those programs supporting a combination of disabled, OVC, and elderly are likely to be preferred to any other combination involving the working poor. This finding suggests that although a general preference exists for CCT programs to support multiple categories of the

Table 3.3 Parameter Estimates of CCT Program Attributes and Respondents Characteristics

Variable	Rural		Suburban	
	Coefficient	**Clustered std. error**	**Coefficient**	**Clustered std. error**
Who should program support?				
Working poor (WP) (baseline)				
Orphans and vulnerable children (OVC)	.51**	.23	.51**	.23
Persons with disability (disabled)	.40**	.19	.65***	.21
Elderly in need (elderly)	.34	.22	.22	.24
Elderly + disabled	1.10***	.19	.98***	.21
Disabled + OVC	1.38***	.21	1.08***	.21
OVC + WP	1.05***	.19	.45**	.21
Elderly + WP	.86***	.21	.48**	.20
Elderly + OVC	.98***	.21	.93***	.22
Disabled + WP	.76***	.22	.66***	.20
Elderly + disabled + OVC	1.36***	.25	1.61***	.23
Disabled + OVC + WP	1.42***	.21	1.10***	.23
Elderly + disabled +WP	1.66***	.25	1.21***	.22
Elderly + OVC + WP	1.22***	.22	1.06***	.22
Elderly + disabled + OVC + WP	1.80***	.26	1.56***	.24
What should recipients do?				
Nothing (baseline)				
Send children to school	1.81***	.17	1.70***	.16
Do communal labor	1.63***	.15	1.43***	.14
Both School + communal labor	1.99***	.18	1.99***	.17
Which place?				
Poorest districts only (baseline)				
All districts	- .01	.09	- .06	.08
Payment Method				
Cash payment (baseline)				
Bank deposit	.49***	.12	.49***	.10
Mobile money	- .09	.10	- .02	.10
Cost	-.18**	.06	-.09**	.02
Cost*cash acceptable	.06**	.02	.03**	.01
Age	.002	.006	.004	.006
Gender	.20	.17	.10	.19
Income	- .0001	.0002	- .0002	.0002
Household eligible	- .21	.19	- .48**	.17
Below middle school (baseline)				
Middle school	.03	.33	.19	.27
High school and above	.16	.45	.23	.31
Status quo	.67	.47	.22	.41
Log likelihood	-1819.45		-1695.71	
# of observations	4143		3749	

*P< 0.1 **P<0.05 ***P<0.01

poor, the inclusion of the working poor as an eligible category appears less desirable. In both rural and suburban settings, respondents preferred that CCT programs target in descending order of priority the disabled, OVC and the elderly in need. This finding probably reflects societal views concerning 'deserving' or 'underserving' poor that often engulf social welfare programs. These results are in line with research that shows that individuals or social groups perceived to be poor due to circumstances beyond their control are often deemed more deserving of support (Bullock, Williams, & Limbert, 2003; Lepianka, Gelissen, & Oorschot, 2010).

As for the geographical areas where the CCT program should be targeted, respondents evaluated programs that varied in two levels. The first level involved providing program funds to only the poorest districts and hence benefiting only the eligible categories in the poorest districts. The second involved equally distributing program funds among all districts in the country so that eligible groups across the country would have a chance to benefit from the program regardless of their location. The study's results show that the geographical area that CCT targets did not significantly influence respondents ranking of program alternatives. As shown in Table 3.3, for both rural and suburban respondents, program alternatives targeting only poorest districts were not significantly preferred to those targeted equally at all districts holding all else constant.

3.4.2.2 Conditionality

Respondents evaluated four conditions that potential beneficiary households would have to fulfill in return for receiving CCT support. These conditions required beneficiary households to: 1) have no obligation to the government in exchange for grant receipt (nothing), 2) enroll and retain all school-age children in school (Send children to school), 3) provide some communal service

(Do communal labor), and 4) both enroll their children in school and engage in communal services. For both rural and suburban respondents, the results indicate a preference for cash transfer programs that are conditional on behavioral changes of recipient households relative to those that are unconditional. Table 3.3 illustrates that the probability a respondent would prefer a CCT program alternative is greater if the CCT program requires beneficiary households to fulfill a condition compared to doing nothing in return for governmental support. Programs requiring beneficiary households to send their children to school were preferred to those requiring them to engage in communal labor. Also, programs requiring beneficiary households to both send their children to school and engage in communal labor were preferred to program alternatives containing any other conditions.

The respondents' preference for programs conditioned on enrolling children in school is consistent with the views of proponents of conditionality who present conditions as a social contract to nudge beneficiary households to take step towards their own poverty alleviation via human capital investment of their children (Fiszbein et al., 2009). Despite relatively low levels of formal education in the study areas, community members appear to value formal education and describe it as a key ingredient to a prosperous future. Hence, conditioning any governmental assistance on beneficiary households enrolling their children in school may be deemed as a way of helping them take control of their own future. The preference for programs conditioned on the provision of communal service may reflect a preference that beneficiaries give back to the community in return for benefiting from the communal pool of resources, which potentially makes the CCT payment less of a simple hand out.

3.4.2.3 Mode of Cash Transfer

The choice task also asked respondents to evaluate alternative methods by which the CCT payment could be made to beneficiary households. Respondents were presented with CCT program alternatives that varied the payment method in three levels: 1) bank deposit involving direct deposit of the funds into the recipients' account at a nearby local bank, 2) mobile money where details of the payment are sent digitally to recipients via their mobile phone with the funds made available at a nearby mobile money provider, and 3) cash payments with the beneficiary collecting the money directly from a designated government office or payment center. Respondents in both rural and suburban settings indicated a preference for the bank deposit relative to direct cash payment and mobile money. The use of mobile money appears less desirable than direct cash payments as indicated by the sign on the coefficient, though the effect was not significantly different from using direct cash payments (See Table 3.3).

Respondents' preference for bank deposits over direct cash payment and mobile money is interesting given that the use of banks does not appear to be widespread in the study area especially in rural communities. This result may, in part, reflect the general dissatisfaction with the current CCT program's mode of payment. Our field observations revealed that the direct cash payment system currently used is associated with high transaction costs to beneficiaries. To receive their grant, current CCT beneficiaries typically converge at a designated pay point, often on short notice, and wait in long queues for several hours for the arrival of payment team staff. Currently, CCT beneficiaries who are not present at the time of payment forfeit their grant payment for that month. It was also observed that the community centers that serve as payment points are typically in full view of the entire community; people not enrolled in the program as

well as other program beneficiaries are privy to the identity of program beneficiaries. Perhaps, respondents are aware of these difficulties with the current direct payment system, which may have influenced their preference for depositing the money in bank. Similarly, the use of mobile money transfer was less desirable as a payment method relative to bank deposits. Despite significant progress in mobile phone technology in Ghana over the past years, a number of the communities where this study was conducted do not appear to have readily access to network coverage. Hence, respondents' negative preference for mobile technology relative to banks as a payment method for cash transfer could be explained by their awareness that many likely beneficiaries lack access to reliable mobile technology and mobile money providers in their community.

3.4.2.4 Program Cost to Household

Included in the choice task was an annual cost to the household due to the program. The cost was described as how much the respondent's household average annual expenditure on transportation would increase due to a petroleum tax to fund the program. Most of the respondents in the targeted population had no utilities (and attendant monthly utility bills) and they do not pay any taxes. Hence, it was difficult to implement standard payment vehicles used in other settings such as utility bills and property taxes. After exploration of alternative payment vehicles, the identification of transportation costs was settled upon as a viable payment vehicle for the target populations. Puzzlingly, the initial econometric analysis revealed that the annual cost to household due to the program did not significantly influence respondents ranking of the alternatives. However, further analysis, which included cost interaction terms in the model, provided useful insights. Particularly, when the model includes an interaction term between cost

and respondents' ratings for the Likert-scale item "giving money to the poor is acceptable," cost becomes significantly negative and the interaction term is significantly positive (Table 3.3). The net effect of the cost and the interaction terms suggests that cost is significantly negative for those respondents who strongly disagree, somewhat disagree or are neutral towards the acceptability of giving money to the poor. That is, those respondents who consider giving money to poor as unacceptable were more likely to select programs alternatives with lower cost. However, for those who somewhat agree with the statement that "giving money to the poor is acceptable," the combined cost effect is approximately zero while for respondents who strongly agree, the effect is positive.

A number of factors might be moderating this observed positive effect of cost on some respondents' preferences. One possible explanation would be a social desirability bias, i.e., given strong social norms to support the needy within the sampled communities, some respondents may have answered in ways they thought would be approved by society. However, this appears unlikely, as the cost of the program was not the only basis for their decision and respondents were clearly making trade-offs among other program attributes. Alternatively, it is possible that some respondents may have associated the levels of the cost with the number of people who could potentially benefit from the program. That is, respondents might have interpreted a higher cost as providing support to a larger number of eligible households. This is plausible given that the observed positive effect of cost is associated with those respondents who viewed giving money to poor as strongly acceptable. Although we provided wording in the survey to suggest that all program alternatives are the same besides the variations presented in the choice sets, the number of program beneficiaries supported under each program was not specifically stated.

Future studies may consider alternative ways of measuring household cost as well as ways to control for a program's number of potential beneficiaries perhaps even making this quantity an attribute within the choice experiment.

3.4.2.5 Demographic Characteristics

In addition to choice specific program attributes, we explored the effect of some demographic characteristics on choices. The estimated parameters relate to the propensity of individuals with those characteristics to choose the status quo over the other two alternatives. Among rural and suburban respondents, age, gender, education, income had no effect on their preference for the current program. Interestingly, those respondents in the suburban setting who indicated having a household member in one of the potential eligible groups (elderly, disabled, OVC and working poor) were significantly less likely to prefer the status quo to the other alternatives. Since working poor are ineligible for the current program, this finding could reflect respondents who consider their households as working poor and would like to be part of the program. For the households indicating they had a member in one of the eligible groups, our data do not distinguish which group or groups it would be. However, Kintampo Municipal District has a relatively young demographic profile with about 64% of the population between 15-64 years and only 6.5% above 65 years (Kintampo Municipal Assembly, 2010). Hence, respondents whose households include an elderly person in need could not have constituted a large proportion of our survey respondents. In addition, with 59.3% of respondents reporting a monthly household income below Gh¢300 ($153), it is likely that respondents considering themselves as working poor constituted a large portion of respondents reporting having a household member in one of the potential eligible groups (58.3% of respondents).

3.5 CONCLUSION

The viability of social protection programs including CCT is dependent on broad support of the populace. Understanding the preferences of stakeholders at various levels of program design is a generally acceptable way to garner broad public support for such programs, ensure the suitability of the policy to the particular context, and promote positive program outcomes. The present study successfully used the stated choice experiment technique to examine public preferences regarding key CCT program elements – program targeting, conditionality, and cash transfer method. The results provide policymakers and program managers with some useful insights into the public preferences, which could help strengthen CCT programming and improve its political and social acceptability.

The study's results directly inform such elements as the desirability of conditions in exchange for payments and alternative targeting approaches for CCT program design. The results revealed that CCT programs that target individuals with limited or no productive capacity appear to be socially desirable and may elicit greater support from the public. The study results provide no indications for geographical targeting of CCT programming, as respondents were indifferent between programs targeting the poorest areas and programs spread across all geographical areas. The results indicate that making CCT receipt conditional on investing in human capital investment and/or performing communal labor are socially desirable and significantly preferred to unconditional cash transfer. The results appear to provide some support to the general view of using conditions in the CCT context as a "social contract" which, in turn, improves the political acceptability of CCT programs (Fiszbein et al., 2009). However, the finding of social desirability of the conditions alone should not drive a policy decision to impose conditions on

cash receipt. Rather, such social desirability should be combined with a thorough assessment of local institutional capacity to support such conditions. Doing so is essential since the absence of a strong administrative capacity could undermine the popularity and support of CCT in the long term if voters realize that the conditional cash transfers have become *de facto* unconditional cash transfers.

The study results revealed a preference for bank deposit relative to the current system of direct cash payments or relative to the use of mobile money. Considering that people's access to the banking system is location dependent, this finding may not be conclusive of a programmatic switch to use banks to disburse grants to beneficiaries. Nevertheless, it may be indicative of challenges that households experience or perceive to be associated with direct cash payment, the existing mode of payment in the study area. Hence, policymakers should consider exploring alternative payment options that are beneficiary-friendly, facilitate regular grant receipt, and suit their local context.

APPENDIX

APPENDIX

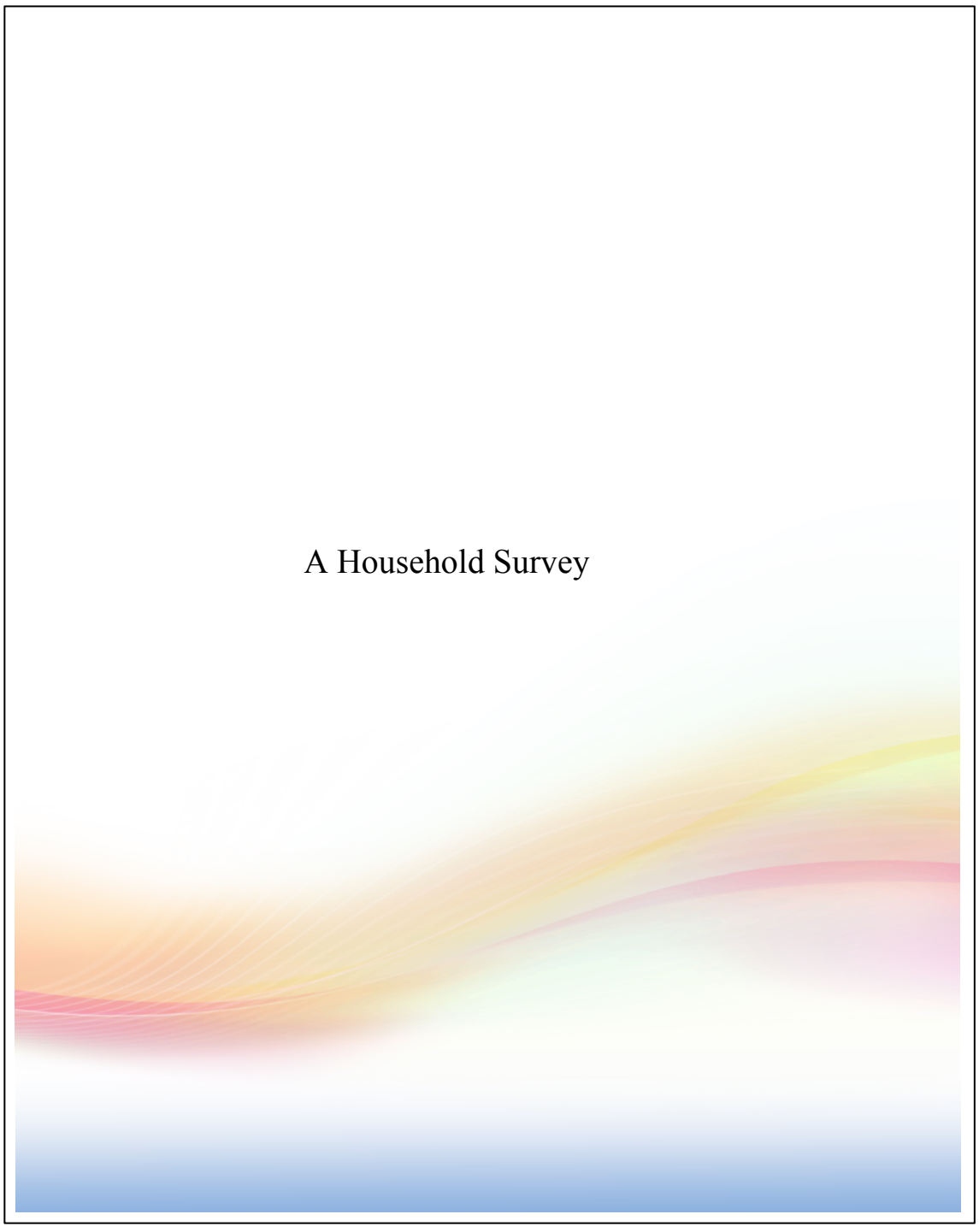

Figure B1 Household Survey Questionnaire

Figure B1 (cont'd)

Household ID _____Interviewer ID _____Date of Interview /2012

Language Used for Interview…… Interview Start Time:☐☐☐☐

You are being asked to participate in this survey to learn about public views on some government programs in Ghana. This academic research survey is part of the requirements for doctoral study to understand the public thinking about how government programs should be designed and implemented to better address the needs in our society. It may also help policymakers to design future programs to improve our communities.

This survey should take about 40 minutes to complete. We will be talking about your experiences about life here in this community. It is important to know that there are no right or wrong answers. All your responses will be kept confidential.

