CONSTRAINTS TO AGRICULTURAL EXTENSION WORK IN ETHIOPIA: THE INSIDERS' VIEW

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ABSTRACT

This paper examines principal obstacles to agricultural extension work in Ethiopia. The historical review reveals that extension programs and policies have been formulated without due consideration to the farmers' opinion, the various extension approaches have been biased against the livestock sub-sector, and research and extension activities have been carried out by different organizations without proper coordination. Both the historical review and the survey results confirm that extension work in the country has not been participatory in its nature, the research-extension linkage has been very poor, and extension agents have been involved in different activities which are not related to their normal duties. The study reveals that apart from the fact that the number of extension workers in the country is very small, their qualification and communication skills leave a lot to be desired. The study makes it also clear that a host of factors, most of which are policy related, obstructs extension agents from discharging their duties properly.

1. INTRODUCTION

Ethiopia, with a total area of 1.1 million Km^2, has an estimated population size of 61 millions (MEDaC, 1999). Agriculture is the mainstay of the Ethiopian economy. It generates over 45 % of the GDP and 90 % of the total export earnings of the country. It is also estimated that agriculture provides employment for about 85 % of the labor force. However, Ethiopia's agriculture is characterized by a very low productivity. The average grain yield for various crops is less than 1 ton per hectare (CSA). As to the animal production sub-sector, its productivity is decreasing as a result of poor management systems, shortage of feed and inadequate health care services. The low productivity of the agricultural sector has made it difficult to attain food self-sufficiency at a national level.

One of the reasons for the existing structural food insecurity in the country is

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the low level of technological development, which acts as a principal barrier to the efficient utilization of the country's natural resources. Even though different extension approaches have been implemented in the country, experiences over the past five decades have not been particularly sanguine with respect to bringing major impacts on the productivity of small-holders and the utilization of modern inputs.

A closer look at the different extension approaches implemented over the past five decades reveals that they have been planned and implemented without the participation of the very people for whom they have been designed. These approaches have captured farmers located only few kilometers from both sides of all-weather roads. Similarly, the situation in which extension agents live and work has not been receiving the attention it deserves from policy makers and development specialists. Attempts made, so far, to evaluate the effectiveness of extension activities have been focusing on area coverage, the linkage between research and extension, number of farmers per agent, the type as well as the number of technologies extended.

The objectives of this paper are, therefore, to identify specific constraints that extension agents face in discharging their day to day duties and to identify the most important areas of intervention which deserve the immediate attention of policy makers so as to improve the effectiveness of extension work.

The rest of this paper is organized in four sections. Section II reviews the history of extension work in Ethiopia and the different approach used so far. Section III provides a brief discussion on the method of data collection and the subjects of the study. Section IV, presents the results of the study. The final section summarizes the main empirical findings and draws appropriate conclusions.

2. HISTORY OF EXTENSION WORK IN ETHIOPIA

Agricultural extension work in Ethiopia began in 1931 with the establishment of the Ambo Agricultural School which is one of the oldest institutions and the first agricultural high school offering general education with major emphasis on agriculture. Apart from training students and demonstrating the potential effects of improved varieties and agricultural practices to the surrounding farmers, the school did not do extension work in the real sense of the term that we understand today. It was with the creation of the Ministry of Agriculture in 1943 that the country witnessed the commencement of limited extension activities in different areas[1].

However, real agricultural extension work began in the early 1950s following the establishment of the Imperial Ethiopian College of Agriculture and

Mechanical Arts (IECAMA now Alemaya University) with the assistance of the United States under the Point Four Program. The academic program of the College was modelled on the Land Grant College system with three fundamental but related responsibilities which are: training of high level manpower; promotion of agricultural research; and dissemination of appropriate technologies. In the decade following its establishment IECAMA had been active in building the national agricultural research and extension systems.

