

## MEASUREMENT OF FARMERS' ATTITUDE TOWARDS COMPLETE OWNERSHIP OF FARMLAND IN EASTERN ETHIOPIA\*

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### Abstract

The aim of this study was developing a scale with which to measure farmers' attitude towards complete ownership of farmland. The research started by identifying 50 different statements based on review of the empirical literature and information obtained from stakeholders and experts. Of these statements, 30 items were selected and ultimately only 12 consistent and reliable statements were retained for inclusion in a five point Likert type scale. The 12 statements' scale was administered on 335 randomly selected sample farmers to measure their attitude towards complete ownership of farmland. The result

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\* Complete ownership refers to complete private ownership that includes the following: controlling the use of farmland and excluding others from using it; enjoying benefits or incomes that are derived from the use of farmland; improving the productivity of farmland by alienating others; and transferring land (through selling and mortgaging).

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shows that about 85% and 9% of the respondents were favoring and disfavoring complete ownership of farmland, respectively. Only 6% of the sample respondents were undecided in terms of their preference for the complete ownership of farmland. This detailed study together with strict follow-up of data collection from the sample respondents has been extremely useful in developing a relatively consistent tool to measure farmers' attitude. Therefore, the 12- item five point Likert scale can be applicable in similar situations of Ethiopia in particular, and in developing countries in general.

## 1. Introduction

Attitude implies that the individual is no longer neutral toward the referent psychological object. The person would be positively inclined or negatively disposed in some degree towards the referents (Campbell, 1963; Allport, 1966; Newcomb, 1966; Zanden, 1977; Burr, 2000). The response in this connection is a lasting one, as long as the attitude in question is operative. Attitude refers to an psychological individual's stands about objects, issues, persons, groups, or institutions.

Attitude measurement is an approach of immense importance in a research that is concerned with farmers. It is assumed that when asked to provide information about their capital, income and output, farmers, in most conditions, are reluctant to deliver accurate information. In contrast, when they are asked to provide information regarding costs, whether that is subsistence or production cost, they tend to exaggerate information. Therefore, in order to prevent this problem of asymmetric information from occurring, it is advisable to apply attitudinal approach when researching farmers' socio-economic aspects. That means, attitude is an important concept that can be used to understand and predict people's hidden reaction to an object or change. Particularly in developing countries, where subsistence farmers predominantly practice agriculture, extracting accurate information regarding farmers' socio-economic conditions would be imperative to formulate clearly informed development policy (Sherif *et al.*, 1965; Cooper and McGaugh, 1966).

This research was initiated to identify and construct a scale for studying farmers' attitude towards property rights. More specifically, the aim of the research was to construct an attitude scale and confirm the applicability of the

constructed scale to assess the attitudes held by farmers towards complete ownership of farmland in the study area.

## 2. Methodology

This section is devoted to the discussion of the structure and process of the research. This includes discussions about the attitude scale construction, site selection, sampling and data collection procedures as well as data analysis.

### 2.1. Attitude Scale Construction and Items Analysis

The primary purpose of this section is to discuss the construction of a scale that measures the farmers' attitude towards complete ownership of farmland and indicate the application of the resulting attitude scale that gives the total scores of individual farmers to quantify their attitude towards complete ownership of farmland. Two important stages were followed in the scale development process: items or statements generation and item analysis.

#### 2.1.1. *Items generation*

In 1932 Rensis Likert developed an appropriate and simple method of scale construction in his work "*A Technique for the Measurement of Attitudes*", known as summated ratings. Likert's construction employed a series of statements, from extremely favorable to extremely unfavorable, to which the subjects were required to respond. The statements were administered to a group of subjects who were required to respond to each item in terms of degrees of agreement or disagreement. The results were then tabulated and scored from 1 to 5, on a five-point continuum and totaled for each individual. This is the first and starting point in scale construction (Young, 1958; Sherif *et al.*, 1965; Burr, 2000; Page-Bucci, 2003; Boome and Gartin, 2007).

### 2.1.2. Item analysis

This is the second stage of Likert-type scale construction. Here, there are two possible techniques of item selection (item analysis). The first is following Edwards' (1969) procedure. Edwards (1969) developed the following formula:

$$t = \frac{\bar{X}_H - \bar{X}_L}{\sqrt{\frac{S_H^2}{n_H} + \frac{S_L^2}{n_L}}}$$

Where  $\bar{X}_H$  = the mean score on a given statement for the high group

$\bar{X}_L$  = the mean score on the same statement for the low group

$S_H^2$  = the variance of the distribution of responses of the high group to the statement

$S_L^2$  = the variance of the distribution of responses of the low group to the statement

$n_H$  = the number of subjects in the high group

$n_L$  = the number of subjects in the low group

The high and low groups were constituted by 25 percent of the total sample subjects who obtained the highest scores and 25 percent of the total sample subjects who obtained the lowest scores, respectively. The high and low groups were 'criterion groups' to evaluate the individual statements (Edwards, 1969).

