

A CRITICAL APPRAISAL OF THE AGRICULTURAL EXTENSION SERVICES  
IN MALAWI

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ABSTRACT

The agricultural extension services in Malawi were extended to the farmers through individual contacts in the sixties and group contacts in the seventies. Since 1981, the Block Extension System (BES), a modified Training and Visit System, is operating through the eight Agricultural Development Divisions (ADDS) to transfer technology to the small holders. The major thrust was on monocropping, cash crops and fertilizer application. The BES has been promoting blanket recommendations with little reference to local farmers' conditions. Consequently the adoption of recommendations was low (around 25 per cent). Need based messages, e.g. those in relation to cassava mealy bug, were, however, well accepted and helped to improve the farmer-extension-research linkages. Despite the fact that women played a major role in the production of food crops, only 7.5 per cent of the Field Assistants are female. The country has, otherwise, a sound institutional frame-work for providing extension services to the small holders. There is a need to develop acceptable technological packages for subsistence

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crops, to make extension advice relevant to the farming system in each area and to ensure that this advice is technically sound and financially attractive to the farmers. This could be achieved through the Adaptive On Farm Research Teams (ARTS) which are operating in 5 ADDS. There is a need to train the extension staff on mass communication techniques and orient them towards farming system concepts. It is also recommended that (i) the ARTS should be implemented in all the ADDs and the researchers should plan their programmes in close cooperation with the ARTs and (ii) to extend the technological messages to women farmers, more females should be recruited, trained and posted as Field Assistants.

Key Words: Block Extension System, Need based messages, Adaptive On-Farm Research Teams, Farmer-Extension-Research Linkages.