In August 1963, the Imperial Government transferred the mandate for agricultural extension from the College to the Ministry of Agriculture, with the suggestion that the IECAMA concentrates its outreach efforts to help farmers in the vicinity of the College. Since this time the Ministry of Agriculture has been responsible for the national extension activities. Likewise, in 1966 the responsibility for agricultural research was transferred to the newly established Institute of Agricultural Research (IAR). Until its replacement by the Ethiopian Agricultural Research Organization in 1997, the IAR had been the only organization in the country with a clear mandate solely for agricultural research.

A review of extension activities during the last fifty years reveals that a range of extension approaches has been used. The approaches tended to be different with each successive political regime. In what follows the extension approaches used by the different political regimes are presented separately.

2.1 Under the imperial regime

Following the transfer of the responsibility for national extension administration to the Ministry of Agriculture, extension service became one of the departments in the Ministry. When the Ministry decentralized its departments by establishing provincial offices, extension provincial supervisors were appointed in all the thirteen provinces of the country (with the exception of Eritrea).

Up until the middle of the 1960s, policy makers paid little attention to the development of the peasant agriculture. For instance, during the First Five-Year (1957-l961) and the Second Five-Year (1963-1967) development plans, despite its importance to the national economy, agriculture received only 13.7 % and 21.3 % of the total investment, respectively. Even worse, almost all the investment allotted to the agricultural sector was channelled to the expansion of large-scale commercial farms engaged in the production of cash crops for export and raw materials for local industries.

Following the increased realization of the continued stagnation of agriculture and pressure from international aid donors, it was only in its Third Five-Year development plan (1968-1973) that the government gave formal recognition to the peasant sector and made attempts to modernize it. However, considering the fact that the country's trained manpower, material and financial resources were very limited, to modernize peasant agriculture in all areas of the country simultaneously, the government opted for the comprehensive package approach. The latter had to do with the removal of barriers to production by concentrating efforts in strategically selected areas in which good results could easily be seen.

The first comprehensive package project, the Chillalo Agricultural Development Unit (CADU) was established as an autonomous entity in the Arsi region south of Addis Ababa in September 1967 and was financially backed by the Swedish International Agency for Development Authority (SIDA). According to Mengisteab (1990), the method CADU adopted in reaching the peasants was basically that of demonstration. The project region was divided into extension areas where agricultural extension agents and model farmers demonstrated the effects of new agricultural techniques.

Based on the experience gained from CADU, in the following years, other autonomous comprehensive package projects with varying objectives and approaches were initiated with the financial assistance obtained from different countries. However, it was only CADU that was fully operational until it was phased out in 1986.

It was soon realized that the comprehensive package projects failed to serve the very people for whom they were destined, the tenants and small-scale farmers. In this regard, in evaluating the experience from CADU, Tesfai (1975), underlined that the distribution of CADU loans between tenants and land-owners has always been biased in favor of owners and, so proportionately, there have been roughly only half as many tenants on the credit list as there are in the target population. Other authors underscored the fact that, by encouraging the process of mechanization in larger commercial farms, the package projects accelerated the eviction of tenants (EPID, 1970; Mengisteab, 1990; Task Force on Agricultural Extension, 1994).

It became also apparent that the comprehensive package projects were too expensive both financially and in terms of trained manpower requirements to warrant replication in other areas of the country. As a result, in 1971 the Government, in cooperation with SIDA, designed an alternative strategy, envisaged to be compatible with the availability of resources, called the Minimum Package Project I (MPP-I). MPP-I was prepared for the 1971-1974

period and was designed to provide small-scale farmers with essential services considered to be the minimum essential elements for agricultural development (Mengisteab, 1990). It was also in 1971 that the Government established the Extension and Project Implementation Department (EPID) in the Ministry of Agriculture. EPID was commissioned to administer minimum package projects and coordinate the efforts of comprehensive package projects. The MPP-I was supposed to reach a large number of farmers by making use of the technologies generated and tested by the comprehensive package projects. As to its method of technology transfer, it employed individual farmer extension approach where both model farmers and extension agents were demonstrating the importance of improved techniques of production.