An important step in this procedure is to eliminate neutral statements so that each item perfectly discriminates between individuals with favorable and unfavorable attitudes. The value of 't' is a measure of the extent to which a given statement differentiates between the high and the low groups. As a crude and approximate rule of thumb, 't' value equal to or greater than 1.75 indicates that the average response of the high and low groups to a statement differs significantly. The required number of statements with high 't' value will constitute the attitude scale (Edwards, 1969).

The second alternative approach also gives the same result and follows a similar procedure, but it minimizes complexity. Murphy and Likert (1937 cited in Edwards, 1969) were the first authors who introduced the simplified procedure. Instead of 't' calculation, the second technique considers the difference between the means of the high and low groups on the individual state-

ments as a basis for selecting the items desired for the scale.

In this study, the procedures mentioned in Section 2.1.1 and the second alternative of item analysis (for its simplicity and convenience) were employed.

Based on review of literature and discussion with stakeholders and experts, 50 statements were constructed. They were then filtered to a list of 30 items (of which half of them were worded to express positive attitude and the reminder to represent negative attitude), following the editing criteria suggested by Edwards (1969). It was assumed that the 30 statements uncover the implicit attitudes, which the farmers hold towards complete ownership of farmland. Finally, the statements were administered to 50 farmers purposively selected from Deder, Tullo and Chiro districts<sup>1</sup>. Each farmer responded to the 30 statements on a five-point Likert scale ranging from "strongly agree" to "strongly disagree."

Simple weightages (1 to 5) were assigned to the response categories based on the favorableness and unfavorableness of the items. For favorable (positive) statements, the 'strongly agree' response was given a weight of 5, the agree, undecided, disagree and strongly disagree were given values of 4, 3, 2 and 1, respectively. In the case of unfavorable (negative) statements, the reverse scoring was done. After that, the responses of the farmers were collated and the 30 statements were revisited. Three of the items were found to be redundant and, as a result, eliminated before passing to the second stage. Then, 27 statements were forwarded for item analysis.

Accordingly, all the respondents with their corresponding total score gained from 27 statements were listed in descending order. That is from the highest to the least score. Generally, 25% respondents from the highest scores and 25% from the lowest scores (totally 26) were selected. The middle 24 respondents, about 50%, were eliminated. Then, for each statement, the mean scores were calculated for the high group as well as for the low group (criterion groups). After this, the difference in mean between the high and low groups for each statement were calculated. Next to that, the statements were listed se-

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<sup>1</sup> With the change in government in 1991, the country was re-organized into 9 semi-autonomous ethnically-based regional states, one federal capital (Addis Ababa) and one special administrative division (Dire Dawa). According to the administrative hierarchy of the Ethiopian Federal Democratic Republic, the regional states are divided into zones, Woredas or districts and Kebeles in urban areas or peasant associations in rural areas (local administration units) in that order.

quentially from the highest to the lowest mean difference. Based on the decision criterion of a cut off point of 1.75, twelve statements consisting of both positive and negative statements were considered as the scale for measuring farmers' attitude towards complete ownership of farmland.

## 2.2. Site Selection

Eastern Ethiopia was purposively selected for its proximity and suitability to adequately accomplish the research. This part of the country comprises East and West Hararghe Zones of the Oromia National Regional State, the Harari People National Regional State, and the Somali National Regional State and the Dire Dawa Administration Council.

As this paper deals with land ownership rights, it is important to highlight basic information about the land tenure system of the country so that readers would have a proper perspective for the subsequent discussions.

Following the fall of the Imperial government, land became the property of the state in Ethiopia. The military regime's March 1975 land reform proclamation resulted in nationalization of all rural lands. The proclamation abolished private ownership of land through outlawing its sale, mortgaging, leasing or exchange. The proclamation, in addition, prohibited employment of tenants and farm labourers with exception to individual cases where, for example, old-age or illness makes this the only way to earn income. The current government (EPRDF) which has been in power since 1991 lifted all restrictions except land sale and mortgaging. Regarding rural land ownership rights, the current government has maintained the socialist government's policies.

Currently, the ownership of land in Ethiopia, as specified by the Law of the Land and the Constitution, belongs to the state (Proclamation No. 1/1995, Article 40, No.3). However, any Ethiopian who wants to earn a living by farming has a right to obtain the use of land without payment (Proclamation No. 1/1995, Article 40, No.4). The rules, regulations or policies of the Federal and Regional Governments are in harmony with the fundamental issues of state ownership of farmland as stated in the Constitution. It must also be noted that the Federal Land Administration Law (Rural Land Administration Proclamation, No. 89/1997) was enacted in July 1997. The law in question states that farmers with use-right of farmland have the right to donate or bequeath the use-right

to their family members. Private investors in agriculture, governmental, non-governmental organizations (NGOs) and socio-economic institutions have the right to use rural land through a lease arrangement. Lease rights can be used as a collateral to borrow money from banks. There is no restriction on the duration of rural land use-rights. However, eviction of a user-right holder by the Government is possible with appropriate compensation (which is equivalent to the wealth invested on the plot of farm) when the land in question is needed for purposes that benefit communities or the country at large.