Your participation is voluntary and you may choose not to participate at all, refuse to answer certain questions, or stop your participation at any time without any consequences. Your completing a survey is proof of your voluntarily agreeing to be part of this research project. If you have any questions or concerns about this study, you may please contact Kwame Yeboah at yeboahfe@msu.edu or by mail at 480 Wilson Road, 331 Natural Resources Building, Michigan State University, East Lansing, MI 48823, USA or at 020 6764725

Thank you for your help.

Figure B1 (cont'd)

Section I

Thank you for your help with this survey. To begin, I would like to ask a few questions to learn about you and your household.

1. How long have you lived in this community? YY ☐☐ MM ☐☐

2. Including yourself, how many people currently live in this household? ☐☐
   a. How many of you are adults over 18 years old? ☐
   b. How many of you are children under 18 years old? ☐

3. What is your tenancy status for this house/apartment?
   - ☐ Owned by you or someone in this household
   - ☐ Rented by your household for cash payments
   - ☐ Occupied without payment of rent
   - ☐ Other _____

A. Perceptions of income inequality

Now, I would like to learn how you feel about how income is distributed in Ghana. Employees may earn different amount of income depending on the type of work they do.

1. How satisfied are you with the present income you earn from your work?

   - ☐ Very unsatisfied
   - ☐ Unsatisfied
   - ☐ Neither satisfied nor unsatisfied
   - ☐ Satisfied
   - ☐ Very satisfied

2. Why?
   _____
   _____
   _____
   _____
   _____
   _____
   _____
   _____
   _____
   _____
   _____
   _____
   _____
   _____
   _____

Figure B1 (cont'd)

3. People say different things about how incomes are and should be distributed among people in Ghana. I am going to read some statements people often say about income distributions. For each, please tell me whether you agree or disagree with those statements from 1-strongly disagree to 5-strongly agree

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Incomes should be more equal, because everybody's contribution to society is equally important	☐	☐	☐	☐	☐
Incomes cannot be made more equal since peoples abilities and talents are unequal	☐	☐	☐	☐	☐
Incomes should be more equal, because every family's need for food, clothing and shelter are the same	☐	☐	☐	☐	☐
If incomes are equal, life would be boring because people would all live the same way	☐	☐	☐	☐	☐
Conflicts among people will reduce if incomes are equally distributed in Ghana	☐	☐	☐	☐	☐
If incomes were more equal, there would be little motivation for people to work hard	☐	☐	☐	☐	☐

B. Descriptions of the Poor

Thank you. Let's now turn our attention to your community. In your community, people can be described in many different ways; sometimes by their tribe, the work they do etc. We need your help to understand what it means when people in your community says that a person is poor. Remember that there are no right or wrong answers. We just want to know what it means to you.

1. How will you describe the poor in your community?

_____
_____
_____
_____
_____
_____
_____
_____
_____

Figure B1 (cont'd)

2. Here are some things people often say when describing the poor. Please tell us how much you agree with each of the statements as to how best they describe the poor in your community from 1-strongly disagree to 5- strongly agree.

Poor people…	**Strongly disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly agree**
… live in uncompleted buildings, kiosks and thatched houses	☐	☐	☐	☐	☐
… are often unemployed or do the worst jobs in society	☐	☐	☐	☐	☐
… have families with large numbers of children	☐	☐	☐	☐	☐
… are unable to interact **easily** with other people in the community	☐	☐	☐	☐	☐
… wear dirty and worn out clothing	☐	☐	☐	☐	☐
… are widowed or single mothers with many children	☐	☐	☐	☐	☐

C. Perceived causes of poverty

Thank you very much. There are many reasons to explain people's financial situation.

1. In your view, what makes some people in this community become poor or remain poor?

_____
_____
_____
_____
_____
_____
_____
_____
_____
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_____
_____
_____
_____
_____
_____
_____
_____
_____

Figure B1 (cont'd)

2. Here are some reasons that people often give to explain others financial situation. Please tell me how important you consider each of them as reasons why some people in your community are poor or remain poor from 1-not at all important to 5-very important.

Many people in this community are poor because….	**Not at all important**	**Unimportant**	**Neutral**	**Important**	**Very Important**
… they are lazy and lack motivation to work	☐	☐	☐	☐	☐
… they waste resources	☐	☐	☐	☐	☐
… they lack the talent and ability to succeed	☐	☐	☐	☐	☐
… they have loose morals and character [e.g. drunkenness]	☐	☐	☐	☐	☐
… the government does not provide enough good jobs	☐	☐	☐	☐	☐
… they have too many children	☐	☐	☐	☐	☐
… they often are victims of natural disasters	☐	☐	☐	☐	☐
… they had limited opportunities for education	☐	☐	☐	☐	☐
… they do not want to change old ways and customs	☐	☐	☐	☐	☐
… they are too sick or physically handicapped	☐	☐	☐	☐	☐
… their employers pay them low wages	☐	☐	☐	☐	☐
… God created them to be poor	☐	☐	☐	☐	☐
… the extended family system has broken down	☐	☐	☐	☐	☐
… government programs work against the poor	☐	☐	☐	☐	☐
… they do not save	☐	☐	☐	☐	☐
… they are taken advantage of by the rich people	☐	☐	☐	☐	☐

Figure B1 (cont'd)

Section II
Thank you very much for answering those questions. Now we would like to learn about your experiences and opinions about some government programs that support needy people in the community. We are going to talk about five components of such government programs: who should the program support; where should the program be implemented; what should recipients be made to do in exchange for the support; what payment method to use; and how much the program will cost the public.

Who should program support?
Government programs that help needy people can focus on specific groups of people. Some of these groups include

	***Elderly in need*** – Persons who are over 65 years old and have no caretakers
	**Persons with disability**- Persons with severe disability that are unable to work
	***Orphans and vulnerable children*** – Children living in very poor households and orphans who do not have anybody to take care of them
	***Working poor*** – People who are working but are needy because they earn very little money from the work they do.

1. Is there any member in your household who you would say fall in one or more of the four groups?
   ☐ Yes ☐ No

2. Please rank the 4 groups based on how desirable you consider them as recipients of support from the government [1-most desirable to 4-least desirable].

	Rank
Elderly in need	
Persons with disability	
Orphans and vulnerable children	
Working poor	

Figure B1 (cont'd)

Which place?

Government programs that support needy people may be implemented at different places across the country. For example, the program may be located in:

	***Poorest districts only*** – Program funds will be given to only the poorest districts to implement the program. That is, only needy people living in the selected poorest districts in the country will be able to participate in the program
	***All districts*** – Program funds will be equally distributed among districts for program implementation. That is, the poorest districts will have the same amount of funds as relatively rich districts to support needy people in their district.

.

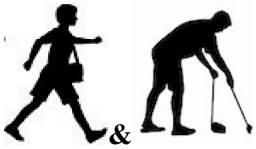
1. Which of the two approaches do you prefer most?

Poorest districts only	☐
All districts	☐

Figure B1 (cont'd)

What do recipients have to do?

For people receiving support, government may or may not require them to do something in order to continue receiving support. For example, the government may ask them to do the following:

	**Nothing -** Recipients of payment have no responsibility to government in order to receive payments
	**Send children to school** - Recipients have to enroll their children in school and ensure they attend school regularly. They will also have to register for the national health insurance scheme.
	**Do communal labor** - Recipients have to do some communal labor such as cleaning up public parks, streets, beaches etc. Government officials will assign the type of work.
	**Send children to school and do communal labor -** Recipients have to enroll all school going children in school and also have to do some communal labor.

1. Using the definition, please rank the following based on how favorable it is to you for recipients to do them in return for government support [1-most favorable to 4- least favorable]

	Ranking
Nothing	
Send children to school	
Do communal labor	
Send children to school and do communal labor	

Figure B1 (cont'd)

Payment Method

The government will support the selected needy people by directly giving them money. There are various ways by which the money can be transferred to recipients. This includes:

	***Bank deposit*** **-** An account is created at nearby local bank for the recipients. Payments are deposited into that account for recipients.
	***Mobile money*** – Money is deposited with mobile phone provider. Recipients receive a text message containing a code and details of the payment on their mobile phones. Recipients then pick up the money from any nearby center of the mobile phone provider.
	***Cash payment*** – Recipients go to a government office or payment point to pick up the money. Recipients have to show their identity card to the official in order to receive the money

1. Please rank the following payment methods based on how desirable they are to you [1-most desirable to 3-least desirable]

	Ranking
Bank Deposit	
Mobile Money	
Cash payment	

Figure B1 (cont'd)

Annual cost to your household

Government already uses taxes on petroleum to fund road construction and other programs. In order to run this program to support the needy people, government needs to raise more funds to pay for money transferred to recipients and the cost of managing the program. Therefore, to implement this program, government will impose a small tax on petroleum. This petroleum tax will increase transportation fares. It is estimated that, if a program is implemented the increases in transportation fares will cause your average annual household transportation cost to increase by an amount that depends upon the type of program. That is, your average household expenditure on transportation will increase by Gh¢5 per year for some programs and Gh¢ 10 for other programs.

1. Before this survey, did you know that government uses taxes on petroleum to fund programs?
   ☐ Yes ☐ No

Figure B1 (cont'd)

YOUR OPINION MATTERS!
We will now ask you to compare three programs and choose the one you most prefer the government to implement. The programs have different characteristics as listed in the table. All other characteristics are the same. Please select the program you prefer even if your most ideal program is not presented.

	Program A	**Program B**	**Current Program**
Who is eligible for support?			
 Elderly in need	✓		✓
 Persons with disability		✓	✓
 Orphans and vulnerable children	✓		✓
 Working poor		✓	
Which place?	 All districts	 Poorest districts only	 Poorest districts only
What do recipients have to do?	 Do communal labor	 Nothing	 Send children to school
Payment method	 Bank deposit	 Mobile money	 Cash payments
Annual cost to your household	Gh¢5	Gh¢6	Gh¢10
#1. Which program is best?	☐	☐	☐
#2. Which program is second best?	☐	☐	☐

Figure B1 (cont'd)

The exact set of options has not been fully decided upon so we would like your feedback on some additional scenarios of the program. This is also another set of programs

	Program A	Program B	Current Program
Who is eligible for support?			
 Elderly in need	✓		✓
 Persons with disability		✓	✓
 Orphans and vulnerable children		✓	✓
 Working poor		✓	
Which place?	 Poorest districts only	 All districts	 Poorest districts only
What do recipients have to do?	 Nothing	 Do communal labor	 Send children to school
Payment method	 Bank deposit	 Mobile money	 Cash payments
Annual cost to your household	Gh¢8	Gh¢12	Gh¢10
#1. Which program is best?	☐	☐	☐
#2. Which program is second best?	☐	☐	☐

Figure B1 (cont'd)

This is also another set of programs

	Program A	Program B	Current Program
Who is eligible for support?			
 Elderly in need		✓	✓
 Persons with disability			✓
 Orphans and vulnerable children	✓		✓
 Working poor		✓	
Which place?	 All districts	 Poorest districts only	 Poorest districts only
What do recipients have to do?	 Send children to school & Do communal labor	 Do communal labor	 Send children to school
Payment method	 Cash payment	 Mobile money	 Cash payments
Annual cost to your household	Gh¢9	Gh¢10	Gh¢10
#1. Which program is best?	☐	☐	☐
#2. Which program is second best?	☐	☐	☐

Figure B1 (cont'd)

Thank you. This is also another set of programs

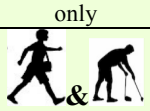
	Program A	Program B	Current Program
Who is eligible for support?			
 Elderly in need			✓
 Persons with disability	✓	✓	✓
 Orphans and vulnerable children	✓		✓
 Working poor		✓	
Which place?	 All districts	 Poorest districts only	 Poorest districts only
What do recipients have to do?	 Do communal labor	 Send children to school & do communal labor	 Send children to school
Payment method	 Mobile money	 Bank deposit	 Cash payments
Annual cost to your household	Gh¢13	Gh¢12	Gh¢10
#1. Which program is best?	☐	☐	☐
#2. Which program is second best?	☐	☐	☐

Figure B1 (cont'd)

Here is the last set of programs

	Program A	Program B	Current Program
Who is eligible for support?			
 Elderly in need			✓
 Persons with disability			✓
 Orphans and vulnerable children	✓		✓
 Working poor	✓	✓	
Which place?	 All districts	 Poorest districts only	 Poorest districts only
What do recipients have to do?	 Do communal labor	 Nothing	 Send children to school
Payment method	 Bank deposit	 Mobile money	 Cash payments
Annual cost to your household	Gh¢14	Gh¢9	Gh¢10
#1. Which program is best?	☐	☐	☐
#2. Which program is second best?	☐	☐	☐

Figure B1 (cont'd)

Here are some of the things people say about this government program to support needy people. Please tell us how much you agree with each of the statements I will read to you from 1-strongly disagree to 5-strongly agree

	Strongly disagree	**Disagree**	**Neutral**	**Agree**	**Strongly agree**
I will support the cash transfer program even if I have to pay higher transportation fares	☐	☐	☐	☐	☐
I will **never** support a program that just gives money to the poor	☐	☐	☐	☐	☐
The poor must always work for the money	☐	☐	☐	☐	☐
Just giving money to the poor will only make them more lazy	☐	☐	☐	☐	☐
Government should give the poor food instead of cash	☐	☐	☐	☐	☐
I would not support the program even if it did not cost my household anything	☐	☐	☐	☐	☐
Giving money to the poor is unacceptable	☐	☐	☐	☐	☐

2. Have you heard of a government program that gives cash to needy people in this community? ☐ Yes ☐ No

[If yes] please specify program _____

a. Has your household ever received payments from any such government program? ☐ Yes ☐ No

b. Do you know anyone in this community who is receiving support from that government program? ☐ Yes ☐ No

Figure B1 (cont'd)

This is the last page. Please tell us a little about yourself to help us better interpret and understand the survey results. Remember that your responses are confidential.

1. How old are you (record age in complete years) ☐☐

2. What is the highest level of education you have completed?
☐ None
☐ Primary school
☐ JHS/JSS/Middle School
☐ SHS/SSS/O'level/A'Level/Tech/Voc
☐ Other Tertiary
☐ University (Bachelor)
☐ University (Postgraduate)

3. What is your religion?
☐ Traditional
☐ Christianity
☐ Muslim
☐ Other [Please specify _____

4. Do you or any member of the household own a motorbike or vehicle(s)? ☐ Yes ☐ No

5. Do you or any member of the household own a mobile phone? ☐ Yes ☐ No

6. Does your household have access to electricity? ☐ Yes ☐ No

7. What is the main source of drinking water for your household?
☐ Indoor pipe-borne
☐ Pipe-borne outside house
☐ Borehole with pump
☐ Hand dug-well
☐ Rivers/stream
☐ Other_____

8. What is the main source of fuel for household cooking?
☐ Firewood
☐ Charcoal
☐ Gas
☐ Electricity
☐ Kerosene
☐ Crop residue/sawdust

9. How does your household dispose off refuse?
☐ Collected
☐ Public dump
☐ Dumped elsewhere
☐ Burned
☐ Buried
☐ Other_____

10. What type of toilet facility is used by your household?
☐ Flush toilet (WC)
☐ Pit latrine
☐ Pan/bucket
☐ Public toilet (flush/KVIP)
☐ No toilet (bush/beach)
☐ Other_____

Figure B1 (cont'd)

11. Are there children in this household of school going age (5-17)? ☐ Yes ☐ No
    a. If yes, are all of these children currently enrolled in school? ☐ Yes ☐ No
    b. Why_____
    _____
    _____
    _____
    _____

12. Which health facility do you or other household members usually use when sick?
☐ Hospital/clinic ☐ Chemical shop/pharmacy
☐ Herbalist/Traditional healer ☐ Other (please specify) _____

    a. Why
    _____
    _____
    _____
    _____
    _____

13. How many room(s) does this household occupy? ☐☐

14. What work do you do to earn income? _____
[Please specify all major economic activities]

15. What is your household's estimated average monthly household income from the following sources?

Paid employment…….	
Sale of crops and other farm produce……..	
Non-farm household/individual enterprise……..	
Rent from houses/lands/animals/equipment you own……..	
Sale of animals/animal products……..	
Sale of wild animals/fruits/mushroom etc……...	
Sale of own produced firewood/charcoal……	
Remittances…….	
Any other……..	