Though EPID was able to provide agricultural services in 280 of the 580 districts and some improvements were made in terms of adoption of improved inputs, MPP-I failed to have significant impact on the agricultural sector because the government was reluctant to put in place the necessary reform measures in the areas of land tenure, tenant-landlord relationships as well as organizational and administrative systems of the different institutions entrusted with agricultural development of the country (Mengisteab, 1990). For instance, research work aimed at developing technological packages adapted to the different ecological zones of the country was below expectations. Moreover, as extension activities were concentrated in areas where mixed farming system prevails, MMP-I had a very marginal contribution to those farmers in the lowland areas engaged in animal production.

2.2 Under the military regime

Following the 1974 revolution, the new military regime enforced a land reform on March 4, 1975. The land reform banned private ownership of rural lands and established Peasant Associations as the basic instrument for implementing the land reform. The Peasant Association is a territorial organization encompassing 800 hectares or more. The average Peasant Association membership is 250-270 families (households).

At the end of the MPP-I period, there was a plan to undertake MPP-II over the 1975/76-1979/80 period. However, because of the political instability and major structural changes in the rural areas including the formation of peasant associations and producers' cooperatives as well as the implementation of the land reform, it was not possible to carry out this plan. Therefore, until the early 1980s there was not much organized and coordinated extension work in the country. It was only in 1981 that MPP-II was started. MPP-II had the same objectives as MPP-I. However, under MPP-II it was envisaged to cover 440 of the total 580 districts and reach as many farmers as possible. Under MPP-II,

peasant associations and cooperatives were used as the focal points through which improved inputs, techniques of production and advice were channeled to the member farmers.

During its implementation (1981-1985), the MPP-II did not attain its stated objectives for the very few extension agents available in the country were made to cover as wide areas as possible without adequate facilities and logistical support. The same agents were overloaded with different assignments, such as collecting taxes, promoting producers' cooperatives, collecting loan repayments, mobilizing labor and resources on the part of public authorities, which were, at times, not in their domain of responsibility (Task Force on Agricultural Extension, 1994). The poor research-extension linkage was also the other factor responsible for the mediocre performance of the extension service of MPP-II.

The MPP-II was phased out in 1985 and replaced by another strategy called the Peasant Agriculture Development Extension Program (PADEP). PADEP was designed to bring perceptible changes in peasant agriculture through concerted and coordinated efforts in the areas of agricultural research and extension. The strategy was prepared based on the critical evaluation of past extension strategies and underscored the importance of stratifying the country into relatively homogeneous zones, decentralizing the planning and execution of agricultural development activities, empowering and giving considerable attention to zones which were to be the centers of development efforts. Accordingly, on the basis of resemblance in climatic conditions, cropping patterns, natural resource endowments and geographical proximity, the country was divided into eight agricultural development zones.

The program had different objectives for the different agricultural development zones. It was initially planned to concentrate the program on high potential areas so as to raise their production and productivity by channelling the limited resources and extension services. To this effect, 148 surplus producing districts were selected out of the total 580. PADEP employed the Training and Visit (T&V) extension system.

Like many of its predecessors PADEP was designed as a foreign-aided project (the principal donors for the PADEP were the European Economic Commission, IFAD, Italy, African Development Bank, Sweden, and the World Bank). Consequently, its implementation had to be postponed pending the Government's compliance with the conditions laid down by donor organizations. More specifically, donor countries and organizations had been pressing the government to abandon its agricultural policy, which was biased in favour of state and collective farms, to liberalize agricultural marketing, and to

give considerable emphasis to small-scale farmers.