It seems that the EPRDF government has realized the existence of land tenure insecurity resulting from state ownership of rural lands. In this connection, the government has put in place a system of issuance of certificate of user rights as a means to help to reduce the degree of tenure insecurity. More precisely, the official government document (MOFED, 2002) notes, "In order to protect the user rights of farmers, their land holdings should be registered and provided with certificate of user rights." In this regard, a guarantee may be given to the effect that land will not be re-divided for a period ranging from 20-30 years.

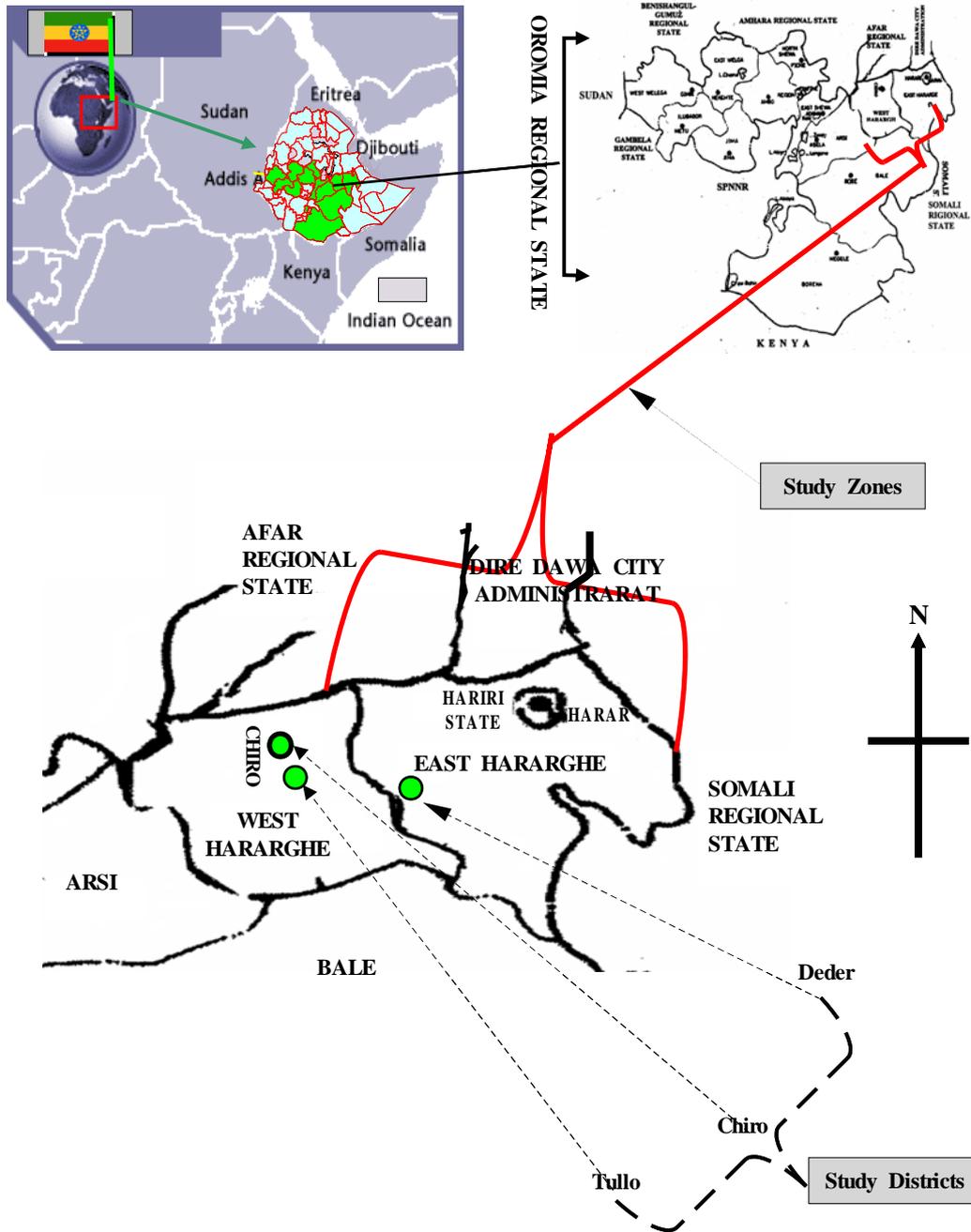
Some regional states have already started implementing this aspect of the land use policy and the policy is a step in the right direction (Berhanu *et.al.*, 2005; Deininger *et.al.*, 2007). This needs to be further strengthened, however, in regional states that have already started implementing the policy. Similarly, the feasibility introducing the policy in the rest of the regions should be explored.