Figure B1 (cont'd)

[Interviewer fill]

16. What is the sex of participant? ☐ Male ☐ Female

Please briefly describe the type of house participants live in:

17. What type of dwelling does this household live in?
☐Detached house/bungalow ☐Semi-detached house
☐Flat/apartment ☐ Compound house
☐Huts

18. What is the main construction material used for the outer walls of the dwelling?
☐Cement blocks ☐Wood/Bamboo
☐Metal sheets/slates ☐Mud/mud bricks
☐Other [Please specify _____]

19. What are the roofs made of?
☐Corrugated iron sheets ☐Palm leaves/raffia/thatch
☐Roofing tiles ☐Other [Please specify_____]

20. What is the floor made of?
☐Cement/concrete/terrazzo/tiles ☐Earth/mud/mud bricks
☐Wood ☐Other [Please specify_____]

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CHAPTER 4

AGRICULTURAL LANDOWNER'S WILLINGNESS TO PARTICIPATE IN A FILTER STRIP PROGRAM FOR WATERSHED PROTECTION

ABSTRACT

Non point source (NPS) pollution remains a challenge to communities meeting watershed management objectives around the world. Installing agricultural best management practices (BMPs) such as filter strips is a widely accepted mechanism to control NPS pollution and agricultural runoff. Government programs in the form of payment for environmental services (PES) have been introduced to encourage BMP's adoption for watershed protection. However, the voluntary nature of these programs makes landowners' decision to participate in them critical to achieving program goals. Understanding the drivers behind landowners' decisions to participate in watershed protection programs is essential for designing effective and efficient programs. This study examines agricultural landowners' decisions to participate in a conservation program involving filter strips. Using responses from a survey of agricultural landowners in Michigan's Saginaw Bay watershed, the study examines key programmatic, socio-psychological, and demographic determinants of landowners' participation decisions. The study results suggest that making contract durations shorter with enhanced rental payments, and educating landowners about the program efficacy as well as on- and off-farm benefits of the conservation practice would enhance participation.

Keywords: conservation program, filter strips, watershed management, landowner behavior

4.1 INTRODUCTION

Agricultural non-point source pollution remains a key challenge to communities meeting watershed management objectives in the United States and worldwide (Duncan, 2014; Ma, Feng, Reidsma, Qu, & Heerink, 2014; Organisation for Economic Co-operation and Development, 2001; Stuart, Benveniste, & Harris, 2014). Nutrients, sediments, pesticides and pathogens, especially from agricultural sources, impact aquatic ecosystems with adverse effects on water quality and wildlife habitat. In the United States, the National Water Quality Inventory identified agricultural non point source pollution as the leading source of water quality impacts to surveyed rivers and lakes, the third largest source of impairments to surveyed estuaries, and a major contributor to ground water contamination and wetlands degradation (US EPA, 2012b). The Organization of Economic Co-operation for Development (2001) also estimates that agriculture in the European Union contributes about 40-80% of the nitrogen and 20-40% of phosphorus entering surface waters. Similar trends of pollution from agricultural non point source pollution have also been reported in other parts of the world (Agrawal, 1999; Duncan, 2014; Li & Zhang, 1999; Novotny, 1999). With climate change predicted to increase the incidence of severe storm events, water resources are likely to be in further decline if the transport of agricultural pollutants is not adequately checked (Jeppesen et al., 2009; Milly, Dunne, & Vecchia, 2005). Agricultural best management practices (BMPs) are widely accepted among scholars and resource managers as a way to address the issue of nonpoint source pollution and agricultural runoff (Bratt, 2002; Giri, Nejadhashemi, & Woznicki, 2012; Ryan, Erickson, & De Young, 2003). Practices such as filter strips and cover crops have proven to be successful measures to control agricultural pollution and improve overall environmental quality (Giri et al., 2012; Shan, Ruan, Xu, & Pan, 2014; Zhang, Liu, Zhang, Dahlgren, & Eitzel, 2010). Recognizing the relevance of BMPs to

NPS control, various government programs in the form of payment for environmental services (PES) have been introduced worldwide to encourage BMP adoption. Many of these PES programs target land use and BMPs for agricultural landowners (Asquith, Vargas, & Wunder, 2008; Chen, Lupi, He, Ouyang, & Liu, 2009; Kaplowitz, Lupi, & Arreola, 2012). For instance, Ecuador's SocioPáramo program, the Rural Environment Protection Scheme in Ireland and several other agri-environmental schemes in Europe and Australia have all been used to incentivize landowners to implement BMPs to protect water and land-based resources (Bremer, Farley, & Lopez-Carr, 2014; Burton & Schwarz, 2013; Greiner & Gregg, 2011; Murphy, Hynes, Murphy, & O'Donoghue, 2014). Likewise, in the United States, programs like the USDA Natural Resource Conservation Service's Environmental Quality Incentive Program (EQIP), Conservation Reserve Program (CRP) and Conservation Stewardship Program (CSP) have encouraged, with varying degrees of success, landowners to adopt various BMPs by offering financial and technical assistance to participants with eligible agricultural lands (Baylis, Peplow, Rausser, & Simon, 2008).

Recently, the US Agricultural Act of 2014 (commonly referred to as the "farm bill") maintained conservation on working lands as a top priority. The Act consolidates some existing conservation programs, links crop insurance subsidies to conservation compliance, and provides more than $1 billion of funding for PES programs to boost participation in the conservation programs (Natural Resource Conservation Service, 2014). The implementation of BMP by agricultural landowners is at the heart of the Act's focus on conservation programs. In the United States, national agricultural and environmental protection efforts are often implemented in conjunction with state partners. For example, in 2000, the state of Michigan in partnership with federal government

and other private organizations introduced the Conservation Reserve Enhancement Program (CREP) to help control soil erosion, improve water quality, and enhance wildlife habitat in priority watersheds. Modeled after the US Department of Agriculture's Conservation Reserve Program (CRP), CREP offers agricultural landowners enhanced monetary incentives including annual rental payments for the length of the contract, and cost-share assistance to establish select BMPs on their lands for watershed protection. The voluntary nature of this scheme makes agricultural landowners' decisions to enroll their lands critical to achieving policy goals. As a number of the original contracts approach their end dates and enrollment rates in Michigan's CREP declines, policymakers are interested in ways to organize the program to help attract new enrollment while encouraging current participants to reenroll their lands when their current contract expires.

This paper uses an examination of the willingness of agricultural landowners in the Saginaw Bay watershed to participate in CREP to explore how programmatic, socio-psychological, and demographic factors impact agricultural landowners decision to participate in government-sponsored BMP programs. Although CREP has other eligible BMP, this study focuses on enrollment in filter strips which is the most widely adopted practice under CREP in Michigan and because of filter strips' demonstrated effectiveness as a pollutant reduction practice even with minimal width (Abu-Zreig, Rudra, Lalonde, Whiteley, & Kaushik, 2004; Zhang et al., 2010)

4.2 BACKGROUND

4.2.1 Agricultural Landowners and Conservation Programs

The literature is replete with studies assessing factors believed to influence farmer's adoption of conservation practices (See reviews from Baumgart-Getz, Prokopy, & Floress, 2012; Knowler & Bradshaw, 2007; Prokopy, Floress, Klotthor-Weinkauf, & Baumgart-Getz, 2008). Some of this literature has specifically explored farmers' willingness to participate in agri-environmental programs (Ma, Swinton, Lupi, & Jolejole-Foreman, 2012; Mishra & Khanal, 2013; Vanslembrouck, Van Huylenbroeck, & Verbeke, 2002). Nevertheless, most of these studies have focused on farmer and farm-level factors to explain adoption of conservation practices or willingness to participate in agri-environmental schemes offering no monetary incentives for participation. Generally, this line of literature suggests willingness to participate in agri-environmental programs is positively related to farm size, educational attainment, farmer's interest and/or experience with conservation, environmental attitudes, access to and quality of information, perceived financial and farm-level related benefits, but negatively related to farmer's age. While such factors influence participation, they are less amenable to policy changes besides providing avenues for targeting potential participants. In recent years, a few studies, mostly from Europe, have explored the role of programmatic factors as determinants of participation in agri-environmental programs (Christensen et al., 2011; Espinosa-Goded, Barreiro-Hurlé, & Ruto, 2010; Mettepenningen, Vandermeulen, Delaet, Van Huylenbroeck, & Wailes, 2013; Ruto & Garrod, 2009). For instance, Ruto and Garrod (2009) used a choice experiment approach to investigate the role of program design characteristics on participation in agri-environmental schemes among farmers from ten European countries. They found that farmers would require greater financial incentives to participate in schemes with longer contracts

or that offer less flexibility or higher levels of paperwork. Similarly, in a comparative study of Belgium and American farmers, Mettepenningen et al. (2013) noted farmers' preferences for flexible approaches towards agri-environmental schemes, in which they have the freedom to decide on contract terms and the related payments. Nonetheless, the effect on participation of programmatic rules and payments, which influence the economic attractiveness of agri-environmental programs remain largely understudied especially in the United States.

At the same time, a few studies have explored farmers' preferences for agri-environmental programs involving filter strips (Howard & Roe, 2013; Lant, Kraft, & Gillman, 1995; Loftus & Kraft, 2003; Purvis, Hoehn, Sorenson, & Pierce, 1989). Purvis et al. (1989) examined farmers' willingness to participate in a filter strip program and showed that their decisions are determined by the yearly payments, perceptions of environmental change, and farm opportunity cost. Loftus and Kraft (2003) also reported that farmers who rely less on farm-generated income as a percentage of total household income, and those informed about the eligibility of their land for the program tend to be more willing to participate in CRP involving filter strips. Nevertheless, a high proportion of the previous studies on filter strips involve hypothetical agri-environmental programs (e.g. Howard and Roe 2013). Those studies exploring specific agri-environmental programs do not consider the role of program specific factors in the farmers' enrollment decision making (Loftus & Kraft, 2003). This study addresses this gap by exploring how program participation is affected by the program characteristics of an existing agri-environmental program involving filter strips. Insights into the contribution of program characteristics on participation will allow resource managers to reorganize the program to reflect landowners' preferences and eventually boost participation.

In addition to the above literature, a number of studies have demonstrated the role of non-economic concerns as determinants of landowners' decision-making regarding conservation programs (Greiner & Gregg, 2011; Januchowski-Hartley, Moon, Stoeckl, & Gray, 2012; Kvakkestad, Rørstad, & Vatn, 2015). Socio-psychological factors including landowners' social and moral concerns and their attitude towards the environment and government-run conservation programs have been shown to influence participation (Larson & Lach, 2008; Mzoughi, 2011). Conservation practices differ in land and management requirements, as well as aesthetics, and thus may elicit different adoption rates or participation in programs involving them (Prokopy et. al., 2008, Ryan et al., 2003). In addition to being compatible with existing farming practices, the degree to which landowners perceive the conservation practice to offer environmental, social, and private benefits as well as the risk, time and effort required to implement the eligible practice have been shown to be closely related to adoption (S. Ma et al., 2012; Sattler & Nagel, 2010; Wauters, Bielders, Poesen, Govers, & Mathijs, 2010) . In a qualitative study exploring the role of social factors and expected private benefits as a determinant of participation in riverine restoration programs, Januchowski-Hartley et al. (2012) reported that a sense of stewardship and improved landscape aesthetics were the most commonly reported private benefits influencing participation. Likewise, Greiner and Gregg (2011) points to a strong stewardship ethic relative to financial and social considerations as the primary motivation for conservation practice adoption among Australian farmers. Ryan et al. (2003) also maintained that farmers are likely to engage in conservation practices that are aesthetically pleasing and make their farms appear well managed.

Socio-psychological scholars also emphasize the relevance of social norms and concerns in individual behavioral decision-making (Larson & Lach, 2008; Mzoughi, 2011). Taking actions

that society or other relevant reference groups approve of is often associated with some status benefits. Normative expectations and approval of behavior by others who are important to the decision maker has been demonstrated to influence conservation behavior (Beedell & Rehman, 1999; Chen, Lupi, He, Ouyang, et al., 2009; Mzoughi, 2011). In a recent survey of Ohio farmers, Howard and Roe (2013) found that farmers indicating a high degree of concern for the environment were more likely to opt into programs involving filter strips. Hence, in determining potential areas to direct policy efforts to enhance participation, this paper also explores the role of some socio-psychological variables on landowners' enrollment decision. Relative to demographic factors, socio-psychological factors may be amenable to policy changes though at a cost. For example, environmental attitudes and conservation concerns could be influenced through public education to benefit program enrollment.

Previous studies have also examined the effect of farm operator characteristics on the likelihood of enrollment in conservation programs with mixed results (Burton, 2014; Prokopy et al., 2008). These studies have generally shown that landowners with relatively high educational attainment, and those with previous experience in conservation schemes tend to be more willing to participate in agri-environmental schemes (Baumgart-Getz et al., 2012; Schroeder, Isselstein, Chaplin, & Peel, 2013; Vanslembrouck et al., 2002). In a study involving ten European countries, Ruto and Garrod (2009) found that farm households that are dependent on their farm for more than half of their household income are less likely to enter into programs requiring longer-term contracts. The authors attributed this unwillingness to commit to longer term agri-environmental programs to a potentially greater opportunity cost of such arrangements in terms of income foregone should market conditions changes. Similarly, in the United States, Loftus

and Kraft (2003) reported that farmers who rely less on farm-generated income as a percentage of total farm income were more likely to participate in filter strips under the conservation reserve program. While demographic characteristics are typically not amenable to policy changes, they can be useful for targeting potential participants to enhance participation rates. For instance, knowledge of the kinds of farmers who would most likely enroll in CREP could help policymakers to tailor their program and educational resources to meet the needs of this group and enhance participation rates. Consequently, this study also explored the role of demographic characteristics as a determinant of landowners' decisions to participate in CREP.

4.2.2 CREP in Michigan

CREP is a Federal-State partnership conservation program that targets significant environmental effects related to agriculture. CREP in Michigan was launched in October 2000 following an agreement between the State and the US Department of Agriculture's Farm Service Agency to implement a program to improve water quality in three priority watersheds in Michigan – Saginaw Bay, the River Raisin, and Lake Macatawa. Primarily, the program seeks to protect the watersheds from NPS pollutants and sediments resulting from crop production by encouraging landowners who meet program requirements to implement specific conservation practices on their agricultural land in contracts of 15 years in duration. It also seeks to promote use of native species, improve wildlife habitat and diversity, and leverage federal matching dollars. Relative to the traditional CRP, CREP offers participating landowners enhanced monetary incentives including signing bonuses, annual soil rental payments, and cost-share assistance for establishing practices. Also, unlike the traditional CRP, CREP enrollments are not subject to competitive bidding and only a few practices are eligible including filter strips, riparian buffers, wetland

restoration, field windbreak, planting of introduced or native grasses, sediment retention control structures.

Despite initial financial obstacles, CREP enjoyed early success when introduced in Michigan; within its first year and half, Michigan landowners had enrolled about 40,000 acres of land. However, with rising commodity prices, enrollment levels in CREP have declined. At the close of the 2011 fiscal year, a total of 6710 contracts had been executed under CREP. These contracts represented about 75,366 acres of all lands enrolled under CREP, falling short of the initial goal of 80,000 acres. Most of the CREP contracts are within the Saginaw Bay watershed and were enrolled under filter strips and riparian forest buffers representing approximate 37,000 acres of the total land enrolled (Michigan Department of Agriculture and Rural Development, 2011). With a declining enrollment rate coupled with the imminent expiration of some of the original contracts, and in light of the emphasis the new farm bill places on conservation programs, managers are considering measures to boost CREP enrollment. This study is thus part of the efforts to re-organize the CREP program to make it attractive to eligible landowners.

4.3 METHODS

4.3.1 Research Site

Participants of this study were drawn from the Saginaw Bay watershed located on the eastern side of Michigan, United States. Saginaw Bay is a prominent bay on Lake Huron, one of the Laurentian Great Lakes. The watershed covers approximately 8,700 square miles and all or part of 22 counties in Michigan. It is the State's largest drainage basin draining about 15% of the total land area of the State. It also features more than 175 inland lakes and about 7,000 miles of rivers

and streams, and contains America's largest contiguous freshwater coastal wetland system. Saginaw Bay is home to more than 1.4 million people and its rich resources support a variety of activities including agriculture, manufacturing, tourism and outdoor recreation. It also supports a vast variety of wildlife including large populations of waterfowl, birds, and more than 90 fish species (Saginaw Bay Watershed Initiative Network, 2012; US EPA, 2012a).

With agriculture constituting over 50% of the land use in the area, the Saginaw Bay, like many watersheds, faces a range of NPS pollution, which has adversely impacted the water quality. Increasing levels of nutrients from agricultural lands contribute to excess growth of algae and other plant mater in the water. This has also generated shoreline mats of decaying algae and plant material commonly called 'muck'. The muck has been shown to hold and nourish harmful bacteria and pathogens (Watson, Ridal, & Boyer, 2008). These developments have negatively impacted water quality, aquatic wildlife habitats, and recreational opportunities in the lake. The US Environmental Protection Agency has listed the Saginaw Bay watershed as an Area of Concern and emphasized the need to mitigate, among other things, agricultural NPS pollution in the area (US EPA, 2012a). As part of several efforts to reverse the trend of pollution, the watershed was selected as a priority area for the implementation of the CREP to encourage agricultural landowners to adopt conservation practices to reduce NPS pollutant entering the watershed.