It was only in 1989 that PADEP could effectively be started. Even then only six out of the eight PADEP programs secured funding both from the donors and the Government and were operational. Even in areas where the extension activities were undertaken it was not possible to bring together farmers and extension workers. Extension messages were not entirely devoid of political objectives and agents were seen by the farmers as government spokesmen rather than development workers. The principal factor responsible for the inefficiency of extension work during the 1975-1991 period was the government's agricultural policy, which favored the development of state and collective farms. Moreover, the 'non-surplus producing regions' did not receive enough attention.

2.3 The current situation

Following the change in government in 1991, the T & V extension approach was adopted as a national extension system until its replacement by the Participatory Demonstration and Training Extension System in 1995[2]. The latter was adopted from the Sasakawa Global 2000 (SG 2000) extension strategy, initiated in Ethiopia in 1993 by the Sasakawa Africa Association and Global 2000 of the Carter Centre. According to Takele (1997), the centrepiece of the SG 2000 technology transfer method is the Extension Management Training Plot (EMTP). EMTPs are on-farm technology demonstration plots established and managed by participating farmers. The extension agents play a facilitating role in the management of the plots.. The size of each EMTP is usually half a hectare and adjacent farmers can pool their plots to form an EMTP if they cannot meet the half-hectare requirement individually.

The SG 2000 extension activities started by assessing available agricultural technologies in the country with the support of the national research and extension bodies. On the basis of the availability of improved varieties and recommendations of the research and extension experts, in 1993 technology packages for maize and wheat production were defined and demonstrated to 160 farmers residing in seven districts of the Oromia National Regional State and the Southern Nations, Nationalities and Peoples Regional State. In 1994 the SG 2000 extension programme expanded its extension activities both in terms of area coverage and technology packages. The impressive yield increments obtained by the farmers participating in the SG 2000 extension program persuaded the Ethiopian government that self-sufficiency in food production could be achieved by adopting the SG 2000 extension approach. Consequently, in 1995 the government took the initiative to run the programme on its own and launched the Participatory Demonstration and Training Extension System (PADETES) as the national agricultural extension system.

PADETES gives special consideration to the package approach to agricultural development. Initially, PADETES promoted cereal production packages and the beneficiaries were mainly those farmers who live in high rainfall areas of the country. Over the years, however, the packages have been diversified to address the needs of farmers who live in different agro-ecological zones of the country.

The major elements of the extension package are fertilizer, improved seeds, pesticides and better cultural practices mainly for cereal crops (teff or *Eragrostis Abyssinica*, wheat, maize, barley, sorghum and millet). PADETES uses EMTPs and a technology transfer model which, in principle, nurtures linkages between research, extension, input and credit distribution. Under PADETES the major tasks of extension agents include organizing demonstration trials, assisting farmers in obtaining agricultural inputs and channelling farmers' problems to the relevant organizations, particularly to the District Agricultural Office.

In 1995/96, the Ethiopian government sponsored the establishment of about 36,000 half-hectare on-farm demonstrations. In the 1996/97, 1997/98 and 1998/99 production years, the number of government-sponsored demonstration plots was 600,000, 2.9 million and 3.8 million, respectively (MOA 1997, 1999). The trend is for this number to keep growing. Likewise, the number of farmers participating in the new extension program increased from 35,000 in 1995/96 to 3.7 million in 1998/99.

As to the number of extension personnel in the country, the author's discussion with a senior extension expert in the Ministry of Agriculture in September 2001 revealed that it is estimated to be a little more than 14,000. The majority of these hold certificates and diplomas but lack adequate and appropriate technical and communication skills. This figure is too small, even by the standards of sub-Saharan Africa, when viewed in relation to the number of farmers the extension personnel have to serve. Under PADETES, development agents are under pressure to work with as many farmers as possible. One agent may be required to supervise the demonstration plots of 200 farmers. With no adequate resources to back the rapidly expanding programs, it could be difficult to sustain the motivation of the development agents over a longer period. Administrative matters like credit disbursement and enforcing repayment have also absorbed much of their time (Befekadu & Berhanu, 1999/2000).