The issuance of certificate of user rights seems to be a half-hearted attempt of addressing the land tenure insecurity in that land is state-owned and it would not help address the problem of reduced sense of ownership resulting from farmers' expectations of future land redistribution (Belay, 2003; Action Aid Ethiopia, 2006; Samuel, 2006).

The current research focuses first on assessing the compliance of the 12 statements of the five-point Likert scale with respect to its consistency, reliability and applicability. Then, the attitude of peasants towards the existing land property rights is taken as a ground for the test. The scale was also evaluated in terms of farmers' attitude towards complete ownership of farmland in two groups. These are certified groups (households that received farmland use-right certificate) and uncertified groups. Towards this end, areas that satisfy this condition were taken into account (see the Figure that follows). The Deder, Tullo

and Chiro districts were selected as the study areas for they are the only districts that have started user right certification.

FIGURE. Study areas



### 2.3. Sample Size & Sampling design

The 12 items five point Likert scale was applied to assess farmers' attitudes towards complete ownership of farmland. For this purpose, *kebeles* that have at least started issuing land use-right certificate were listed in their respective *Woredas*. From the list, eight *kebeles*<sup>2</sup> (Lemen Weltaha, Cheffee Gurmu, Mito, Hundie Misioma, Hundie Lafto, Cheffee, Nejebas and Weltane) were then drawn randomly from the three *Woredas* in proportion to the number of *kebeles* in each *Woreda*. After this, 130 certified households and 220 uncertified households were randomly selected in proportion to the size of households in each *kebele* with respect to certification status. In aggregate, 350 sample households were drawn and 15 of them were found to be absent in three calls or failed to appear for the survey. Ultimately, the data required for the study was gathered from 335 (123 certified and 221 uncertified) sample respondents.

### 2.4. Data Collection Process

A structured interview was prepared to gather data regarding the attitudes which the farmers hold towards land ownership. After pre-test and necessary adjustments, the structured interview was conducted by five well-experienced, trained and skilled interviewers. To supplement the primary data, relevant secondary data about land ownership problems and practices were gathered from the Oromia Agricultural Bureau, Agricultural Offices of two study Zones and the Rural Development and Agricultural Offices of three study districts.

### 2.5. Profile of the Sample Respondents

The data was collected in 2005/06 and took entirely 60 days in three rounds. Two zones (East and West Hararghe zones of the Oromia Regional State), three *Woredas* and 96 villages of eight rural *Kebeles* were covered during the data collection.

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<sup>2</sup> *kebele* is the lowest and basic (1<sup>st</sup>) level of government administrative area.

The respondents were composed of 209 males and 26 females. A further observation of sex of the household heads reveals that the reason for a female-headed household is not economic empowerment, but due to non-economic factors. Of the total female household heads, were divorced, 16 widowed, six had incapacitated husbands and the remaining one had a husband engaged in religious teaching.

The age of the household heads ranged from 19 to 80 years and the average age was 36 years old. Their highest educational level was grade 10. The respondents' average experience in farming activity was 24 years with great disparity among household heads ranging from three to 60 years of experience. In terms of age, the majority of family members (53%) constituted less than 15 years of age followed by 31% with age between 15 and 35 years and 14% between 35 and 60 years old, and the remaining 2% were older than 60 years.

Grade 2 was the average educational level among the respondents' families. About 14% of the respondents' family members were below school age, about 40% illiterates, and approximately 36% range from basic reading and writing to grade five. About 7% and 3% of the family members of the respondents had educational levels of 6-8 and 9-12 grades, respectively.

An inquiry into the farmland acquisition of the respondents revealed that inheritance dominates (83%) followed by acquisition from land-redistribution (6%) and, insignificantly, by purchase (1%). The average landholding of the respondents was 0.59 hectare. The maximum and minimum farmland sizes per household were 1.42 and 0.13 hectares, respectively. Regarding fertility of farmland, 33% of the sample farmers pointed out that their lands were fertile. About 56% of them rated their lands as moderately fertile while the remaining 11% considered their lands as infertile. The slope of respondents' farmland could be characterized as steep, moderate or flat. About 15% of the parcels were categorized to be flat while 49% and 36% of them were categorized to be moderate and steep slopes, respectively.

## 2.6. Analytical Methods

In this section, the attitude scale (12 statements) concerning the farmers' attitudes towards complete ownership of farmland and a conventional statistical de-

scriptive method of analysis were employed. Farmers' attitudes towards complete ownership of farmland may not always emerge on the surface and be readily open to inspection due to political, social and other factors. Farmers could show themselves in a variety of non-conscious, but very specific ways (McArthur, 1983). Therefore, the commonly used five-point Likert scale was employed to analyze the extent to which the farmers have favorable or unfavorable attitudes toward a complete ownership of farmland. This scaling method has been preferred because of its easiness to construct, administer and as it is sufficient enough to yield similar results as does the more laboriously constructed scale (Kerlinger, 1965; Hileyesus, 1995; Burr, 2000; Cummins and Gullone, 2000; Zikmund, 2000; Cozby, 2001; Fakoya *et al.*, 2007).