4.3.2 Research Questions

This study examines the willingness of agricultural landowners to participate in a conservation program involving filter strips for watershed protection and focuses on understanding programmatic, socio-psychological, and demographic factors that shape agricultural landowners decisions. The study was guided by the following research questions:

1. What is the effect of filter strip program elements on BMP program enrollment?
2. What socio-psychological factors motivate or inhibit agricultural landowners participation in filter strip programs?
3. What effect do landowner demographic characteristics have on participation in BMP programs?

4.3.3 Survey Instrument Design

The data used in this analysis came from a survey of agricultural landowners in the Saginaw Bay watershed. The survey instrument was designed using an iterative process (Kaplowitz, Lupi, & Hoehn, 2004). First, a draft of the survey instrument was constructed following a review of the literature and a series of individual interviews with key informants including local and state officials at the Farm Services Agency of the Michigan Department of Agriculture and Rural Development. The key informant interviews sought to understand, among other things, the range and severity of the water quality as well as the goals, scope, and design elements of the CREP program. The draft instrument was then pretested using cognitive interviews (Willis, 2004) with a convenience sample of five students at Michigan State University with agricultural backgrounds. This was followed by further pretesting with 11 agricultural landowners in the targeted watershed recruited from a web-survey panel known as Survey Sampling International.

The agricultural landowners recruited for pretesting administered the draft web survey remotely with the help of screen sharing application, 'TeamViewer' and were then interviewed on the phone. The screen sharing application made it possible for researchers to recruit participants from the targeted watershed without the team members traveling. It also allowed the research team members to observe the participants navigate through the survey without creating any disturbance. The cognitive interview following the survey administration focused on participants' understanding of the information provided, their ability to answer the questions according to the information provided, and/or personal experiences, opinions and attitudes as well as the relative ease with which the survey can be navigated. After each interview, the research team debriefed and revised the web survey instrument where necessary, to address difficulties respondents encountered during the process. The input of resource experts and program managers were sought and duly incorporated throughout the process to ensure the survey communicated accurate information.

The final survey instrument consisted of multiple sections addressing a range of issues including attitudes towards conservation programs involving filter strips, motivations and barriers to enrollment in conservation programs, demographic characteristics, and a choice experiment component asking agricultural landowners to indicate their willingness to participate in a proposed CREP program involving filter strips. Respondents were first presented with information on eligible land and asked a series of questions about their land to determine their eligibility for the program. Secondly, they learned about water quality issues in the watershed, filter strips and their purpose, the rules for participating in CREP, and the types of payments under CREP. The information provided included images to facilitate respondents' understanding

and ensure that they make an informed decision. Each set of information was immediately followed by questions that require knowledge of the information set to answer as a way to encourage respondents to interact with and read the information set (Sudman, Bradburn, & Schwarz, 1996). Respondents were then presented with choice scenarios that, across the sample, varied the duration of the contract period, signing bonus payments, percentage reimbursement of installation cost, and annual soil rental rates. For each scenario, respondents were asked to indicate whether they would enroll in the program (i.e., establish a 50ft wide filter strip) given the proposed program conditions and payments:

> *'Given the program rules and its potential social and environmental benefits, and supposing this is the only program being offered, would you enroll a portion of your land in the Saginaw Bay CREP filter strip program for* A *years for a one time payment of $*B *per acre as signing bonus,* C*% refund of the actual cost of installing the filter strip, and an annual soil rental rate of $*D *per acre?*

Each question was preceded by a bullet list that recapped key program components (i.e., contract duration, annual soil rental rate, signing bonus, and cost share assistance). The final survey also contained a number of likert-type scale items that solicited information on respondents' socio-psychological attitudes and questions on demographic characteristics of interest to the study.

4.3.4 Experimental Design

The choice scenarios presented to respondents varied in length of contract period, signing bonus payments, percentage reimbursement of installation cost, and annual soil rental rates. An experimental design was used to eliminate collinearity between variables (Johnson, Kanninen, Bingham, & Özdemir, 2007). Specifically, an orthogonal fractional factorial design was derived using NGene software (Choice Metrics, 2011) to construct the scenarios that were presented to

respondents. Attribute levels were assigned an expected sign, which allowed NGene to eliminate instances of dominated scenarios and further increase design efficiency. The expected signs reflected the hypothesized relationship between participation choices and the attribute levels based on the knowledge of the research team as well as inputs and insights from experts and cognitive interviews during the instrument design phase. NGene generated 108 alternative scenarios. The sample population was randomly divided into 36 groups, with each group receiving a different version of the questionnaire containing three choice scenarios.

4.3.5 Sampling Procedure and Survey Implementation

Participants of this study were randomly drawn from a list of agricultural landowners in the Saginaw Bay watershed who were enrolled in the Farmland and Open Space Preservation Program (PA 116). The Farmland and Open Space Preservation program is designed to preserve farmland and open space for agricultural use through agreements that restrict development in return for tax incentives. As at 2005, over 50% of the all farmland in Saginaw Bay watershed was enrolled in the program. The Farm Services Agency of Michigan Department of Agriculture and Rural Development provided the list. In the absence of a comprehensive list of agricultural landowners, this list represented the best next alternative to identifying participants. Given the focus of this study on encouraging new enrollment, the original list was crosschecked with a list of current CREP participants to ensure that no current CREP enrollee was sampled for this study. The final sampling frame consisted of about 5889 agricultural landowners in the watershed. From this list, a random sample of 3949 agricultural landowners were selected and invited to participate in the study.

The survey was implemented as a mixed-mode, web-based and mail, survey during Summer 2013 following best practices and principles (Dillman, Smyth, & Christian, 2008). First, invitation letters were sent to all members of the sample informing them of the study and providing them with a link to the survey and a $1 bill. This was followed by a small postcard reminding potential respondents who had not responded to the first invitation to do so. Those members of the sample who had not responded to the first two invitations including those indicating they did not have access to the internet were then mailed paper copies of the survey. This third invitation also included a letter providing potential respondents with a link to the survey and giving them an option to either complete the paper copy or the web-based survey. Non-respondents were then contacted for the last time via an oversized postcard. This oversized postcard provided them with a link to the survey, an offer for a replacement paper copy of the survey, and appealed to them to complete either the web-based or paper version of the survey. Completed surveys, returned mail and other outcomes were recorded for each member in the sample. Responses to the web survey were downloaded into a spreadsheet for subsequent analysis. Mail survey responses were compiled in a spreadsheet for subsequent analysis using a double data entry method that checked for errors.

4.3.6 Empirical Model

A Random Utility Model is used to estimate how program characteristics, socio-psychological factors, and demographics relate to participation in the CREP filter strip program. Assume that a landowner *(i)* derives utility U_{ij}, from choosing to participate in CREP when faced with a choice between participation (*j*) and non-participation (*k*) in CREP. The derived utility, U_{ij} can be

expressed as a sum of a deterministic or observable component (V_{ij}) and a random error term (ε_{ij}) representing the unobservable aspects of utility:

$$U_{ij} = V_{ij} + \varepsilon_{ij} \qquad (1)$$

The deterministic component V_{ij} is also a function of the specific attributes of that particular CREP program (X_j) they are faced with and the characteristics of the individual landowner (Z_i) including demographic and socio-psychological factors, which influences their preferences and their derived utility. Hence, taking into account that each respondent to the survey answered up to three choice scenarios, the indirect utility function for landowners deciding to participate in CREP is given by

$$V_{ij} = \beta X_j + \alpha Y_i + \delta Z_i + \varepsilon_{ij} \qquad (2)$$

where

V_{ij} = utility of CREP program *j* to individual *i* on contingent scenario *j,*

X_j = vector of CREP program attributes specific to contingent scenario *j*,

Y_i = vector of landowner socio-psychological characteristics

Z_i = a vector of individual-specific landowner characteristics,

β = a vector of preference parameters for the CREP program design attributes

α = a vector of parameters related to the socio-psychological characteristics

δ = a vector of parameters related to the landowner characteristics

ε_{ij} = random error term

Assuming that the error terms follow a type I extreme value distribution yields a logit form for the probability that a landowner will choose to participate in CREP, P_{ij}, which is given by

$$P_{ij}(\text{participate}) = \frac{e^{\beta Xj + \alpha Yi + \delta Zi}}{1 + e^{\beta Xj + \alpha Yi + \delta Zi}} \qquad (3)$$

Maximum likelihood estimation was used to estimate the parameters of the probability that an agricultural landowner with a set of socio-psychological attributes, Y_i and demographic characteristics, Z_i and facing program characteristics X_j will choose to participate in CREP. From the survey, respondents indicated their willingness to participate or not participate in CREP providing a dichotomous dependent variable. Since respondents to the survey responded to more than one choice scenario, the estimation employed the robust clustered error option in Stata to control for possible correlation in error terms across responses from the same respondent (Cameron & Miller, 2011).

Using the estimated parameters from the logit model, the marginal rate of substitution (MRS) that respondents make between the attributes was computed as the ratio of the coefficients (Haab & McConnell, 2002). The MRS represents the rate at which a landowner would give up one attribute of the program in exchange for a one-unit change in the level of another attribute while maintaining the same level of utility. Researchers often compute MRS in terms of a cost parameter allowing them to translate the trade-off in monetary terms. In this study, the MRS is computed in terms of relative changes in annual soil rental payments. Hence, the computed MRS captures the additional amount of money ($) in soil rental payments that a landowner would be willing to accept (or give up) for a unit change in another attribute holding all other factors constant. The MRS provides further insights into the relative importance of each of the attributes to landowners and the trade-off they would be willing to make to move from one level of an attribute to another holding all other factors constant.

4.3.7 Model Variables

Table 4.l presents a description of the independent variables used in the logit models. We designed explanatory variables to represent each of the three conceptual categories in our model. First, the program characteristics category corresponds to the rules and payments associated with the CREP program that were part of our experimental design: the duration of contracts, payment amount for signing bonus, percentage of the cost-share assistance for practice installation and annual soil rental payments per acre of land enrolled. The decision to vary these factors in our design was informed by the demonstrated effect of contract lengths and monetary incentives on participation in conservation programs (Ruto & Garrod, 2009; Van Herzele et al., 2013) as well as inputs from program managers and pretest participants.

The second category of independent variables in the model (Table 4.1) represents the socio-psychological variables included in the model. The variables considered reflected landowners' perceptions, preferences, and attitudes towards filter strips, the environment, and social norms/concerns that are believed to guide their utility-maximizing choices. Previous studies suggest that the degree to which landowners perceive the conservation practice to offer environmental, social as well as private benefits to their farmland influences their decision to participate in conservation programs (Ma et al., 2012; Ryan et al., 2003; Wauters et al., 2010) Hence, respondents' attitudes towards filter strips were included in the model. Three survey items reflecting respondents' view of the aesthetic benefits of filter strips and perceived efficacy of filter strips to improve water quality were combined into an index called "filter strips attitudes." The survey items were interrelated and showed high internal consistency (α= 0.81) in

the reliability analysis (Brown, 2012).[6] The index essentially captured respondents' views regarding the social (water quality improvements) and the private benefit (improvement in farmland aesthetics) from filter strips. From the literature, it was hypothesized that a positive attitude towards filter strips would increase the likelihood of landowners participating in CREP filter strip program. The model also included respondents' environmental attitudes. An index of environmental attitudes was created from four interrelated items tapping respondents' views on environmental protection including government expenditure on environment and concerns about environmental pollution (α=0.63).[7] In line with previous literature it was hypothesized that positive environmental attitudes will increase the likelihood of enrollment in the CREP filter strip program. In addition, the role of social norms as a determinant of landowners' decision to enroll in CREP is also explored in the model. Normative expectations and approval of behavior by others who are important to the decision maker have been demonstrated to influence conservation behavior (Beedell & Rehman, 1999; Chen, Lupi, He, Ouyang, et al., 2009; Mzoughi, 2011). To test this effect, an index of social norms was created and included in the model. The social norms index was created from four items reflecting respondents' perception of the likelihood that relevant reference groups (neighboring farmers, farmers association, important community members) would approve their installation of filter strips on their land.[8]

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[6] Items in filter strip attitude index

1. Filter strips make cropland visually pleasing
2. Installing filter strips on my cropland will help improve water quality
3. Filter strips make the land look well managed

[7] Items in environmental attitude index

1. Protecting the environment should be given priority even if it cost me money
2. Government spends too much money on conservation practices to protect the environment
3. The consequences of environmental pollution are over-exaggerated
4. We will experience a major environmental disaster if pollution of water resources are not reduced

[8] Items in the social norm index

The four items showed sufficient internal consistency (α= 0.65) in the reliability analysis. It was hypothesized that landowners whose reference groups approve of filter strips or expect neighbors to also install filter strips would more likely participate in the filter strip program.

The third category of independent variables in the model (Table 4.1) reflects landowner characteristics. In line with previous studies (Lambert, Sullivan, Claassen, & Foreman, 2007; Schroeder et al., 2013; Vanslembrouck et al., 2002), landowners' age, educational attainments (high school or less, college or more), gender, and experience with similar conservation programs similar were included in the model. We were initially concerned that previous experience with similar conservation may be endogenous given that unmeasured factors explaining past participation may also influence present participation. However, exploring the issue proved otherwise as dropping the variable from the model had no qualitative effect on the model results. It was hypothesized that willingness to participate in the filter strip program will be positively related to educational attainment and to experience with conservation programs but negatively related to age. Following previous studies, females were also expected to be more likely to enroll relative to men (Druschke & Secchi, 2014). In addition, the model examines the effect of landowner's dependence on income from farming on their willingness to participate in the filter strip program. In line with the findings of Loftus and Kraft (2003), we hypothesized a negative relationship between willingness to participate in the filter strip program and percentage of total household income from farming.

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1. Members of my farmers' association would encourage me to install filter strips on my land
2. People most important to me expect me to install filter strips on my land to protect water resources
3. What my neighbors do on their farms influences the practices I adopt on my land
4. My neighboring farmers who I respect would install filter strips on their lands

Table 4.1 Description of Variables in Model Estimating Willingness to Enroll in CREP

Model Variables	Description	Possible values	Mean	Std. deviation
Program attributes				
Year	Duration of contract	10-20 yrs	15.00	4.08
Refund	% Cost-share assistance of installation cost	0-140%	79.77	47.29
Bonus	Onetime payment per acre for signing up	$0-200	112.96	71.80
Rent	Yearly payments per acre for participation	$50-275	138.75	76.93
Socio-psychological characteristics				
FS attitudes	Attitudes towards filter strip	1-5	3.19	0.84
Envtal attitudes	General environmental attitudes	1-5	3.10	0.43
Social norms	Social norms related to filter strip	1-5	2.75	0.56
Landowner characteristics				
Age	Age of agricultural landowner	25-97 yrs	62.64	14.24
High school or less	Completed at least high school	0,1	0.38	0.49
College or more	Have at least a college degree	0,1	0.29	0.45
Conservation experience	Participated in other conservation programs	0,1	0.37	0.48
Gender	Male landowner	0,1	0.86	0.34
% Income from farming	Percent of household income from farming	0-100%	52.96	33.99

4.4 RESULTS AND DISCUSSION

4.4.1 Participants and Response Rate

From the 3949 agricultural landowners invited to participate in the study, a total of 1106 individuals participated. This represents an American Association for Public Opinion Research (AAPOR) minimum response rate (RR1) of 28.6% after accounting for undelivered invitations, deceased individuals, and refusals. For a landowner to be eligible to participate in CREP filter strips programs, he or she must own cropland immediately adjacent to a water resource (e.g. river, stream, lake) with an existing resource concern that can be addressed using filter strips. The land must also have been cropped at least 4 of the previous 6 years. From the responses to a series of survey items designed to determine a respondent's CREP eligibility, about 48.3% of the respondents were determined to own eligible land in Saginaw Bay watershed. Only those initial respondents determined to possess eligible land for CREP filter strip are included in further analysis exploring determinants of program participation. To ensure that the survey responses match the geographic distribution of the population, post-stratification weights based on the county of respondents were created and used in the analysis (Holt & Smith, 1979).

A vast majority of the respondents were males (~86%) and white (~98%) with a mean age of approximately 63 years old. Participants on average reported having been involved in farming for about 38 years and typically farm a total of about 615 acres of land per year. Regarding the highest level of formal education completed, about a 42.7% of the sample indicated having completed high school or less, 37.0% of them had some technical training or associate degree beyond high school, and the remaining 20.3% reported a completion of at least a bachelors degree.