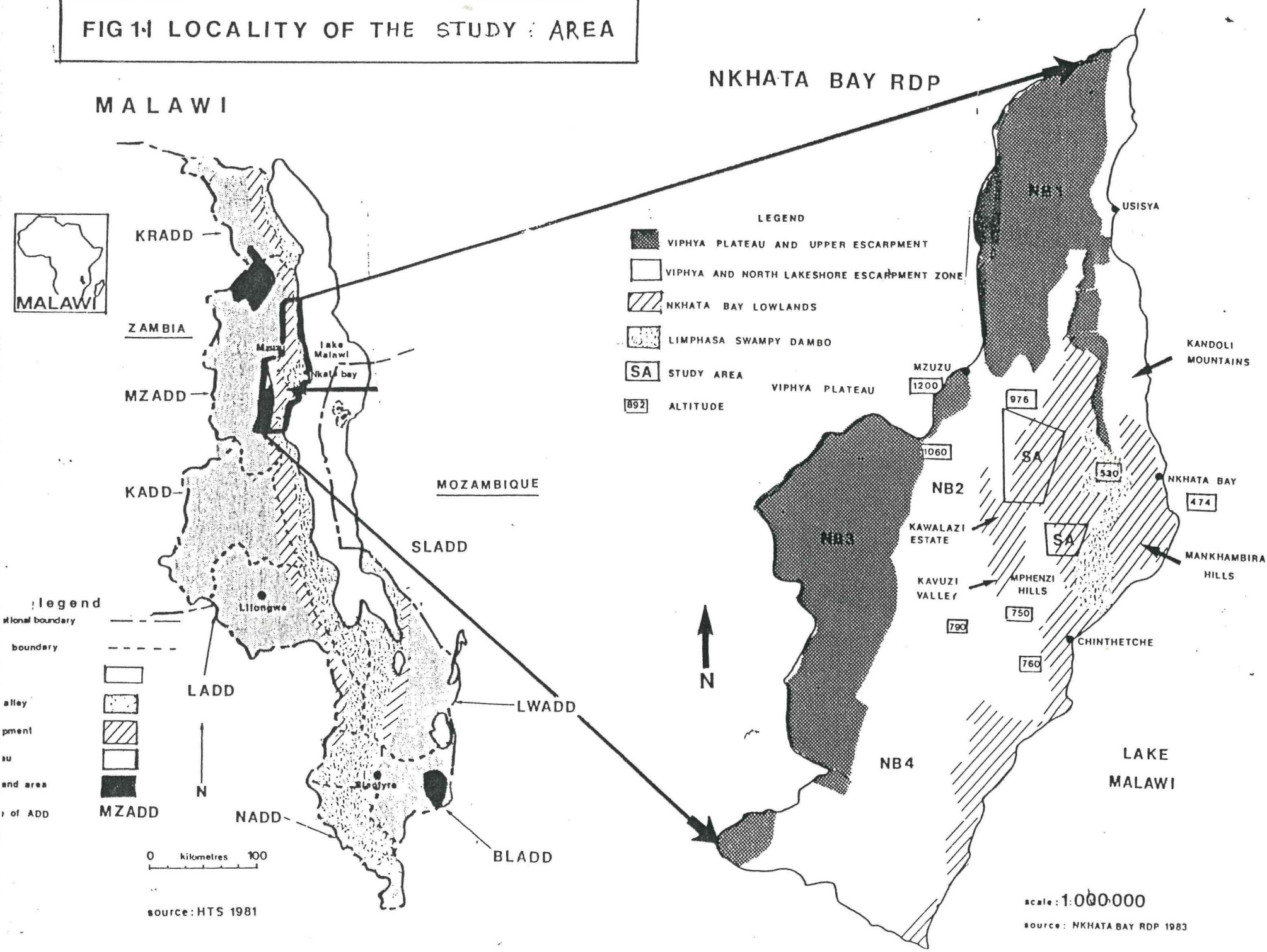
## 1 INTRODUCTION

### 1.1 Location of Malawi and contribution of agriculture towards national economy

Malawi, a land-locked country, bordering Tanzania to the Northeast, Mozambique to the East, South and South-West and Zambia to the West, is located between 33-36°E longitude and 9-17°S latitude (Fig.1). The country, with an annual population growth rate of 3 per cent, has a per capita income of about 200 US \$ per annum (Hao et al., 1987). In the absence of sufficient non-agricultural resources, Malawi continues to depend heavily on the ability of the farming community to intensify and diversify agricultural production both for internal consumption



FIG 1: LOCALITY OF THE STUDY AREA



0 kilometres 100

source: HTS 1981

scale: 1:1,000,000

source: NKHATA BAY RDP 1983

and export. In fact, the agricultural sector (comprising estates and small holders) is the core of the country's economy, although its contribution to the Gross Domestic Product declined from 57 per cent in 1964 to 48 per cent in 1985. About 86 per cent of the foreign exchange earning is from cash crops

(tobacco, tea, sugar, groundnuts etc.) which engaged 85 per cent of the rural population and accounted for 47 per cent of wage employment, mainly by estate sector (Economist Intelligence Unit, 1986). Therefore, agricultural research and extension services had been biased towards cash crops.

#### 1.2 Department of Agricultural Research and Department of Agric

In 1983, realizing the need to improve the small holder sector <sup>for</sup> further development, the Department of Agricultural Research (DAR) was restructured with an emphasis on small holder crops. The focal point of the new structure is the integrated multidisciplinary approach through commodity teams, headed by team leaders, who report to research coordinators. Seven national research co-ordinators (NARC) supervise the work of all teams, grouped into: Cereals, Horticulture, Grain legumes, oilseeds and fibres, Livestock and Pastures, Engineering and Land husbandry and Adaptive On-farm Research Team (ART) (IBRD, 1985). The crop and animal production technology, developed at research stations (Evumbe in the South, Chitedze in the Central and Lunyangwa in the North) are extended to the small holding farmers through the Department of Agriculture (DOA). To increase the efficiency and scope of agriculture services, the country

has been divided into eight Agricultural Development Divisions (ADDs), viz., Karonga, Mzuzu, Kasungu, Lilongwe, Salima, Liwondalantyre, and Ngabu (Fig.1). Subject matter specialists on crops, livestock, land husbandry, credit and marketing, women's programme and visual aids are attached to each ADD. The ARTs, intended to provide the necessary feedback for 'Technical Component Research', do not operate from research stations, but from the ADDs and are, therefore, closely linked to extension (IBRD, 1985; DAR 1983a and DAR 1983b). They are responsible to the ADD manager and their leader is a member of the ADD management. It was planned to implement all of them in 1985, but only five were operating till 1987 (Hekstra et al., 1988). The ADDs are geographically subdivided in Rural Development Projects (RDPs: 40 in total out of which only 31 are functional), which are in turn divided into Extension Planning Areas (EPA: 200 in total) usually based on agro-ecological zoning. In the EPAs, field assistants (FAs) extend their message to the farmers. Each FA has one section which he subdivides into 5-8 blocks (Malindi, 1986). The organisational structure of the DCA/ADDs/DAR is shown in Annex 1A, B and C.

### 1.3 Need for Reviewing Agricultural Extension Services:

In 1987, a multidisciplinary and multinational team of young agricultural scientists (authors of this paper) made an analysis of the cassava based farming system of the



Nkhata Bay<sup>1</sup> lowlands, Malawi, as a part of the Sixth International Course for Development Oriented Research in Agriculture (ICRA), Wageningen, The Netherlands. The team was especially asked to critically look into the functioning of Agricultural Extension Services (AES) since the adoption of extension messages was low (about 25 per cent) for which the AES were, in general, held responsible. The observations made by the team, on AES in Malawi, based on secondary information, including two previous ICRA studies, individual discussions with officials at national, divisional and project, level, the reconnaissance survey, the exploratory survey, a case study and three workshops - two with the farmers and one with the research and extension scientists and administrators at the project, division and national level, are reported in this paper.