Attitudinal scores with respect to the scale (all the 12 statements together) were first calculated. Then, the percentage and means were calculated to discuss the attitudes which farmers hold towards complete ownership of farmland. In what follows the methods used for reliability analysis and content validity are discussed.

### *Reliability Analysis*

Reliability analysis allows to study the properties of measurement scales and the items that make them up. The reliability analysis procedure calculates a number of commonly used measures of scale reliability and also provides information about the relationships between individual items in the scale. Alpha (Cronbach) is one of the most frequently used reliability analysis measures. It measures internal consistency based on the average inter-item correlation (Hatcher, 1994). In this study, Cronbach's alpha value is used to see the consistency of the scale developed to measure the attitudes of farmers towards complete ownership of farmland. The Alpha coefficients range in value from 0 to 1 and are used to describe the reliability of factors extracted from the multi-point formatted statements (i.e., rating scale: 1=strongly disagree, 5=strongly agree to complete ownership of farmland). According to Nunnally (1978), the higher the score, the more reliable the generated scale is. The same author noted that 0.7 could be taken as an acceptable reliability coefficient. The formula

used to calculate Cronbach's  $\alpha$  is as follows  $\alpha = \frac{N}{N-1} \left( 1 - \sum_{i=1}^N \frac{\sigma_{Y_i}^2}{\sigma_X^2} \right)$  where N is the

number of components (items),  $\sigma_x^2$  is the variance of the observed total test scores, and  $\sigma_{y_i}^2$  is the variance of component  $i$ .

Alternatively, the standardized Cronbach's  $\alpha$  can also be calculated

$$\alpha = \frac{N * \bar{c}}{(\bar{v} + (N - 1) * \bar{c})}$$

where  $N$  is the number of components (items),  $\bar{v}$  equals the average variance and  $\bar{c}$  is the average of all covariances between the components

### *Content Validity*

One widely used method of measuring content validity was developed by C. H. Lawshe. It is essentially a method for gauging agreement among raters or judges regarding how essential a particular item is. According to Lawshe (1975), if more than half the panelists indicate that an item is essential, that item has at least some content validity. Greater levels of content validity exist as larger numbers of panelists agree that a particular item is essential. Using these assumptions, Lawshe developed a formula termed the content validity ratio:

$$\text{CVR} = (ne - N/2)/(N/2)$$

CVR=content validity ratio,  $ne$ =number of SME panelists indicating "essential",  $N$ =total number of SME panelists. This formula yields values which range from +1 to -1; positive values indicate that at least half the SMEs rated the item as essential. The mean CVR across items may be used as an indicator of overall test content validity.

## 3. Results and Discussion

This section is intended to discuss the process and the resulting attitude scale. Moreover, the result of the application of attitude scale on farmers' attitude towards complete ownership of farmland would be discussed here.

### 3.1. Generation of Attitude Scale

Following the procedure discussed earlier, a 12-statement 5-point Likert scale was developed (see Tables 1 and 2).

The first 12 statements with the highest mean difference ( $\geq 1.75$ ) were selected as suggested by Murphy and Likert (1937, cited in Edwards, 1969). The composite of positive and negative items were selected to maintain the consistency of the respondents in answering the statements. The total score obtained by summing up these 12 items reveals the farmers' attitudes towards complete ownership of farmland.

TABLE 1. Definitions of abbreviations of the attitude scale items

Abbreviations	Scale items (statements)
STFAT ( + )	Since the farmland is government property, state may take it at any time.
OALTEF ( + )	If I am away for any off-farm activity, I am afraid that state will expropriate the farmland.
COHMF ( + )	I believe that complete ownership will help to mortgage farmland, borrow money for investment, and improve peasant life.
IDDLTS ( + )	I dislike the former military government's land tenure system because it was denying complete ownership of farmland.
FFOHOH ( + )	I think complete ownership of farmland helps to overcome my extreme hardship
IDNFTIHPL ( + )	Land is state owned, hence I don't feel that I have power on it.
NNFOIURG ( - )	There is no need of complete ownership, if land use right certificate is given to me.
CFOINGD ( - )	Complete ownership of farmland is not a big deal to me as long as I use the land.
SEC ( - )	I think complete ownership of farmland brings about social and economic crisis.
PLTLF ( - )	If land is privatized and its transaction is allowed, then peasants may lose their farmlands for various reasons.
IDNWFO ( - )	I do not want to hear about complete ownership of farmland, as it brings nothing new.
PEP ( - )	I think there are people who are ready to buy farmland, evict the peasant and make him suffer more, if land is privatized.

As can be observed from Tables 1 and 2, among the 12 statements, a half are negatively worded to represent the expression of unfavorable attitude towards complete ownership of farmland, whereas the remaining six are worded to accommodate favorable attitudes. This will help avoid the bias and improve reliability as anyone who answers 'agree' all the time will appear to answer consistently (Edwards, 1969).