3. METHODOLOGY

The empirical analysis of this paper is based on the findings of the opinion survey made between March and May 1998. The survey employed a structured questionnaire with both open-ended and pre-coded types of questions. The data

and information for this study were collected from a total of 103 extension agents (86 males and 17 females) who were randomly selected from ten of the eleven regions of the country[3]. The limited availability of budget and time constraint made it impossible to increase the number of respondents beyond this level. The regional distribution of the respondents is presented in Table 1[4].

Table 1: Regional distribution of the respondents

Region	Respondents		Total number of respondents
	Male	Female	
Addis Abeba	1	0	1
Afar	2	0	2
Amhara	8	5	13
Benshangul/Gumuz	2	0	2
Dire Dawa	3	0	3
Harari	2	1	3
Oromia	28	4	32
Somali	3	0	3
Southern nations, nationalities and peoples	31	7	38
Tigray	6	0	6
Total	**86**	**17**	**103**

The students of the School of Graduate Studies at Alemaya University interviewed the respondents and filled in the questionnaires. Pre-testing of the structured questionnaire and training of the interviewers were carried out by the author.

4. RESULTS AND DISCUSSION

The mean age of the extension agents is 30 years but there are extreme variations, the oldest being 52 and the youngest 19 years old. Almost 90 % of the respondents are less than 36 years old. On average, respondents have worked for 5.2 years as extension agent. Of course, the length of the experience varied from one person to another, the longest being 22 years and the shortest less than a year. But more than 80 % of the respondents served for more than two years. As to the educational background of the respondents, 80 (74 males and 6 females) had diplomas or two years of post-high school college education and 23 (12 males and 11 females) had certificates or few months of post-high school training in agriculture. One important factor in extension work is the agents' background in farming. In this connection, 52.4 % and 47.6 % of the respondents had urban and rural background, respectively.

Table 2: Major constraints to agricultural extension work as perceived by the respondents

Type of constraint	Number of times cited	% of respondents
Inadequate research-extension linkage	100	97.1
Limited availability of logistics and other supports for extension personnel	98	95.1
Insufficiency of relevant technologies	96	93.2
Inadequate incentives and / or low remuneration for extension personnel	92	89.3
Farmers' lack / shortage of working capital	91	88.3
Inflexible (top-down or centralized) extension approach	88	85.4
Extension personnel are overloaded	87	84.5
Little or no in-service training	85	82.5
Neglect of the farmers' traditional & experience-based knowledge system	85	82.5
Frequent changes in extension strategy at a national level	74	71.8
Low educational level of front-line extension staff	70	68.0
Shortage of extension personnel	64	62.1
Extension agents don't speak the language of the people in the area	33	32.0

Source: *Survey Data*

Table 2 summarizes the responses to a pre-coded question on the most important factors, which affect agricultural extension work in Ethiopia. The table shows that most of the limiting factors, as perceived by the respondents, are more or less related to policy issues. For instance, the inadequate research-extension linkage was cited most often as a serious factor affecting agricultural extension work in the country. In this connection it is interesting to note that 45.6 %, 45.6 %, 4.9 % and 1.9 % of the respondents qualified the research-extension linkage as non-existent, inadequate, adequate and strong, respectively whereas 1.9 % did not comment on the nature of the linkage. Like wise, only 29.1 % of the respondents reported that they have had contact, at least once, with researchers.