4.4.2 Parameter Estimates

Table 4.2 presents the estimated coefficients, p-values, and marginal effects of the variables included in the model estimating the willingness to participate in CREP among the agricultural landowners with eligible land. For each of the significant variables, the table also presents results of MRS computations for the factor relative to annual soil rental payments. As indicated earlier, the model estimates the probability that an individual landowner with a set of socio-psychological and demographic characteristics would participate in the CREP filter strip program given the program design attributes he/she is presented with. Hence, sign of the coefficient on the program attributes indicates the direction of the effect of that program design attribute on the likelihood that a landowner would participate in CREP. Similarly, the sign of the coefficient on the socio-psychological and demographic variables captures the direction of the likelihood that landowners with those characteristics will choose to participate in CREP filter strips. The magnitude of the estimated marginal effects shows how a one-unit change in each variable would affect the probability that a landowner would enroll his/her land in CREP filter strips.

4.4.2.1 Effect of Filter Strip Program Design Attributes

Regarding program design attributes, the results of the analysis suggest a preference for filter strip programs with shorter contracts among agricultural landowners. As shown in Table 4.2, the likelihood of an otherwise qualified landowner enrolling their land in the filter strip program decreases when the duration of the contract is longer. The results indicate that a one-year increase in duration of a filter strip program's contract decreases the probability that a landowner would participate in that program by 0.6%. This finding may be indicative of landowners'

expectations of future market conditions. For each year that their land is under contract, landowners stand the chance to make economic gains or loss depending on changes in future market conditions. Where future crop prices are expected to plummet, securing a payment rate in a long-term contract may insure landowners against negative crop price changes. On the hand, should market conditions change favorably, a long-term contract could represent an economic loss to the landowner. Hence, the observed negative relationship between duration of contract and willingness to participate in the filter strip program may be indicative of landowners' expectations of favorable future market conditions for their crops. Consequently, they are less willing to lock their lands in long-term contracts that will reduce their ability to take advantage of potential increases in crop prices in the future. In light of this finding, policymakers may consider reducing the contract duration as a strategy to attract new enrollment in the program.

The results also highlight the role of monetary incentives in influencing enrollment decisions of landowners. The annual soil rental payments offered to participating landowners was a significant factor in landowners' decision to enroll in the filter strip program. The results indicate that a dollar increase in soil rental payment increases the likelihood of a landowner participating in that program by 0.1%. On the other hand, one-time payments such as signing bonus and cost-share assistance for filter strip installations did not significantly influence participation in the program. As shown in Table 4.2, the size of the one-time signing bonus was determined to have no effect on the likelihood of landowners to participate in the filter strip program. Likewise, one-time payments in the form of financial assistance with the cost of installing the filter strip did not significantly influence new enrollment. This finding suggests that landowners place a high premium on the soil rental payments they will receive for the duration of the contract relative to

the one-time payments. For the purposes of program design, the results may imply that financial incentives focused on annual soil rental rates may enhance greater participation relative to initial one-time payments like signing bonuses. Several previous studies has emphasized the positive role that increases in yearly payments play in boosting participation rates in conservation programs (Cooper & Osborn, 1998; Purvis et al., 1989; Ruto & Garrod, 2009).

In addition to the relative preference for the filter strip program attributes, we explored the trade-offs between those program characteristics that were determined to influence enrollment. The computed trade-off further reinforced the relevance of shorter contracts to landowners' decision to participate in the program. As shown in Table 4.2, the MRS between duration of contract and annual soil rental rate was $5.44. The finding indicates that landowners would require an additional $5.44 in soil rental payments to be indifferent towards a year increase in duration of the program's contract all else equal. Considering that one-time payments have no significant effect on enrollment, a potential strategy would be to direct any new program's financial resources towards increasing annual rental rate to make the program more attractive to landowners presently deterred by longer contracts. Such increases in rental payments could be targeted at securing longer contracts with landowners operating in the most environmentally sensitive areas, where the greatest conservation benefits could be derived.

Table 4.2 Programmatic, Socio-psychological and Demographic Determinants of CREP Enrollment

Variables	Coefficient	P-value	Marginal effects	MRS+
Programmatic factors				
Year	- 0.05	0.004	- 0.06	$5.44
Refund (per $10)	0.03	0.269	0.001	
Bonus (per $10)	0.01	0.574	0.003	
Rent (per $10)	0.09	0.0001	0.01	
Socio-psychological factors				
FS attitudes	0.80	0.0001	0.09	- $88.89
Envtal attitudes	0.79	0.004	0.08	- $87.22
Social norms	- 0.27	0.304	- 0.03	
Landowner characteristics				
Age	0.03	0.007	0.003	- $3.11
High school or less	0.08	0.807	0.01	
College or more	0.48	0.155	0.06	
Conservation experience	0.97	0.0001	0.12	- $108.22
Gender	- 0.22	0.541	- 0.03	
% Income from farming	0.002	0.698	0.0003	
Constant	-9.11	0.0001		
# of observations	930			
Log likelihood	-361.197			

+ MRS is computed with respect to the annual rental payment

4.4.2.2 Effect of Socio-psychological Attributes

Although a key driver of landowners' participation decision, financial incentives are not the sole motivator for participation in the filter strip program. As the results demonstrate, non-economic factors such as socio-psychological characteristics also influenced agricultural landowners decision to participate in the program. As hypothesized, a positive attitude regarding the aesthetics and water-quality improvement benefits of filter strips was generally associated with an increased likelihood of enrollment in the filter strip program. Although this study focuses on filter strips, this finding may suggest that the type of conservation practices eligible under an agri-environmental scheme and it's anticipated private benefits is an essential determinant of participation. As Ryan et al., (2003) and Januchowski-Hartley et al., (2012) noted, landowners tend to be concerned with private benefits of conservation practices on their lands and not just the financial benefits. This finding, as well as finding in previous studies (Januchowski-Hartley et al., 2012), may suggest that landowners may be more willing to participate in conservation programs whose eligible practices offer aesthetics benefits, address resource concerns on their land, and allow them to project a sense of stewardship of the land. To this end, educating landowners about the on- and off-farm benefits of the various eligible practices under CREP could help increase enrollment.

Similarly, environmental attitudes were determined to be a motivator for landowners' participation in the filter strip program. The analysis revealed that landowners' reporting greater concern about the environment were significantly more likely to participate in the CREP filter strips program. This finding of a positive relationship between landowners' environmental concern and their likelihood of participating in CREP confirms similar results found elsewhere

(Buckley, Hynes, & Mechan, 2012; Howard & Roe, 2013). Considering that the primary goals of agri-environmental schemes like CREP include watershed protection and wildlife habitat restoration, it seems reasonable that a general concern about the environment would increase the likelihood of participation among landowners. Hence, reframing publicity information to appeal to landowners' environmental concerns could potentially increase participation in the program. Contrary to our expectations based on the literature (Chen, Lupi, He, & Liu, 2009; Fielding, Terry, Masser, Bordia, & Hogg, 2005), normative expectations and approval of behavior by others who are important to the decision maker did not significantly influence the likelihood of landowners participating in the filter strip program. Perhaps, normative expectation may not be an important factor in U.S. farmers' decision making as evidenced in a recent comparative study of Swiss and U.S. farmers (Celio, Flint, Schoch, & Grêt-Regamey, 2014). According to the authors, U.S. farmers were much more concerned about market related influences in their decision making relative to land use responsibility for Swiss farmers. Nevertheless, further research may be needed to better understand and characterize the appropriate empirical measures to represent social norms in future studies.

The trade-off analysis also confirmed the role that favorable attitudes towards the conservation practice and the environment had in influencing participation in filter strip program. The computed MRS indicates that a unit change in landowners' attitudes towards filter strips would make them indifferent to a change in annual soil rental payment of $88.9 all else equal. In other words, if a landowner's attitude towards filter strips positively increases by one unit on the likert-scale, they would be willing to accept a decrease in annual soil rental payments of $88.9 and participate in the program holding all other factors constant. Similarly, the trade-off analysis

revealed that a unit change in landowners' attitudes towards the environment would make landowners indifferent to a decrease in annual soil rental payments of $87.2 holding all else equal. From these findings, it is apparent that investment in mechanisms that inspire positive attitudes towards the eligible practice and the environment could result in increase enrollment at reduced annual soil rental payments. However, changing landowners' attitudes towards conservation practices and the environment could be a complex and costly undertaking. Social psychologists report that people's attitudes are shaped by their personal knowledge of and experiences with the phenomenon as well as the social norms they attach it (Myers, 2012). Hence, efforts aimed at influencing landowners' attitudes may require identifying and exposing eligible landowners to information and experiences that may inspire them to positively evaluate the conservation practice and the environment. Though feasible, such an undertaking can be associated with a very high transaction cost. Besides, some attitudes can be unstable and change with new information and experiences (Myers, 2012) suggesting a need for continual exposure to favorable information and experiences to maintain any desired positive attitude achieved. Also, taking into consideration that the reported mean attitudes towards filter strips and the environment on the five-point scale were 3.19 and 3.10 respectively and the relatively small variation around the means, there appears to be little room for improvement in those attitudes.

4.4.2.3 Effect of Landowner Characteristics

The analysis also explored the role of landowner characteristics as a determinant of participation in the filter strip program. The age of landowners was determined to positively influence the likelihood of participation in the filter strips program. This suggests that older landowners are more likely to enroll their lands in the filter strip program. The observed positive influence of

age on likelihood of CREP enrollment is in contrast to findings of some previous studies (Baumgart-Getz et al., 2012; Vanslembrouck et al., 2002). Given that the average age of respondents (63 years), it is possible that older landowners may be viewing the program as a source of regular income stream as they approach retirement from active farming. On the other hand, younger farmers who can actively farm their land and potentially reap the benefits of increasing agricultural commodity prices may find the program offer less attractive. The result of the MRS calculations indicates that a year change in landowners' age makes them indifferent to a change in annual soil rental payment of $3.1 holding all things constant. That is, landowners who are 10 years younger would require an additional payment of $31 in annual soil rental payments in order to enroll their land in the filter strip program. Since landowners' age is not amenable to policy change, the finding may suggest targeting older farmers may be a useful strategy to increase participation.

Similar to findings of other studies (Schroeder et al. 2013), previous experience with similar agri-environmental schemes significantly influenced participation. The results indicate that landowners with previous experience in similar conservation programs such as EQIP and CSP were about 12% more likely to enroll in CREP filter strip program. This finding could be interpreted in multiple ways. First, it could be argued that previous experience in similar conservation programs induces positive attitudes towards government conservation programs resulting in increasing likelihood of participation. Alternatively, landowners' previous experience with conservation programs could be interpreted as an indicator of their satisfaction with the proposed CREP offer relative to similar conservation programs. In that case, the finding that previous experience in similar conservation practices enhances likelihood of enrollment in

CREP could be interpreted as the attractiveness of CREP relative to other conservation programs. The trade-off analysis also revealed that landowners without experience in similar conservation programs would require an additional $108.2 in annual soil rental payment to be indifferent about enrolling in the program. Based on the computed MRS, targeting those landowners with previous experience in conservation programs appears a less costly endeavor to increase enrollment even if potential transaction cost associated with targeting are taken into account.

Previous studies also highlight education as a key determinant of participation in environmental behavior. Landowners' educational attainment is believed to influence their access to information regarding conservation practices and conservation programs, which is an essential precursor for enrollment (Vanslembrouck et al. 2002). However, as our results indicate, educational attainment of landowners, gender, and relative dependence of landowners' household on farm income did not significantly explain their likelihood to enroll in CREP. While the results do not support our initial hypothesis, it aligns with the findings of some previous studies (Baumgart-Getz et al., 2012). Researchers have generally noted an inconsistent relationship between farmer demographic variables and their conservation behavior (Burton, 2014; Prokopy et al., 2008). In a review of the adoption literature in the United States between 1980 and 2005, Prokopy et al. (2008) maintained that most of the commonly used demographic variables were insignificant or produced contradictory results in a majority of the studies that used them. Burton (2014) explains that such inconsistent relationships could be attributed to the presence of multiple causal pathways, features of the behavior under consideration, and their association with traditional farming behavior.

4.5 CONCLUSION AND IMPLICATIONS

Agri-environmental protection programs have the potential to promote adoption of best management practices by landowners on agricultural lands critical to protecting and enhancing water quality. However, this potential can only be realized if agricultural landowners are willing to enroll or continue to keep their croplands in such programs. This study has explored key programmatic, socio-psychological and demographic factors that shape agricultural landowners decision to participate in an agri-environmental scheme involving filter strips. Predictably, the results suggest that landowners' decision to participate in such a program is influenced by program characteristics such as annual soil rental payments and contract durations, as well as attitudes towards the eligible conservation practice and environmental concern. Also, previous experience with similar conservation programs and age of landowner were found to influence landowners' participation decision.

The study results offer suggestions for increasing enrollment in voluntary BMP programs. First, the findings emphasized that financial incentives make a difference in landowners' decisions to enroll in BMP programs. Since increases in annual rental payments were determined to enhance the likelihood of landowners' enrollment, it is clear that participation in BMP programs could be enhanced if financial incentives are optimized for the target audience. The findings also suggest that one-time payments such as signing bonus and cost-share assistance for practice installation are not significantly influencing participation in the BMP program relative to the yearly payments. Hence, the results suggest that limited financial resources would be better allocated to increasing the rental payments rather than to increasing the one-time payments for BMP programs.

Another important mechanism to consider for improving enrollment in BMP programs is the duration of participation contracts. While long-term contracts are desirable in terms of sustained provision of the needed ecosystem services, this study suggests that longer contracts can be a deterrent to enrollment in BMP programs. Landowners generally indicated a preference for shorter contracts relative to longer ones. Hence, to boost enrollment, resource managers may consider shortening the duration of conservation practice contracts. Alternatively, landowners could be allowed to individually negotiate the duration of their contracts as opposed to having uniform conservation contract duration. While this may come with higher transaction cost and administrative burden, it will allow resource managers to capture all those who are currently being deterred from participation due to the predetermined contract duration and hence enhance participation rates. In addition, the results from our trade-off calculations indicate landowners' willingness to accept longer contracts in exchange for financial compensations in the form of yearly rental payments. Hence, resource managers may also consider encouraging participation by adjusting the yearly rental payments upwards to levels that make landowners indifferent about additional contract years as program budgets allow. Increasing annual rental payment as a mechanism in exchange for longer contracts may not necessarily have to be program-wide. Such a strategy could be focused on securing longer contracts with landowners operating in areas where the greatest conservation benefits could be derived.

The results of this study suggest that it may be beneficial to educate landowners about the eligible conservation practices they are being asked to consider installing. This study suggests that a favorable view of the eligible conservation practices could induce participation in BMP

programs. Generally, we found increases in the likelihood of participation with increasing perception that the eligible practice offers aesthetics benefits on the land and improve water quality. As noted in some previous studies (e.g. Januchowski-Hartley et al., 2012), landowners might be concerned about both the private and social benefits of conservation practices they install on their lands. Hence, to increase participation in conservation programs, it may be helpful to educate eligible landowners not only about the social and environmental benefits of the eligible practices but also the private benefits such as improvement in aesthetics and soil conservation improvements that such practices may provide on their land. This, in addition to clear and concise information on BMP program rules and associated payments, is likely to payoff in higher participation levels in conservation and ecosystem protection programs.

APPENDIX

APPENDIX

1. Survey Instrument

The survey was designed to explore key economic and non-economic incentives and barriers that influence agricultural landowners decision to participate in CREP. The research project sought to encourage new enrollment while retaining current participants in the program. As a result, two main populations were of interest to the study namely agricultural landowners who own eligible land and 1. currently participating in CREP and 2. those who are not yet participating in CREP. Hence, the survey instrument was designed to elicit responses from these two main populations. This paper however reports on only the latter group.

The instrument development began with a review of the relevant literature review. An initial draft of the survey instrument was then developed based on findings of the literature review and interviews with program managers at the Farm Services Agency of the Michigan Department of Agriculture and Rural Development. The draft instrument was then programmed into the web using the survey monkey web panel. This was subsequently pretested with students and agricultural landowners in Saginaw Bay.

The paper version of the survey was closely modeled after the web-version to allow for the responses to be pooled together. Due to resource constraints in terms of time and space, some questions in the web version considered to be redundant or irrelevant in the final analysis were omitted from the mail version. Below is a summary of the differences between the web and the mail survey version

Summary of difference between Web-survey and Paper version

1. The wording for the follow-up certainty question after the CV is modified in the paper version so all respondents can answer to it regardless of their response to the CV question. As part of the modifications, the phrases ‘might choose not to’ and ‘choose to’ participate are underlined to highlight the changes

2. Questions soliciting written comments regarding reasons for choosing to participate or not participate in program are deleted in paper version

3. In the web-survey, participants respond to likert scale items regarding their barriers to participation or motivation depending on their response to the last CV question. However, in the paper version, all respondents answer both regardless of their response to the last CV question.