The high criterion group contains 25% of all the respondents who scored high for the 12 statements. On the other hand, the low criterion group comprises 25% of all the respondents who scored low for the 12 statements. The mean of each group and mean difference between the two groups are calculated as summarized in Table 2.

TABLE 2. Attitude scale items with mean differences between criterion groups

Statement Code	High Group Mean	Low Group Mean	Mean difference
PEP -	4.31	1.85	2.46
COHMF +	4.15	1.77	2.38
PLTLF -	3.23	1.00	2.23
CFOINGD -	3.54	1.46	2.08
IDDLTS +	3.15	1.08	2.07
OALTEF +	3.38	1.38	2.00
IDNWFO -	3.31	1.46	1.85
FFOHOH +	3.62	1.77	1.85
SEC -	3.38	1.54	1.84
STFAT +	2.92	1.15	1.77
NNFOIURG -	3.23	1.46	1.77
IDNFTIHPL +	3.89	2.14	1.75

The attitude scale was further verified by conducting a reliability test using Statistical Package for the Social Sciences (SPSS) version 12.0. The internal consistency for the 12 items (Cronbach's Alpha - which shows the scale reliability) was 0.94 and showed that this final version, 12 five-point Likert items towards farmers' attitude toward complete ownership of farmland, was highly reliable. The content validity of the scale was also established using experts' rating on all the selected items, with a high relevancy coefficient of 0.80.

### 3.2. Application of the Scale to Measure Farmers' Attitude

Each of the statements in the scale was given a weight of 1 to 5. The maximum weight was given for strongly agree in the case of positive statements and for strongly disagree in the case of negative statements. Thus, the minimum total score would be 12, if a respondent scores 1 point for each of the 12 statements, while the maximum total score would be 60 if the respondent scores 5 for each of the 12 items. The mean scores were then categorized into three: favorable attitude being the mean scores of greater than three, a category representing undecided of mean scores of three, and unfavorable attitude category comprising mean scores of less than three. Moreover, the respondents were grouped into two (certified and uncertified) as mentioned in the methodology part of this paper.

In the following paragraphs, therefore, results of the research would be discussed. As shown in Table 3, 285 (about 85%) of the respondents favoured complete ownership while 20 (about 6%) of them remained undecided. The remaining 30 (about 9%) of them disagreed on complete ownership of farmland.

TABLE 3. Attitude of farmers towards complete ownership of farmland (N=335)

Certification	Favorable (mean scores > 3)		Undecided (mean scores = 3)		unfavorable (mean scores < 3)		Total	
	Frequency	%	Frequency	%	Frequency	%	Frequency	%
Uncertified	189	56.42	11	3.28	12	3.58	212	63.28
Certified	96	28.66	9	2.69	18	5.37	123	36.72
Total	285	85.07	20	5.97	30	8.96	335	100.00

Among the 212 uncertified respondents, 189, 11, and 12 of them have favorable, neutral and unfavorable attitudes to complete ownership of farmland, respectively. On the other hand, among the respondents who had received certification of user rights, 96, 9, and 18 of them had favorable, neutral and unfavorable attitudes to complete ownership of farmland, respectively.

Table 4 below depicts the mean and standard deviations of the 12 scale statements.

The mean of the statement COHMF, which was related to the use of complete ownership as collateral, is high (mean=4.02) when compared to the other items and distant from the average (3).

This is followed by the statement IDNFTIHPL (mean=3.98). This item was found to be a strong indicator and it revealed that there were farmers who are skeptical about the current tenure system. The item strongly suggested that the farmers feel that they do not have power on their farmland.

TABLE 4. Mean & standard deviations of the attitude scale items (N=335)

	Mean	Std. Deviation
COHMF	4.02	1.368
CFOINGD	3.08	1.075
IDDLTS	3.94	1.135
IDNWFO	3.37	1.105
OALTEF	3.93	1.098
PLTLF	3.70	1.017
STFAT	3.37	1.108
NNFOIURG	3.59	0.92
PEP	2.83	1.014
FFOHOH	3.76	0.853
SEC	2.55	0.846
IDNFTIHPL	3.98	1.083
FATSUC <sub>0</sub>	42.14	8.945

The third highest mean (3.94), i.e. “I dislike the military government’s land tenure system (IDDLTS)” also reflects farmers’ positive attitude towards complete ownership of farmland as there is no significant difference between the former socialist and the current governments of Ethiopia regarding farmland ownership.

On the other hand, the average weight of SEC, PEP and CFOINGD were the lowest among the 12 statements and all were negative. The low average weights and the negative sign of these variables imply that farmers tend to support complete ownership of farmland. In general, the farmers’ attitude towards complete ownership of farmland was positive.