Limited availability of logistics and other supports for extension agents (transportation, housing, supplies) was often cited as another important problem. This is something expected for agents have to work under very poor

and difficult conditions, travelling, at times, long distances on foot and spending the night in farmers' custody. Paradoxically, the system of remuneration does not seem to take into account the conditions in which the agents work. The vast majority of the respondents (89.3 %) indicated that their remuneration was inadequate. The survey results show that the average salary of a diploma holder is 680 birr and that of a certificate holder 371 birr[5]. The respondents' salary level varied depending on the length of their service. In fact, the number of service years and the respondents' salary are positively associated (with a Spearman correlation coefficient of 0.224, which is significant at 5 % level of significance) indicating that those who served longer earn more and vice versa. An issue related to the service years is the number of places where agents had been working. These two variables are positively correlated (with a Spearman correlation coefficient of 0.298, which is significant at 1 % level of significance) implying that the higher the service years, the larger the number of localities an agent had worked. The results of the study reveal that on the average an agent had worked in three different places. However, this average masks differences, which exist between the diploma and certificate holders who worked on the average in 3.5 and in 2.3 places, respectively. The explanation for this is that as certificate holders are in most cases recruited from the area where they work in and higher authorities usually turn down their demands for transfer to other places, they show a tendency to stay in the same work areas longer.

The insufficiency of relevant technologies (adapted to the circumstances of the area where agents work) was cited by 93.2 % of the respondents. More specifically, the majority of the respondents (62.1 %) said that they had been promoting technologies as 'blanket recommendations'. In other words, the technologies they had been promoting were developed outside the users' system and they were extended to farmers without prior adaptability trials. Only 13.6 % of those surveyed indicated that they had been promoting technologies tested for specific ecological, economic and socio-cultural conditions of their working places before being introduced. The remaining 24.3 % stated that they had the experience of promoting both types of technologies. However, when requested to indicate the technology that they promoted quite frequently, 66.7 % responded that they had been promoting technologies developed outside of their working areas without adaptability trials. This is a very serious point of concern, which imperils the whole effort of extension work in the country. The recent reorganization of the national agricultural research system is expected to do away with the above-mentioned problems. But, given the country's ecological diversity, it will take many years before technologies suitable to the different locations of the country are developed.

A large number of the respondents (88%) reported the farmers' lack or shortage

of working capital as an important barrier to the adoption of modern agricultural inputs. Given the fact that most of these inputs (especially fertilizers and agro-chemicals) are imported and the national currency has been losing its value over the last ten years, their prices have been increasing year after year. In addition, up to 1997 fertilizer prices were subsidized and farmers had to pay relatively lower prices even after the national currency was devalued in 1992. When the government subsidy was lifted in January 1997, the free market prices became so exorbitant that they put fertilizer beyond the reach of many farmers.

About 85.4 % of the respondents placed the inflexible nature of the extension approaches high on the list of problems, which hamstrung agricultural extension work in the country. In more clear terms, in response to a question regarding the nature of extension system in the country, 87.4 % and 5.8 % qualified the different extension approaches as 'top-down' and 'participatory', respectively and the remaining 6.8 % did not express their opinion on the issue.

The survey also showed that in-service training, necessary to improve the extension agent' skill through cross-fertilization and exchange of ideas is rarely carried out. As many of the extension agents in the country are certificate holders with very limited technical and communication skills, it is expected that their participation in in-service training programs will help them upgrading their skills and build confidence in what they do. However, this does not seem to be a priority area to the authorities because 82.5% of those surveyed pointed it out as an important problem.

Although the overall number of extension agents in the country is extremely small in relation to the number of people whom these agents have to serve, in relative terms, few of the respondents considered the shortage of extension personnel as a problem, placing it at the bottom of the list. It is, however, important to note that the shortage of extension professionals has been recognized as one of the most serious problems of agricultural extension at a national level (Task Force on Agricultural Extension, 1994).

One surprising outcome of this survey is that 32 % of the respondents identified language barrier as an important problem. The official language is Amharic but as there are over 80 ethnic groups in the country, an equal number of other native tongues are also spoken. In fact, when asked whether they spoke the language of the area where they worked in at the time of the interview, 21.4 % of the respondents responded that they did not. One can question how the agents can discharge their duties efficiently in a situation where they have to talk to their target population through interpreters. The technical leaflets distributed to the farmers also reflect the apparent lack of appreciation of the

language barrier. Out of 45 respondents who reported to have had experience in distributing technical leaflets in agriculture, 18 indicated that the leaflets were prepared in languages that the farmers could not understand.