4. The ‘Other’ option for the question determining past conservation experience is deleted in paper version

5. In the re-enrollment paper version, respondents are asked Q16. **Have you established filter strips on any portion of your land as part of the Saginaw Bay CREP program?'** to help operationalize the skip pattern. Those answering yes then complete subsequent questions regarding their experience with CREP while those with 'No' goes to question **21. Which of the following conservation practices have you implemented under the Saginaw Bay CREP program?** On the web however they are first asked 'have you enrolled any portion of your land in the Saginaw Bay CREP program? Those saying yes are then asked **21. Which of the following conservation practices have you implemented under the Saginaw Bay CREP program?** Those indicating filter strips then answers questions about their experiences with filter strip.

6. The following questions were deleted in the paper version.

How would you describe yourself in terms of political ideology?

Very liberal			Moderate		Very conservative	
☐	☐	☐	☐	☐	☐	☐

Where do you find most of your information about conservation practices? *(Check all that apply)*

☐ Local Newspapers
☐ TV
☐ Radio
☐ Internet
☐ Farmers Association
☐ Other (*please specify*)_____
☐ Soil Conservation Districts
☐ Natural Resource Conservation Services
☐ Farm Services Agency
☐ University Extension Sources
☐ Farm Magazines

2. Pretesting

The draft web-survey instrument was pretested with 5 students at Michigan State University whose parents are farmers and/or actively involved in farming. The final instrument was also tested with 11 agricultural owners in Saginaw Bay watershed who were recruited via the Survey Sampling International (SSI) web panel using the procedure below. Fig. B.1 also presents the interview protocol used for pretesting.

Step 1: SSI emails invites to potential participants containing URL of our prescreening site: https://www.research.net/s/SBPretest

Step 2: Interested participant contacts me either via email or by phone

Thank you for your interest in taking this survey. The purpose of this survey is to test a survey designed by Michigan State University for landowners in Saginaw Bay Watershed. Your answers will be used to help improve the survey.

I have a few questions to determine whether or not you are eligible to participate.
1. Are you a resident in the Saginaw Bay Watershed?
2. Are you farmer?
3. Have you ever owned or managed land within the Saginaw Bay watershed?
4. Have you ever enrolled your land in any government sponsored conservation program? Which one?

Ineligible participants [if they say NO to 3]
Thank you for your interest. However, based on your answers you are not eligible for the survey. We are looking for farmers or landowners within the Saginaw Bay watershed. Thank you.

Eligible participants [If they say YES to 3]
Thank you. Based on your answers, we would like to arrange a day and time to have you take the survey.

To participate, you will have to able to access the survey at a link I will email to you at a time we will agree on. I will also need to talk to you on phone and ask a few questions during or after you complete the survey. I therefore need to know your email address so I can send the link to the survey to you, and a phone number I can call you on.

Please note that all of the information you provide throughout the survey process is completely confidential, including your answers to questions, your phone number, and email address. Michigan State University has a strict policy prohibiting the use of participant's private information.

1. Can I please have your email address and a phone number that I can reach you at while you fill out the survey on the internet?

2. What date and time can you take the survey?

Thank you. To confirm, I will call you on _____. At that time, I will ask you to go to a website to take the survey. I will email you a link to that website on the day of the survey.

I will send you a confirmation email shortly that lists the date and time we scheduled to take the survey.
Thank you

Step 3. Send confirmation email to participant

Hello _____,

Thanks for your interest in helping us test our survey. This email is to confirm your appointment to take the survey and interview [date] and [time]. At the scheduled time, I will contact you on your phone number _____ and ask you go to a website I will email to you when I call.

If there are any changes in your availability or any of the information appears to be incorrect, please contact me at yeboahfe@msu.edu or call 540 817 0841 as soon as possible. I look forward to speaking to you soon.

Thank you,

Kwame Yeboah
Coordinator, Saginaw Bay Watershed Mgt survey
Michigan State University
E: yeboahfe@msu.edu
P: 540 817 0841

Step 4 Email participants on the day of interview

Hello _____,

Thanks for your interest in helping us with our survey. Please click on the link below to access the survey:
http://go.teamviewer.com/v8/m30671509
Meeting ID: m30-671-509

Regards,
Kwame Yeboah

Saginaw Bay Watershed Management Survey
Pretest interview Script

Respondent's Name:_____
Date:_____ Time:_____

Thank you for your help with this survey. As I shared with you earlier, the purpose of this interview is to help test a survey that researchers at Michigan State University has designed. Remember that all your answers and information you provide to us throughout this process is confidential. Please let me know if you have questions at any time.

To begin, please click on the link I just sent you and run the program it downloads. That should give you access to my computer. I will now grant you control of my screen so you can start to take the survey.

[Right after answering the CV question. Let me ask you a few questions about the survey before you proceed]

****Go to screen with CREP filter strip program**

1. Could you please talk me through how you answered this question?
   - How did you make your decision?
   - What factors did you consider when making your choices?
   - What went through your mind when you made your decision?

2. How important were the one-time payments to your decision-making?
   - What about the annual rental payment rate? What is the minimum annual soil rental payment per acre that would you accept to implement filter strip on your land?
   - Which of the two payment types would you say influenced your decision most?
   - Was there any other information that you needed to help make a decision?

3. In your own words, please tell me what you think the Saginaw Bay CREP filter strip program requires?

4. How would you describe filter strips to your friends?
   - What is it?
   - Where would you typically install filter strips on your land?
   - Are you able to crop those areas on your cropland where you are considering installing filter strips?
   - What do you think will happen on your farm/watershed/water quality if you install filter strips?
   - How were you able to determine how much streamline yards of land you have?

Figure C.1 Pretest Interview Script

Figure C1 (cont'd)

I will now give you back control and let you finish up the survey. On your screen you should see a message that says *Remote control granted*, please click *ok.* After completing the survey.

I would like to ask about certain parts of the survey. To do that, I am going to go back to certain screens and ask questions about them.

****Go to screen with opinions about conservation programs/barriers to enrollment/ screens he seem to have problems answering**

Were there any of these statements or words you found unclear or difficult to understand?

***** Go to the demographic section and probe for clarity**.

(Probe for clarity, ease of understanding, length of survey, and possible misinterpretation or misapplication).

What is your overall impression of the survey?

Do you have any questions or suggestions on how to make this survey easier for people to understand?

[After interview]

Now, I would like to collect your mailing address so that you can receive payment for completing the survey:

(Double check spelling of name)

Address:

City:

Zip:

Thank you

3. Invitations

Schedule of Saginaw Bay Watershed Management Survey

The survey was implemented in Summer 2013. Mailing schedule for the survey was determined by factors including the time it took to design survey material, pretesting of survey, materials production and most importantly avoidance of planting or harvesting season of farmers. Participants in our sample were contacted up to four times to participate in the study following best practices prescribed by Dillman (2008). These steps were taken to enhance response and increase representativeness of results. Table B1 presents the mailing schedule for the study. Figures B.2-B.6 also presents copies the letters and postcards that were mailed out to the sample population.

Table C1 Mailing Schedule of Saginaw Bay Watershed Management Survey

Mailing date	**Items mailed**
06/13/13	Letter, envelope
07/08/13	Small postcard
08/16/13	Survey, letter, envelopes
09/05/13	Big postcard
	Total

MICHIGAN STATE
UNIVERSITY

<Date>

Dear <First name><Last name>,

We need your help with a study on voluntary watershed management programs in the Saginaw Bay watershed. By taking a few minutes to complete the survey, you will help policymakers to design future conservation programs to control soil erosion, increase agricultural productivity, and improve water quality in Saginaw Bay.

You are part of a small, scientific sample, and your response is needed to help us accurately represent farms in Saginaw Bay. As a token of our appreciation for your help, we have enclosed in this envelope $1.

The survey is being conducted on the internet. To access the online survey, please use the web address provided below

Web Address: <Web Address>

The survey should take about 15 minutes to complete, and your answers are confidential. Participation is voluntary, and you may choose not to participate at all, or answer certain questions.

If you have questions or concerns about this research study, please contact me at 480 Wilson Rd, Room 331C, Michigan State University, East Lansing, MI 48824; yeboahfe@msu.edu; or (517) 432-0320.

College of Agriculture and Natural Resources

Sincerely,

Michael Kaplowitz, Professor

Saginaw Bay watershed conservation survey

Michael Kaplowitz, Professor
480 Wilson Rd, Room 331C
Michigan State University
East Lansing, MI 48824

517-432-0320
yeboahfe@msu.edu

<ID >

Figure C2 Image of Introduction Letter as Invitation Wave I

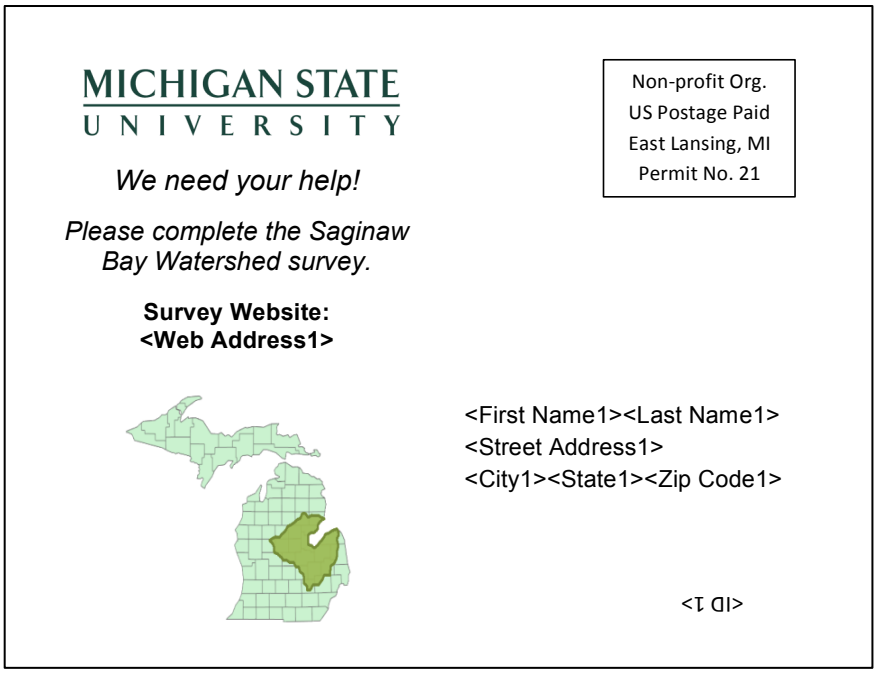


Figure C3 Front view of Image of Small Postcard (4.25" X 5.5") for Invitation Wave II

Recently, I contacted you about a survey on a voluntary watershed management program in Saginaw Bay. If you have already completed the survey, *thank you very much!*

If you have not yet completed the survey, we still need your help. You are part of a small scientific sample, and your answers will help us to accurately represent farms in Saginaw Bay.

Please use the web address printed on the other side of this card to log on and participate in the survey.

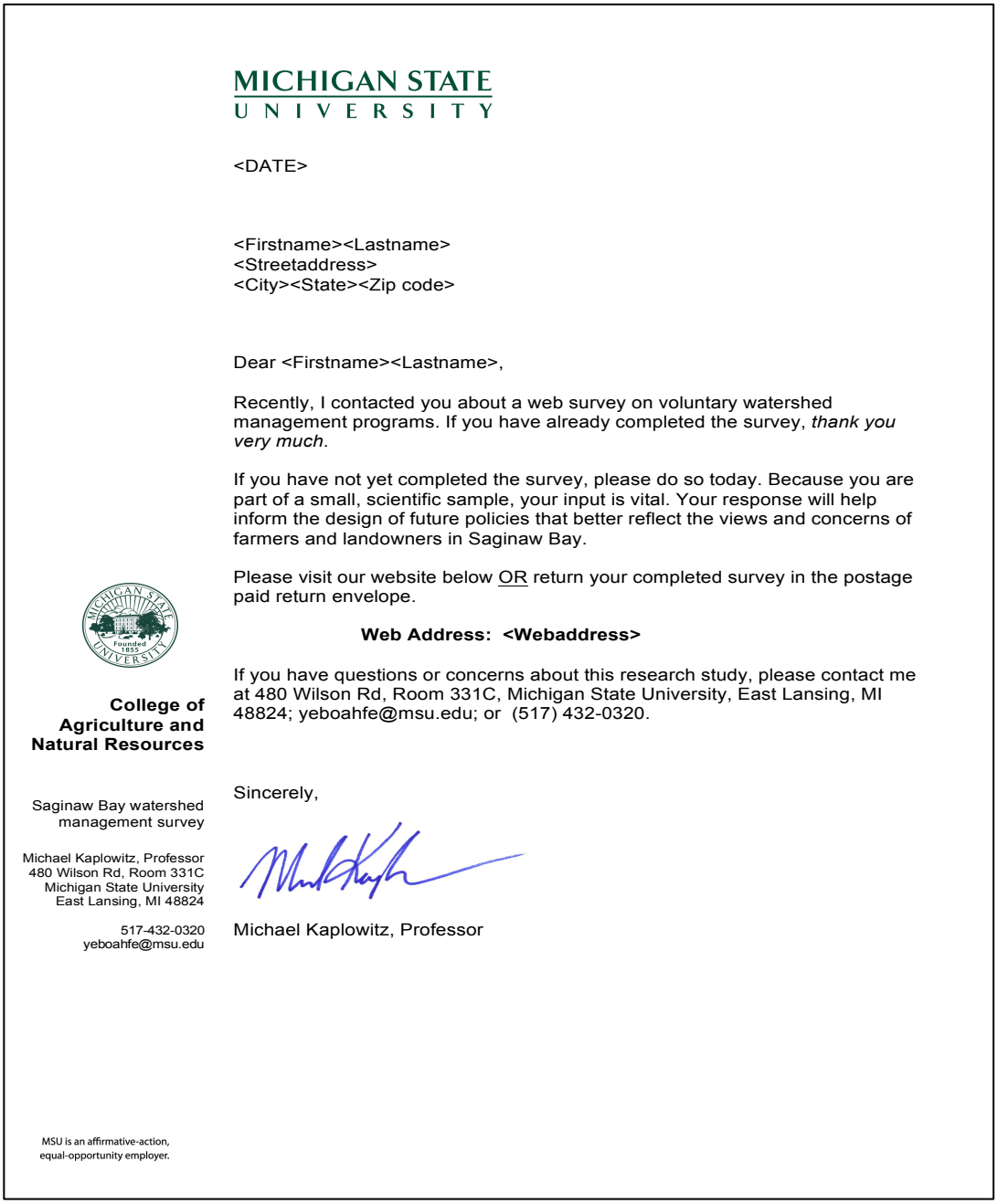
For questions about the survey, email: yeboahfe@msu.edu;
or call: 517-432-0320.

Thank you very much for your help with this important study!

Sincerely,

Michael Kaplowitz, Professor

Figure C4 Back view of Image of Small Postcard (4.25" X 5.5") for Invitation Wave II



MICHIGAN STATE
UNIVERSITY

<DATE>

<Firstname><Lastname>
<Streetaddress>
<City><State><Zip code>

Dear <Firstname><Lastname>,

Recently, I contacted you about a web survey on voluntary watershed management programs. If you have already completed the survey, *thank you very much*.

If you have not yet completed the survey, please do so today. Because you are part of a small, scientific sample, your input is vital. Your response will help inform the design of future policies that better reflect the views and concerns of farmers and landowners in Saginaw Bay.

Please visit our website below OR return your completed survey in the postage paid return envelope.

Web Address: <Webaddress>

If you have questions or concerns about this research study, please contact me at 480 Wilson Rd, Room 331C, Michigan State University, East Lansing, MI 48824; yeboahfe@msu.edu; or (517) 432-0320.

Sincerely,

Michael Kaplowitz, Professor

College of Agriculture and Natural Resources

Saginaw Bay watershed management survey

Michael Kaplowitz, Professor
480 Wilson Rd, Room 331C
Michigan State University
East Lansing, MI 48824

517-432-0320
yeboahfe@msu.edu

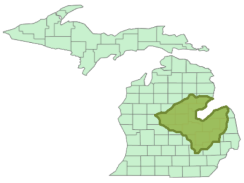
Figure C5 Image of Letter Accompanying Paper Copy of Survey as Invitation Wave III

MICHIGAN STATE
UNIVERSITY

We need your help!