The result can be further detailed by considering the 12 items. The statement “Complete ownership helps mortgaging farmland” (COHMF) is a factor related to the borrowing of money for increasing production and productivity by availing the farmland as a collateral. Among the 335 households,

the majority (187) rated “strongly agree” to the item while 69 of them rated “agree.” Put together, these two levels of the scale constitute 76% of the respondents. Among the respondents, 45 and 28 disagreed and strongly disagreed with the statement, respectively. The remaining six persons abstained.

Likewise, all the remaining 11 items can be explained in the same way. Table 5 below summarizes the respondents’ response categories to the 12 statements.

TABLE 5. Degree of responses of sample farmers to the scale items

	Agree & Strongly agree				Undecided		Disagree & St. disagree			
	Strongly agree	Agree	Total Frequency	%	Total Frequency	%	Disagree	Strongly disagree	Total Frequency	%
COHMF	187	69	256	76	6	2	45	28	73	22
CFOINGD	24	87	111	33	82	24	121	21	142	42
IDDLTS	124	138	262	78	15	4	46	12	58	17
IDNWCFO	24	67	91	27	32	10	186	26	212	63
OALTEF	116	147	263	79	15	4	48	9	57	17
PLTLF	18	38	56	17	15	4	218	46	264	79
STFAT	40	161	201	60	26	8	99	9	108	32
NNFOIURG	15	42	57	17	21	6	243	14	257	77
PEP	12	161	173	52	42	13	112	8	120	36
FFOHOH	34	241	275	82	9	3	48	3	51	15
SEC	5	213	218	65	46	14	70	1	71	21
IDNFTIHPL	133	117	250	75	37	11	42	6	48	14

Correlation coefficients of items: The smallest, largest, and average inter-item correlations, the range and variance of inter-item correlations, and the ratio of the largest to the smallest inter-item correlations are presented in the following Table.

TABLE 6. Inter-Item Correlation Matrix

	FSP	ESC	SEOA	PLF	NDIUR	PEP	COHMF	NNFOIUR	IDNWCFO	IDDLTS	FFOHOH	IDNFTIHP
FSP	1.000											
ESC	.599	1.000										
SEOA	.484	.550	1.000									
PLF	.358	.250	.711	1.000								
NDIUR	.521	.631	.660	.462	1.000							
PEP	.563	.514	.621	.678	.483	1.000						
COHMF	.534	.531	.599	.740	.432	.919	1.000					
NNFOIUR	.426	.465	.663	.696	.408	.784	.763	1.000				
IDNWCFO	.606	.654	.708	.374	.646	.493	.478	.515	1.000			
IDDLTS	.453	.287	.550	.855	.421	.704	.731	.677	.349	1.000		
FFOHOH	.365	.418	.712	.825	.454	.630	.747	.776	.419	.617	1.000	
IDNFTIHP	-.045	.089	.003	.279	-.109	.046	.157	.186	.050	.191	.282	1.000

#### 4. Conclusions

In general, farmers in developing countries are considered to be development actors in their respective places. Therefore, policy issues in general and agricultural policies in particular should not neglect farmers and instead use them as sources of information. However, in most cases, farmers in these countries are susceptible to moral hazards. They usually tend to be reluctant to provide accurate information regarding output, income, farm size, livestock number, etc mainly because they fear that providing accurate information about their possessions would result in an increase in land tax and a loss of other benefits. In particular, inquiries related to land ownership which is politically tilted are sensitively considered in developing countries. In contrast, when farmers are asked to provide information concerning the costs they have incurred on their farming activities, they tend to report an exaggerated figure. It is, therefore, crucial to obtain accurate information from such farmers with the help of standardized and indirect measurement tools. The standardized scale constructed in this study was meant to measure attitude indirectly and to make possible accu-

rate access to information about farmers' agricultural input and output. Since attitude is a crucial element in human behavior, the scale developed in this connection would help government or any other stakeholders in designing behavioral interventions in the rural area.

Moreover, the scale is found to be reliable and consistent to be administered on sensitive issues like farmland ownership within the Ethiopian farmers. Further, the scale was administered and tested on a sample of 335 farmers in the study area in which the farmers' attitude levels to complete ownership of farmland were measured. The study strongly suggested that a large majority of farmers favor complete ownership of the farmlands they work on.

This standardized scale can be applied in wider areas with similar situations to analyze farmers' attitude towards farmland ownership. In addition, the procedure used in this study can be followed to construct a variety of attitude scales on sensitive issues in farming as well as other similar communities.