As indicated in Table 2, 84.5 % of the respondents had the feeling that extension agents were overloaded with different assignments, which were in most cases not related to their normal duties. This becomes crystal clear when one looks into the type of activities performed by the agents. Table 3 presents, in order of importance, the activities in which the respondents claimed to have been engaged while working as extension agents.

Table-3: Involvement of extension agents in various activities

Activity	Number of times cited	Percentage of respondents
Distribution of inputs	76	73.8
Collection of loan repayments	73	70.9
Distribution of credits	56	54.4
Agitating farmers to become members of cooperatives	55	53.4
Collecting taxes	37	35.9

Source: *Survey Data*

One can deduct from the above table that extension agents are not given the liberty to concentrate on their efforts to promote improved technologies and identify the production problems of the farmers and eventually bring them to the attention of researchers. It is however worth noting that some of the activities, such as the distribution of inputs and credit could be well handled by the agents provided that complicated administrative red tape are not involved and they do not take much of the agents' time. Even then this needs to be done with maximum care as it may affect extension agents' relationship with farmers.

Another interesting outcome of this study is the respondents' view on the degree of farmers' participation at different stages of extension work. The results show that the farmers' participation in research problem identification, problem prioritization and in extension program planning is very low (see Table 4 below).

Table-4: Distribution of respondents by their judgement on the degree of farmers' participation (Percentage of respondents)

Type of participation	High	Low	Non-existent	No response
In research problem identification	13.6	23.3	58.3	4.9
In problem prioritization	24.3	49.5	23.3	2.9
In extension Programming (field days, farmers' days, selection of training themes)	25.2	49.5	21.3	3.9

***Source**: Survey Data*

A closer look at Table 4 indicates that farmers' degree of participation is variable depending on the type of activity. However, what comes clearly out of the table is that on the whole farmers have a very marginal contribution in designing and formulating extension activities. Given this state of affairs, one cannot expect a complete success from extension programs formulated without the active participation of the target population. The survey results reveal also that farmers and extension agents have very intimate working relationships. In this regard, 93.2 % of the respondents pointed out that farmers come to their offices for consultation and 89.3 % stated that farmers request them to visit their farms and help them solve problems of different nature. Of course, as this is the extension agents' opinion it needs to be taken with greater caution and must be squared with the farmers' view on the nature of their relationships with the agents.

The agents use both group and individual methods in communicating new ideas to farmers. For instance, 76.7 % and 71.8 % of the respondents reported that they organized farmers' training programs and field days, respectively. However, there was clear indication that because of budgetary reasons both training programs and field days were not organized on regular basis. Regarding the most frequently used methods in communicating new ideas, respondents were made to choose among different methods, which they employ frequently and the responses are summarized hereunder:

Table-5: Most frequently used methods of communication

Method of communication	Percentage of respondents
Through contact farmers	47.6
By arranging public meetings at a specified day	20.4
By going from door to door	16.5
By organizing farmers' day	5.8
During holidays, in public gatherings	5.8
By using posters and pamphlets	1.0

Others (personal knowledge, unplanned meetings)	2.9

Source: *Survey Data*

Table-5 shows that many of the respondents frequently use the contact farmer approach. Given the fact that the number of agents is limited, the contact farmer approach was found to be appropriate because agents can work in close relationship with few farmers only who in turn are expected to share their experience and skills to a number of follower farmers. This approach has been adopted at a national level since the late 1980s and is now gaining real impetus on the ground that it will help strengthen the proper functioning of the extension service.

5. CONCLUSION

This paper looked into the factors that affect agricultural extension work in Ethiopia. It is believed that this study, although limited both in its coverage and scope, provides information to all concerned in agricultural development so that they can make informed decision.