Please complete the
Saginaw Bay Watershed
Management Survey

Website: <web address>



Non-profit Org.
US Postage Paid
East Lansing, MI
Permit No. 21

<First Name><Last name>
<Street address>
<City><State><Zip Code>

<ID >

Figure C6 Front View of Image of Big postcard (8.5" X 5.5") as Invitation Wave IV

Recently, I contacted you about helping us with a survey on watershed management in Saginaw Bay. Although we have received completed surveys from many of the people we contacted, to the best of our knowledge, we have not yet heard from you. If you have already completed the survey, *thank you very much!*

If you have not completed the survey, please respond today; this is the last time we will contact you. Because you are part of a small, scientific sample, your input is important so we can accurately represent opinions concerning the Saginaw Bay watershed. Your response will help inform the design of future conservation programs aimed at controlling soil erosion, increasing agricultural productivity, and improving water quality in Saginaw Bay.

You can go to our website printed on the other side of this card to complete the survey, OR you can complete the paper copy of the survey that was sent to you and return it to us in the pre-paid return envelope.

If you have any questions or would like to request for another copy of the survey, please email: yeboahfe@msu.edu or call (517) 432-0320.

Thank you for your help with this important research study!

Sincerely yours,

Michael Kaplowitz, Professor

Figure C7 Back View of Image of Big postcard (8.5" X 5.5") as Invitation Wave IV

MICHIGAN STATE
UNIVERSITY

<Date>

Dear <firstname><last name>,

Thank you for your interest in helping us with the Saginaw Bay watershed management survey. As per your request, please find enclosed another paper copy of the survey.

Please return your completed survey in the postage paid return envelope.

If you have questions or concerns about this research study, please contact me at 480 Wilson Rd, Room 331C, Michigan State University, East Lansing, MI 48824; yeboahfe@msu.edu, (517) 432-0320.

Thank you for your help with this important study.

Sincerely,

Michael Kaplowitz, Professor

College of Agriculture and Natural Resources

Saginaw Bay watershed management survey

Michael Kaplowitz, Professor
480 Wilson Rd, Room 331C
Michigan State University
East Lansing, MI
48824-1039

517-432-0320
yeboahfe@msu.edu

Figure C8 Image of Letter Accompanying Replacement Surveys

4. Data Analysis

Data Entry and Cleaning

Responses to the web-survey were downloaded into the spreadsheet and checked for errors. Responses from the mail survey were doubly entered into a spreadsheet with the help of two research assistants. To ensure accuracy of the coding, a random sample of the coded responses were selected and checked for errors by another research team member. The entries from the two assistants were compared checked for intercodal reliability. Where disparity existed, the original copy of the survey was identified and used as the basis to correct the entry. Subsequent cleaning and analysis of the data was conducted using stata statistical package.

Response Disposition

Responses to the web were received electronically via the survey monkey web panel. Completed mail survey responses as well as undeliverable were returned to the project office in Natural Resource building via campus mail processing. As surveys marked with IDs were received, the corresponding individual was marked as having responded to the survey. Those individuals were removed from future mailings. Any additional materials aside from surveys that were sent back (notes, comments, etc) were also kept locked in the project office for later review. This process was repeated throughout the implementation phase as often as necessarily. Each member of the sample was coded into one of seven response disposition categories reflecting the kind of response received from him or her. Table B.2 below shows the overall disposition of responses to the web and mail surveys from the PA 116 and CREP list as well as the response rates.

Table C2 Response Disposition of CREP and PA 116 Sample

	Overall	**CREP**	**PA 116**
Total in sample	5545	1596	3949
Response			
Mail survey	1046	364	682
Web survey	684	262	422
Refusals	62	16	46
Nonresponse	3641	933	2708
Deceased	73	12	61
Undelivered	3	0	3
Ineligible	7	2	5
Other Non refusals	29	7	22
Response rate	**31.84%**	**39.75%**	**28.62%**

Response Rate Calculation

The response rate was calculated using the formula below. Note that those in the undelivered, other refusals, deceased, and ineligible categories we considered out of sample and subtracted from the total sample to in computing the response rate.

$$Response\ rate = \frac{I}{[(I + NR + R) - (D + O + U + W)]} * 100$$

Complete response (I)
For the purposes of this study, a survey is considered complete if respondent answered the first question either on the web or in the mail survey.

Refusal (R)
This refers to all respondents who called or indicated their unwillingness to participate in the study for various reasons. A number of them returned the survey uncompleted and indicated they are not interested in participating in the survey.

Deceased (D)
These are those whose relatives called or returned their mail surveys uncompleted indicating that the person was dead.

Other non-refusal (O)
These are individuals who were called or returned the survey uncompleted and indicated that they were physically or mentally unable to complete the survey due to illness, age and/or language barrier

Undelivered (U)
This refers to those who could not be contacted at all. Their mails were not delivered.

Ineligible (W)
Respondents who were identified to be ineligible because they were outside the watershed under study

Nonresponse (NR)
Respondents who did not respond to any of the four invitations

Weighting Data for Analysis

To ensure that parameters computed from the analysis are representative of the population, post-stratification or non-response weights were created for both participant lists.

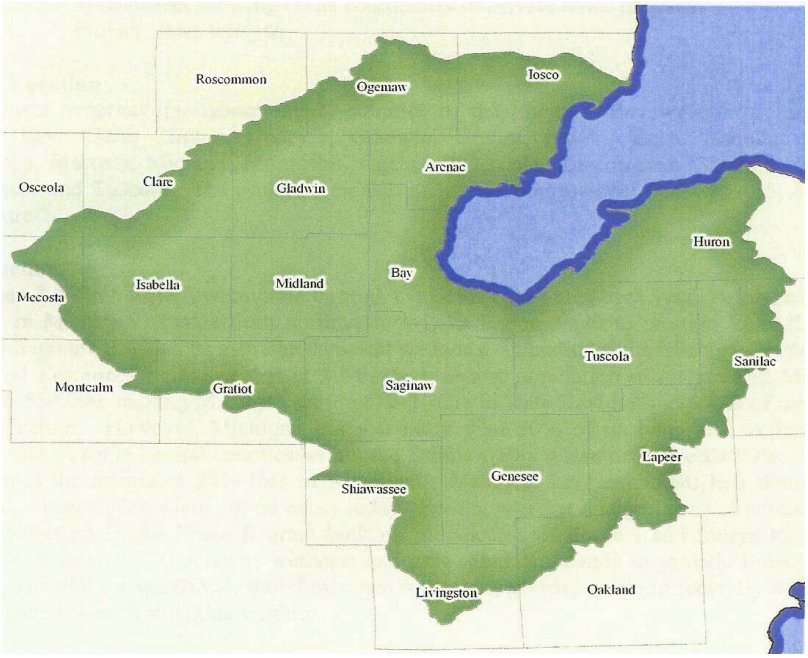
A chi square test indicated a statistically significant association between county groups and responses to the survey from respondents drawn from the PA 116 list with some counties responding at higher rates than others. However, no such relationship was found between responses and total acres enrolled in the program, start date of contract or year when contract will expire. Hence, post stratification weights were created based on county. To do this, the counties were divided into four groups based on their response rates. Counties with response rates above 30%, between 25-30%, 20-24%, and below 20%. The four groups significantly differed from each other in their response rates (Pearson chi2(3) = 19.9020 P< 0.0001). For each county group, the weights were created as a ratio of their proportion in the general population from which the sample was selected to the sample proportion of those who have responded. Table B.3 presents the population and sample proportions of each county group and their corresponding weights.

Table C3 Weight of County Groups for PA 116 List

County	Population proportion	Sample proportion	Weight
1	8.4	11.0	**0.76**
2	70.1	73.7	**0.95**
3	17.4	13.1	**1.33**
4	4.1	2.2	**1.87**
Total	100.0	100.0	

MICHIGAN STATE
UNIVERSITY

Saginaw Bay Watershed Management Survey



Your opinions matter!!

We need your views on voluntary watershed management programs. By completing this survey, you are helping to inform the design of future policies that better reflect the views and concerns of farmers and landowners in Saginaw Bay.

Thank you for your help with this important study

Figure C9 Images of Survey Instrument

Figure C9 (cont'd)

In this survey

- **Cropland** refers to any land planted to an agricultural commodity or physically and legally capable of being cropped
- The shaded region in the map on the cover page represents the **Saginaw Bay watershed**

1. Do you own or manage cropland in Saginaw Bay watershed?

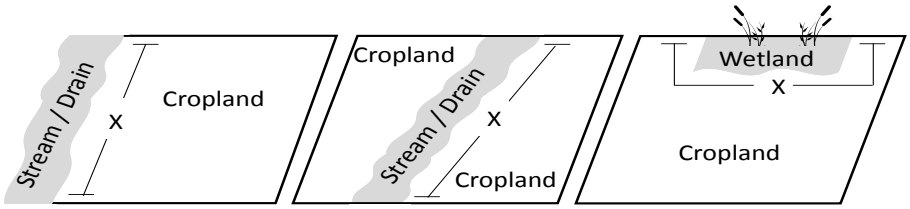
☐ Yes ⟶ ***If Yes, please continue with the survey***

☐ No ⟶ ***If No, that is all the questions we have. It is very important that you return the survey in the envelope provided. Thank you for your time.***

Cropland next to Waterbody/Wetland

Croplands in Saginaw Bay may be next to a permanent or seasonal water body/watercourse such as a lake, stream, creek, river or drain; or a permanently or seasonally flooded wetland. Some cropland may also be on either side of the permanent or seasonal creek, stream, river, lake, drain or wetland.

A permanent water body/wetland contains water throughout the year. A seasonal water body/wetland has defined stream course and contains water for only part of the year sometimes from late fall to late spring or early summer. Seasonal water body does not include terrace channels, irrigation canals, gullies, and grass or sod waterways.



X is the length of the side of cropland next to the nearest water body or wetland

2. Is your cropland in Saginaw Bay next to a permanent or seasonal stream, creek, river, lake, drain or wetland?

☐ Yes ⟶ ***If Yes, go to the next question***

☐ No ⟶ ***If No, skip to 10***

3. How close is the nearest stream, creek, lake or seasonally flooded wetland to your cropland?

☐ Less than 50 feet
☐ 50-100 feet
☐ More than 100 feet

4. What is the total length (X) of the side of your cropland next to the nearest stream, creek, river, lake, drain or seasonally flooded wetland? *[See picture above]*

Please enter your best estimate in the box below and units of measure. If you own or manage both sides of the water body or wetland, please add the two sides together to get the total length (2X).

(Please indicate the total length and unit of measure e.g. feet or yards)

Figure C9 (cont'd)

5. **How would you describe the most common soil texture on your cropland next to a stream, creek, river, lake or seasonally flooded wetland?**

☐ Sand ☐ Loam ☐ Sandy-loam
☐ Silt ☐ Clay-loam ☐ Other _____
☐ Clay ☐ Silty-loam

6. **Are you currently using your cropland next to a stream, river, creek, lake or wetland for grazing, haying or livestock production?**

☐ Yes
☐ No

7. **Have you or any other person grown crops (e.g. corn, soy bean, wheat, beets) on this cropland in at least four out of the past six years?**

☐ Yes → ***If Yes, go to the next questions***

☐ No → ***If No, skip to 10***

8. **What type of crop did you or any other person most recently plant on this your cropland?**

☐ Corn ☐ Wheat ☐ Other_____
☐ Soybean ☐ Beets

9. **In an average year, what yield would you expect for your most recently planted crop on this field?**

(Please indicate the yield and units of measure e.g. bushels/acre or tons/acre)

10. ## Water Quality in Saginaw Bay

Water quality in the Saginaw Bay is affected by low water levels, invasive species, and excess nutrients. Nutrients such as phosphorous and nitrogen contribute to excess growth of algae and other plant materials in the water and on the lakeshore. Excess algae can cause the water to smell or to become cloudy, discolored, or unsafe for swimming. Shoreline mats of decaying algae and plant materials called "muck" are unpleasant and may pose health risks.

Some nutrients naturally occur in Saginaw Bay, while others come from industrial facilities and waste treatment plants. Run-off from agricultural lands can also contribute nutrients to the lake.

Muck in water

Algae in water

11. **Have you ever seen "muck" and/or algae in or along Saginaw Bay?**

☐ Yes
☐ No

12. **How concerned are you about the consequences of nutrients in Saginaw Bay?**

☐ Not at all concerned
☐ Somewhat unconcerned
☐ Somewhat concerned
☐ Very concerned

Figure C9 (cont'd)

Filter strips

Filter strips are narrow bands of grass that help trap nutrients in runoff before they enter surface water. They are sometimes called buffer strips, conservation buffers, or vegetative buffer strips.

Filter strips may help reduce flood damage to crops and keep machinery operations away from steep stream and ditch banks. The vegetation can also provide habitat for wildlife.

Filter strips can have different width and can be installed using different vegetation types such as grasses, legumes, or forbs. Wider filter strips trap more nutrients and provide greater wildlife benefits.

13. **Have you ever installed filter strips on your land?**

☐ Yes
☐ No

14. **How much do you agree or disagree with the following statements?**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I know how to install filter strips on my land	☐	☐	☐	☐	☐
Filter strips make cropland visually pleasing	☐	☐	☐	☐	☐
Installing filter strips on my cropland will help improve water quality	☐	☐	☐	☐	☐
Filter strips make the land look well managed	☐	☐	☐	☐	☐

Figure C9 (cont'd)

Conservation Reserve Enhancement Program

The State of Michigan, in partnership with the federal government, introduced the Conservation Reserve Enhancement Program (CREP) to help control soil erosion, improve water quality and enhance wildlife habitat in Saginaw Bay.

CREP is a voluntary program that pays farmers and other landowners who:

- Agree to enroll eligible parcels of land in the program for **a number of years**
- Establish and maintain prescribed conservation practices on their land

CREP enrollees receive two kinds of payments:

- one-time payments covering **signing bonus,** and **refunds of the cost for establishing conservation practices**, and
- **annual soil rental payments** per acre of land enrolled in program

15. **Did you know about the Conservation Reserve Enhancement Program (CREP) in the Saginaw bay watershed prior to taking this survey?**

☐ Yes
☐ No

16. **Have you enrolled any portion of your land in the Saginaw Bay CREP program?**

☐ No ⟶ **If No, please go to 17**

☐ Yes ⟶ **16b.** **Which of the following conservation practices have you implemented under the Saginaw Bay CREP program?**

☐ Filter strip [grasses and forbs]
☐ Riparian buffers [trees and shrub]
☐ Field windbreaks
☐ Shallow water area for wildlife
☐ Sediment retention control structures
☐ Wetland restoration
☐ Other _____

17. **On the following pages, we will present you with some proposed CREP filter strip programs with different requirement and payments being considered for Saginaw Bay. You will then be asked to indicate whether or not you would enroll your land in each of the proposed program.**

Please carefully review each program description and answer the questions that follow.

Figure C9 (cont'd)

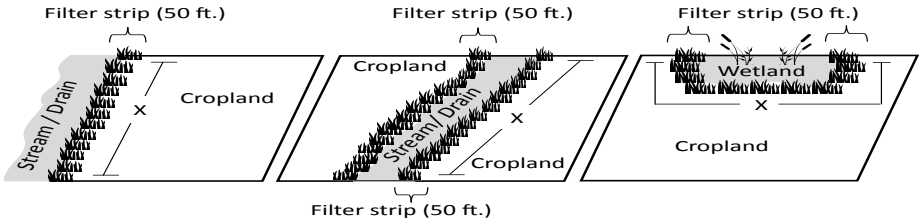
Program 1 of 3

Participants in this CREP filter strip program

- establish and maintain a **50ft wide** filter strip of native grass on their land for **15 years**
- do not crop or cultivate the land in the filter strip or use it for haying or grazing during the contract period
- reconstruct the filter strips halfway into the duration of the contract to promote plant diversity
- can crop or cultivate their cropland next to and apart from the installed filter strips

Participants also receive

- one-time payments of
  - **$100 per acre** as signing bonus
  - **100% refund** of the actual cost of installing the filter strip, and
- annual soil rental payments of **$50 per acre** of land area established to filter strip



Note: To cover one acre of cropland, the length of the filter strip (X) should be about 900 ft (300 yards) long or 450ft long on both sides of the water body.