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#### **References**

- ActionAid Ethiopia, 2006. "A case study on policies and practices for securing and improving access to and control over land in Ethiopia." Proceeding of the thematic dialogue held on 17 January 2006 in Addis Ababa.
- Allport, G.W., 1966. Attitudes in the history of social psychology. in: M. Jahoda and N.I Warm (eds). *Attitudes-Selected readings*. pp.15-21 Penguin Book Inc., USA.
- Belay, K., 2003. "Question regarding rural land ownership rights in Ethiopia." *Journal of Rural Development*. 26: 99-134.
- Berhanu, A. and Fayera, A., 2005. Land registration in Amhara Region, Ethiopia. *Research Report 3*, IIED, November 2005.
- Boome D.A. and S. Gartin, 2007. "West Virginia County Commissioners' Perceptions

- of the Farmland Preservation Program.” Proceedings of the 2007 AAAI Research Conference, Volume 34. USA.
- Burr S., 2000. Attitude Questionnaires. <http://www.scre.ac.uk/tpr/observations/obs3/obs3bull.htm>, (Accessed on August 7, 2005).
- Campbell, D., 1963. *Social Attitude and Other Acquired Behavioral Dispositions*. McGraw Hill, New York.
- Cooper, J.B. and J.L. McGaugh, 1966. “Attitude and Related Concepts.” in: M. Jahoda and N. Warm (eds). *Attitudes—Selected Readings*. pp. 26-31. Penguin Book Inc: USA.
- Cozby, P.C., 2001. *Methods in Behavioral Research, seventh edition*. McGraw-Hill Companies, Inc: New York.
- Cummins, R.A. and E., Gullone, 2000. *Why We Should Not Use Five-Point Likert Scales: The Case for Subjective Quality of Life Measurement*. pp. 74-93. Proceedings, Second International Conference on Quality of Life in Cities. National University of Singapore: Singapore.
- Cronbach, L. J. 1951. “Coefficient alpha and the internal structure of tests.” *Psychometrika*. 16(3): 297-334.
- Deininger, K., Daniel Ayalew, S. Holden, and J. Zevenbergen, 2007. “Rural Land Certification in Ethiopia: Process, Initial Impact, and Implications for Other African Countries.” World Bank Policy Research Working Paper 4218.
- Edwards, A.L., 1969. *Techniques of attitude scale construction*. Vakil Feffer and Simons Pvt. Ltd: Bombay.
- Fakoya, E.O., M.U. Agbonlahor and A.O. Dipeolu, 2007. “Attitude of Women Farmers Towards Sustainable Land Management Practices in South-Western Nigeria.” *World Journal of Agricultural Sciences* 3 (4):536-542.
- Haileyesus Bala, 1995. *Teachers’ attitudes towards English language learners’ errors (with particular reference to grade eleven)*, a thesis presented to the School of Graduate Studies, Addis Ababa University, Ethiopia.
- Hatcher, L. 1994. *A step-by-step approach to using the SAS(R) system for factor analysis and structural equation modeling*. Cary, NC: SAS Institute
- Kerlinger, F.N., 1965. *Foundation of Behavioral Research: Educational and Psychological Inquiry*. Holt, Rinehart and Winston, Inc: New York.
- Lawshe, C.H. (1975), A Quantitative Approach to Content Validity, *Personnel Psychology*, 28: 563-575.
- McArthur, T., 1983. *A Foundation Course for Language Teachers*. Cambridge University: Cambridge.
- MOFED (Ministry of Finance and Economic Development), 2002, *Ethiopia: Sustainable Development and Poverty Reduction Program*, Federal Democratic Republic of Ethiopia, Ethiopia, Addis Ababa.
- Newcomb, T.M., 1966. On the Definition of Attitude. in: M. Jahoda and N. Warm (eds),

- Attitudes-Selected Readings*. pp. 22-24. Penguin Book Inc: USA.
- Nunnally, J., 1978. *Psychometric theory*. McGraw-Hill: New York.
- Page-Bucci, H., 2003. The Value of Likert Scales in Measuring Attitudes of Online Learners. <http://www.hkadesigns.co.uk/websites/msc/reme/likert.htm>. (Accessed on Sept. 22, 2007).
- Samuel Gebreselassie, 2006. Land, Land Policy and Smallholder Agriculture in Ethiopia: Options and Scenarios. Paper prepared for the Future Agricultures Consortium meeting at the Institute of Development Studies 20-22 March 2006. [www.future-agriultures.org/pdf%20files/SG\\_paper\\_e.pdf](http://www.future-agriultures.org/pdf%20files/SG_paper_e.pdf) (Accessed on March 8, 2007).
- Sherif, C.W., Sherif, M., and Neberegald, R. E., 1965. *Attitude and Attitude Change: The Social Judgment-Involvement Approach*. Rube: London.
- Young, K., 1958. *Social Psychology, Application*, 3<sup>rd</sup> edition – Century – Csofts, Inc: New York.
- Zanden, J.W.V., 1977. *Social Psychology*. 4<sup>th</sup> edition, McGraw-Hill, Inc., U.S.A.
- Zikmund, W.G., 2000. Exploring Marketing Research. Harcourt, Inc. [www70.homepage.villanova.edu/hae-kyong.bang/14-attitude%20measurement.PPT](http://www70.homepage.villanova.edu/hae-kyong.bang/14-attitude%20measurement.PPT)-(Accessed on October 6, 2008).

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