The results of the study reveal that extension agents work under very difficult conditions. Therefore, the Government should adopt very responsible and pragmatic approach to improve the current working conditions of the extension agents, such as transportation, housing and adequate budget allocation. Over the years, the involvement of extension agents in non-extension activities has played against their reputation as development workers. Many people in rural areas continue looking the extension agents as Government prolocutors rather than facilitators in the rural development endeavor. Therefore, if agents are to spearhead rural transformation in the country, their duties should be clearly defined and they should not be made to handle other responsibilities that will compromise their real professional integrity.

The study shows also that poor research-extension linkage is equally responsible for the current low level of agricultural production. The fact that agricultural research and extension are carried out by two different bodies with very limited contact and working relationships, has made it very difficult to develop and disseminate technologies adapted to the farmers' conditions. It is only when extension and research activities are complementary that fruitful results can be obtained. Consequently, concerted efforts need to be made to create a seamless web between the two. As it is impossible to expect success from rural development interventions formulated without the active participation of the target population, farmers should be empowered and encouraged to participate in the planning and execution of extension programs.

REFERENCES

BEFEKADU, D. & BERHANU, N. (EDS.), 1999/2000. *Annual Report on the Ethiopian Economy*, Vol I, Addis Ababa: The Ethiopian Economic Association.

CSA (CENTRAL STATISTICAL AUTHORITY). *Ethiopia, statistical abstract*. Various issues. Addis Ababa: Ethiopia.

EPID, 1970. *A master plan for extension and project implementation Department*, Ministry of Agriculture Publication Nº 1. Addis Ababa: Ministry of Agriculture.

MENGISTEAB, K., 1990. *Ethiopia: Failure of land reform and agricultural crisis.* New York: Greenwood Press.

MOA (MINISTRY OF AGRICULTURE), 1997. *Implementation of the national extension intervention programme in the 1996/97 production year.* (in Amharic), Addis Ababa.

MOA, 1999. *Implementation of the National Extension Intervention Programme in the 1998/99 production year,* (in Amharic), Addis Ababa, MOA.

TAKELE, G., 1997. *Sasakawa Global 2000 in the Intensification of Agriculture in Ethiopia*, Paper Presented in the 13th International Conference of Ethiopian Studies, Koyoto: 12-17 December.

TASK FORCE ON AGRICULTURAL EXTENSION, 1994. *A study on the Ethiopian Agricultural Extension System* (in Amharic), Addis Ababa: Ethiopia.

TESFAI, T., 1975. *The Evolution of Alternative Rural Development Strategies in Ethiopia: Implications for Employment and Income Distribution,* African Rural Employment Paper No 12, Michigan State University, Department of Economics.

NOTES

1. *Up to 1943 the responsibility for agricultural matters in Ethiopia was vested in the Ministry of Commerce, Industry and Agriculture. By a law issued early 1943, a Council of Ministers and twelve Ministries were set up. One was the Ministry of Agriculture.*

2. *With the change in government in 1991, on the basis of ethnic, linguistic and cultural identity, the country was divided into 9 semi-autonomous administrative regions, one federal capital (Addis Ababa) and one special Administrative division*

(Dire Dawa). At present, extension activities are the entire responsibility of regional agricultural bureaus.

3. *There was no respondent from the Gambella National Regional State.*

4. *The table shows that about 81 percent of the respondents are drawn from three regions (Oromia, Amhara and Southern Nations, Nationalities and Peoples). The reason for this is that 85 percent of the rural population of the country is found in these regions (Befekadu and Berhanu, 1999/2000). These regions account for the quasi-totality of the nation's agricultural production. Similarly, about 89 percent of the extension agents are stationed in these regions.*

5. *Birr is the Ethiopian national currency. The exchange rate is currently determined by inter-bank exchange of currencies and it is around 1 US = 8.55 birr.*