Example: 50ft wide filter strip x 450 ft (150 yards) long = 0.5 acre of cropland
50ft wide filter strip x 225 ft (75 yards) long = 0.25 acre of cropland

18. **Given the program rules and its potential social and environmental benefits and supposing this is the only program being offered, would you enroll a portion of your land in the Saginaw Bay CREP filter strip program for 15 years for a one-time payment of $100 per acre signing bonus and 100% refund of the actual cost of installing the filter strip, and an annual soil rental rate of $50 per acre?**

☐ No → **18b.** **Which of the following best describes your situation?**

☐ I would not enroll in this program no matter how high the payment

☐ I would enroll in the program if the payment were higher

☐ Yes → **18c.** **What would be the total length (X) of the 50ft wide filter strip you would install on your cropland if you enroll in the CREP program?**

Note: If you own or manage both sides of the water body or wetland, add the two sides to get the total length (2X)

☐ *Please indicate the total length and units of measurement e.g. feet or yards etc.*

19. **Using the scale below, how certain are you that you would or would not enroll your land in this proposed CREP filter strip if the program were actually offered?** *(Please mark one response)*

Very uncertain			Neither certain/uncertain					Very certain
☐	☐	☐	☐	☐	☐	☐	☐	☐

Figure C9 (cont'd)

Program 2 of 3

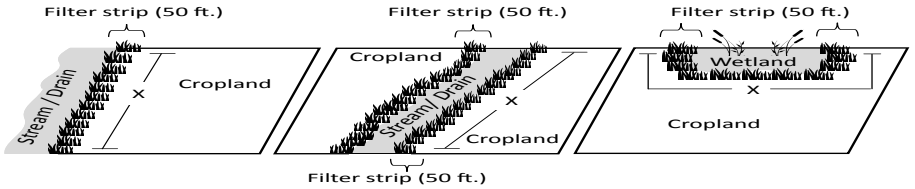
There are many possible program designs that are under consideration. Here is another proposed program with different contract length, signing bonus, percent refund of installation cost, and annual soil rental rates that we would like you to consider

Participants in this CREP filter strip program

- establish and maintain a **50ft wide** filter strip of native grass on their land for **10 years**
- do not crop or cultivate the land in the filter strip or use it for haying or grazing during the contract period
- reconstruct the filter strips halfway into the duration of the contract to promote plant diversity
- can crop or cultivate their cropland next to and apart from the installed filter strips

Participants also receive

- one-time payments of
  - **$100 per acre** as signing bonus
  - **125% refund** of the actual cost of installing the filter strip, and
- annual soil rental payments of **$75 per acre** of land area established to filter strip



Note: To cover one acre of cropland, the length of the filter strip (X) should be about 900 ft (300 yards) long or 450ft long on both sides of the water body.

Example: 50ft wide filter strip x 450 ft (150 yards) long = 0.5 acre of cropland
50ft wide filter strip x 225 ft (75 yards) long = 0.25 acre of cropland

20. Given the program rules and its potential social and environmental benefits and supposing this is the only program being offered, would you enroll a portion of your land in the Saginaw Bay CREP filter strip program for 10 years for a one-time payment of $100 per acre signing bonus and 125% refund of the actual cost of installing the filter strip, and an annual soil rental rate of $75 per acre?

☐ No → **20b. Which of the following best describes your situation?**

☐ I would not enroll in this program no matter how high the payment

☐ I would enroll in the program if the payment were higher

☐ Yes → **20c. What would be the total length (X) of the 50ft wide filter strip you would install on your cropland if you enroll in the CREP program?**

Note: If you own or manage both sides of the water body or wetland, add the two sides to get the total length (2X)

☐ *Please indicate the total length and units of measurement e.g. feet or yards etc.*

21. Using the scale below, how certain are you that you would or would not enroll your land in this proposed CREP filter strip if the program were actually offered? *(mark one response)*

Very uncertain				Neither certain/uncertain				Very certain
☐	☐	☐	☐	☐	☐	☐	☐	☐

Figure C9 (cont'd)

Program 3 of 3

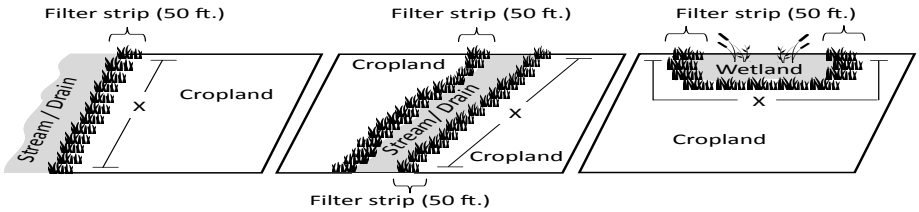
Here is the last proposed program with different contract length, signing bonus, percent refund of installation cost, and annual soil rental rates that we would like you to consider

Participants in this CREP filter strip program

- establish and maintain a **50ft wide** filter strip of native grass on their land for **20 years**
- do not crop or cultivate the land in the filter strip or use it for haying or grazing during the contract period
- reconstruct the filter strips halfway into the duration of the contract to promote plant diversity
- can crop or cultivate their cropland next to and apart from the installed filter strips

Participants also receive

- one-time payments of
  - **$100 per acre** as signing bonus
  - **140% refund** of the actual cost of installing the filter strip, and
- annual soil rental payments of **$100 per acre** of land area established to filter strip



Note: To cover one acre of cropland, the length of the filter strip (X) should be about 900 ft (300 yards) long or 450ft long on both sides of the water body.

Example: 50ft wide filter strip x 450 ft (150 yards) long = 0.5 acre of cropland
50ft wide filter strip x 225 ft (75 yards) long = 0.25 acre of cropland

22. **Given the program rules and its potential social and environmental benefits and supposing this is the only program being offered, would you enroll a portion of your land in the Saginaw Bay CREP filter strip program for 20 years for a one-time payment of $100 per acre signing bonus and 140% refund of the actual cost of installing the filter strip, and an annual soil rental rate of $100 per acre?**

☐ No → **22b.** **Which of the following best describes your situation?**

☐ I would not enroll in this program no matter how high the payment

☐ I would enroll in the program if the payment were higher

☐ Yes → **22c.** **What would be the total length (X) of the 50ft wide filter strip you would install on your cropland if you enroll in the CREP program?**

Note: If you own or manage both sides of the water body or wetland, add the two sides to get the total length (2X)

☐ *Please indicate the total length and units of measurement e.g. feet or yards etc.*

23. **Using the scale below, how certain are you that you would or would not enroll your land in this proposed CREP filter strip if the program were actually offered?** *(Please mark one response)*

Very uncertain			Neither certain/uncertain					Very certain
☐	☐	☐	☐	☐	☐	☐	☐	☐

Figure C9 (cont'd)

24. How much do you agree or disagree with the following statements as reasons why you might choose not to participate in CREP filter strip programs?

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I do not like the hassle of long-term contractual arrangements with the government	☐	☐	☐	☐	☐
Filter strips would reduce my flexibility to adjust land uses as economic conditions change	☐	☐	☐	☐	☐
Establishing filter strips would interfere with farming activities on the remaining croplands	☐	☐	☐	☐	☐
I expect to earn more producing on the eligible land than the amount proposed as yearly payments	☐	☐	☐	☐	☐
The current use of my land would not allow me to install filter strips	☐	☐	☐	☐	☐
I want to retain my right to use the land for what I want	☐	☐	☐	☐	☐
Too few acres of my land would be eligible to make it worth my while	☐	☐	☐	☐	☐
I consider government control over my land use a violation of my property rights	☐	☐	☐	☐	☐
Enrolling in CREP would interfere with my relationship with the farm tenant	☐	☐	☐	☐	☐
Enrolling in CREP would decrease the sale value of my cropland	☐	☐	☐	☐	☐

25. How much do you agree or disagree with the following statements as reasons why you might choose to enroll your land in CREP filter strip programs?

"I would enroll my land in CREP filter strip program because ....."

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
The financial incentives the program offers are attractive	☐	☐	☐	☐	☐
I want to help protect water resources for future generations	☐	☐	☐	☐	☐
I want to help create more habitat for wildlife (e.g. pheasants, deer)	☐	☐	☐	☐	☐
I expect to earn less producing on the eligible land than the proposed payments	☐	☐	☐	☐	☐
I expect my neighbors to enroll their lands in such a program	☐	☐	☐	☐	☐
I am no longer interested or able to crop the land	☐	☐	☐	☐	☐
Filter strips will help protect our water supply	☐	☐	☐	☐	☐

Figure C9 (cont'd)

26. Please indicate how much you agree or disagree with the following statements people make when talking about conservation programs involving filter strips

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
People most important to me expect me to install filter strips on my land to protect water resources	☐	☐	☐	☐	☐
I feel a moral responsibility to prevent pollution from my land into water resources	☐	☐	☐	☐	☐
What I do on my land doesn't make much difference to the overall quality of the environment	☐	☐	☐	☐	☐
Members of my farmers' association would encourage me to install filter strips on my land	☐	☐	☐	☐	☐
I would install filter strips on my land even if I don't get paid for it	☐	☐	☐	☐	☐
Filter strips harbor pests and may increase predation on my cropland	☐	☐	☐	☐	☐
Government spends too much money on conservation practices to protect the environment	☐	☐	☐	☐	☐
What my neighbors do on their farms influences the practices I adopt on my land.	☐	☐	☐	☐	☐
It is difficult and time consuming to maintain filter strips on my cropland	☐	☐	☐	☐	☐
We will experience a major environmental disaster if pollution of our water resources is not reduced	☐	☐	☐	☐	☐
My neighboring farmers who I respect would install filter strips on their lands	☐	☐	☐	☐	☐
The consequences of environmental pollution are over-exaggerated	☐	☐	☐	☐	☐
Government cost share assistance makes it easier to install filter strips on my land	☐	☐	☐	☐	☐
Protecting the environment should be given priority even if it cost me money	☐	☐	☐	☐	☐
I feel guilty when run-off from my land enters water resources	☐	☐	☐	☐	☐

27. Please indicate how important the following farming goals are to you in making management decisions on your land

	Not at all important	Unimportant	Somewhat important	Important	Very Important
Making profit	☐	☐	☐	☐	☐
Being an environmental steward	☐	☐	☐	☐	☐
Protecting human health	☐	☐	☐	☐	☐
Ensuring farm viability for my children	☐	☐	☐	☐	☐
Maintaining a farming lifestyle	☐	☐	☐	☐	☐
Being a good neighbor	☐	☐	☐	☐	☐
Being an example to others	☐	☐	☐	☐	☐

Figure C9 (cont'd)

About You: This section asks a few questions about your background to help us accurately interpret our results. Your responses are strictly confidential and will not be linked with your identity in anyway

28. **Have you ever participated in any of the following government-sponsored conservation programs?**

	Yes	No
Conservation Reserve Program (CRP)	☐	☐
Conservation Stewardship Program (CSP)	☐	☐
Environmental Quality Incentive Program (EQIP)	☐	☐
Wildlife Habitat Incentive Program (WHIP)	☐	☐
Wetland Reserve Program (WRP)	☐	☐

29. **How many years have you been farming? _____** *years*

30. **How many more years do you expect to continue farming your land? _____** *years*

31. **How many acres of your cropland do you farm in a typical year?**

a. Acres of owned land _____

b. Acres of rented land _____

32. **In the upcoming crop year, what would be a fair market rent for an acre of your cropland?**

$_____ per acre

33. **Which of the following best describes what would most likely happen to your cropland when you retire from farming?** *(Please mark one response)*

☐ A relative will operate farm
☐ Someone else who is not related will operate farm
☐ Farm will be converted for non-farm use
☐ Farm will be donated for farmland preservation program
☐ Farm will be sold
☐ Uncertain

34. **What is your gender?**

☐ Male
☐ Female

35. **In what year were you born? _____**

Please complete the questions on the back cover →

Figure C9 (cont'd)

36. **What is your race/ethnicity?** *(Please mark all that apply)*

☐ White
☐ Black/African American
☐ Hispanic/Latino
☐ American Indian
☐ Asian
☐ Other (Please specify) _____

37. **What is the highest level of schooling you have completed?** *(Please check one)*

☐ Less than 12 years
☐ High School diploma
☐ Technical training
☐ Some college, no degree
☐ Associate's degree
☐ Bachelor's degree
☐ Some graduate work
☐ Graduate degree

38. **Other than yourself, how many members of your household are in the each of the age groups?**

Children under 18 _____
Members ages 18 to 30 _____
Members ages 31 and 64 _____
Members ages 65 and over _____

39. **What was your household's total income from all sources in 2012?**

☐ Less than $30,000
☐ $30,000 – $49,999
☐ $50,000 – $74,999
☐ $75,000 – $99,999
☐ $100,000 – $149,999
☐ $150,000 - $199,999
☐ $200,000 - $299,999
☐ $300,000 - $499,999
☐ $500,000 or more

40. **On the average, what percentage of your household income comes from farming?**

☐ Less than 10%
☐ 10-19%
☐ 20-29%
☐ 30-49%
☐ 50-69%
☐ 70-89%
☐ 90% or more

41. **Which of the following best describes you?**

☐ The person the invitation is addressed to
☐ Another household member
☐ Someone else (*please specify)*_____

Comments

Thank you for participating in this survey
If you misplaced your postage-paid envelope, please return survey to:

Professor Michael Kaplowitz
Michigan State University
480 Wilson Rd, Room 331
Natural Resources Box A30
East Lansing, MI 48824

REFERENCES

REFERENCES

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CHAPTER 5

CONCLUSION

The complex and dynamic nature of resource management and poverty reduction efforts require flexible and transparent decision-making that embraces a diversity of knowledge and values. Understanding and incorporating the preferences of stakeholders at various levels of policy design is a useful way to account for the diversity of knowledge and concerns, increase acceptance and compliance of the policy, ensure the suitability of the policy in the particular context, promote positive program outcomes, and enhance the sustenance of policy interventions. As part of efforts to improve program planning and foster achievement of program objectives, the three essays in this dissertation have explored the perspectives and preferences of key stakeholders regarding the design of two programs: Ghana's conditional cash transfer (CCT) program known as Livelihood Empowerment Against Poverty program (LEAP) and the Conservation Reserve Enhancement Program (CREP) in Michigan.

The results and resulting recommendations from the three essays provide policymakers and program managers of LEAP and CREP with some useful insights that could guide future programmatic changes to facilitate program delivery, improve political and social acceptability of LEAP, and increase participation in CREP program. The findings suggest that making the LEAP program conditional on household behavioral changes and targeting those poor without productive capacity could enhance the social and political acceptance of LEAP. The study also revealed a preference for bank deposit over the existing direct cash payment as a means to disburse funds to beneficiaries. While this finding may not be enough to establish that banks should be used as the payment method for LEAP, it provides policymakers with a starting point

in their search for a pragmatic payment method that will make the LEAP program practical and assured. Regarding the CREP program, the study results suggest that making contract durations shorter with enhanced rental payments, and educating landowners about the efficacy, as well as the on- and off-farm benefits of the conservation practice would enhance participation in the CREP program.

Beyond the direct recommendations for the two programs studied, the results may also be useful to researchers, policymakers, and resource managers in other settings, particularly those designing poverty alleviation, and resource management policies. First, the first essay, *Improving Implementation of Cash Transfer Programs: Lessons from Stakeholders' Attitudes and Experiences in Ghana,* highlights the dichotomy between policy-on-paper and policy-in-practice that could result when institutional capacity for program implementation is not adequately accounted for in program planning. The study revealed some challenges to LEAP program implementation and uncovers some inconsistencies between what the LEAP program's operation manual stipulates and what actually happens on the ground. For instance, the results suggest that payment of grants to beneficiaries is not as regular as outlined in the program's operation manual. Likewise, beneficiaries missing for the payday end up losing their grant contrary to the directive of the program manual to pay such beneficiaries at the next payment period. Despite being a well-intentioned effort, the present lack of capacity in the civil service as manifested in the reported challenges to the LEAP program appear to be undermining the achievement of program objectives. It is therefore important that policymakers and CCT program implementers first thoroughly analyze and build the needed institutional capacity to allow for a more seamless translation of policies into practice.

Moreover, the challenges to LEAP implementation that emerged from this study also underline the need for program managers to actively seek inputs of target populations. It seems fair to say that a number of challenges uncovered in this study may not have been apparent to policymakers without such deliberate attempts to engage with and explore experiences of some key but oft-marginalized stakeholders. Adopting a proactive approach to regularly garner inputs from stakeholders at every stage of program development would enable policymakers to identify problem areas related to the policy and explore possible solutions that is reflective of local conditions. It is essential that such stakeholder consultation be as broad as possible to include those who typically are at the receiving end of policies but often not represented at the decision-making table.

Furthermore, resource managers and development practitioners are increasingly expected to engage with and incorporate the perspectives of stakeholders in their policy and management decisions. However, the number of people associated with each of the multiple interests represented in the policy arena sometimes may pose challenges for broad stakeholder engagement. This study demonstrates the usefulness of the stated choice experiment approach to elicit inputs from a large number of stakeholders in different policy contexts and geographical settings. In the second essay, *Households' Preferences for Attributes of Conditional Cash Transfer Programs: A Choice Experiment in Ghana***,** the choice experiment approach was successfully applied to explore household preferences for CCT program elements. The results of the analysis demonstrated the capabilities of the method to reveal stakeholder preferences related to social protection and welfare programs in a developing country setting. Similarly, the stated

choice experiment proved useful to understanding the decisions of agricultural landowners regarding participation in conservation programs for watershed protection. Consequently, the method could thus be a useful tool to assist program and resource managers to learn inputs from their diverse stakeholders to help meet the present need for stakeholder engagement for policy development and improve program outcomes.