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<sup>1</sup> The Nkhata Bay (NB) RDP is located in the Northern Region, borders Lake Malawi and is one of the four RDPs constituting the Mzuzu ADD (Fig.1). It consists of five EPAs, namely Chikwina (NB<sub>1</sub>), Mpamba (NB<sub>2</sub>), Chiteka (NB<sub>3</sub>), Chinteche (NB<sub>4</sub>) and Likoma Islands (NB<sub>5</sub>). The study area in the RDP is marked as 'SA' in Fig.1. Out of the five EPAs, NB<sub>1</sub> is excluded from AES as mainly coffee is planted there. For operational purposes, NB<sub>3</sub> is combined with NB<sub>2</sub> and NB<sub>5</sub> with NB<sub>4</sub> due to lack of staff (Moyo, B.S. Personal Communication, 1987).



## 2. REVIEW OF THE AGRICULTURAL EXTENSION SERVICES (AES)

### 2.1 Historical background

During the first decade after independence (1963), services were extended to the farmers through INDIVIDUAL CONTACTS [Extension Aids Branch (EAB), 1987]. This system had the following severe drawbacks:

- Limited coverage of the farming population, because of a shortage of funds and technical personnel
- An inherent personal bias of contacting easily approachable and influential farmers
- Lack of essential support of the traditional leaders

In the early seventies, this system was replaced by the GROUP APPROACH, which aimed at extending the messages to the entire farming community. Farmer groups were formed either on the basis of crops or on the basis of farming activities. The available technologies were demonstrated through group meetings and field days and followed up with visits to individual farmers. Although farmers' coverage improved (EAB, 1987) the group approach had drawbacks too.

- The farmers' groups were often used to channel seasonal credit. Consequently, non-credit seekers (mostly poor farmers who could not afford the risk of taking credit) stayed away from the group meetings (ICRA, 1986; Moyo, 1986). Thus well-off farmers benefited more than the poor farmers (Malindi, 1986).
- The extension staff were under no pressure to plan their work clearly and they did not cover their areas widely and thoroughly enough (Moyo, 1986).
- The traditional leadership was not involved and obviously their support was lacking.

## 2.2. The Block Extension System (BES)

In 1981, the group approach was modified into the present Block Extension System (BES), also known as the modified Training and Visit (T and V) system (Moyo, 1986; Malindi, 1986). The modus operandi of the current AES is described in section 1.2. The field assistants (FAs) are supposed to meet all farmers in each block at least once in a fortnight at a pre-determined place, date and time in agreement with the local leaders (village headmen or party leaders) (EAB, 1987). The BES is to operate under the following conditions:

- Each block should have 30 to 100 farm families, who have to form a co-ordination committee and to set up a block house and garden for meetings and demonstrations.
- Extension staff to undergo frequent training, transfer technology to farmers based on a calendar of farm activities and to spend 60 per cent of their time in group activities and the rest in individual contacts, as a follow-up (EAB, 1987; Moyo, 1986).

## 2.3 Limitations of the BES

The BES did not have the desired impact. At the national level, the adoption of extension messages is only about 25 per cent and is even lower in the Nkhata Bay RDP.<sup>1,2</sup> Many of the reasons, given below, for poor performance of the BES are also mentioned in other reports (e.g. Anonymous, 1985; ICRA, 1986; and IERD, 1985):

- The sections have been divided into blocks according to the physical-geographical boundaries and not on the basis of socio-economic and cultural settings. Therefore, people in the same section may have conflicting interests which sometimes lead to quarrels in the group meetings.

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<sup>1</sup> Personal Communication, Malindi, E.S. 1987.

<sup>2</sup> Personal Communication, Moyo, B.S. 1987.

- Farmers are supposed to construct their own block houses and maintain their own block gardens. Table 1 shows that most of the blocks do not have these houses and gardens. In fact, Nkhata Bay has the lowest number of them and the number is declining (Hekstra et al., 1988). This is ascribed to the fact that the Tonga (the predominant tribe) have a limited interest in group activities except when the activity is totally in accordance with their individual interest (Moyo, 1987).<sup>2</sup> Most farmers, therefore, prefer individual contacts with the FAs.

Table 1. Basic information on Block Extension System in the MADD

R D P	Sections	Villages	Blocks	Block Gardens	Block Houses	Farming Families (FF)	FF per Section	FF per Bl
MADD	188	1,610	935	454	315	101,134	538	1
Nkhata Bay	31	175	160	16	4	18,486	596	1
Mpamba EPA/NB2	20	143	89	11	2	13,836	692	1

Source: Moyo, B.S.1986.

- In certain sections (e.g. Gulugulu and Chipwaila), the local leaders are not farmers and have little interest in farming activities. Approaching farmers through such leaders is not enhancing the extension activities.
- Extension services are promoting blanket recommendations with little reference to local climate or soil conditions or acceptability with regard to labour and agricultural inputs. A classical example is planting on ridges which is recommended under all topographical conditions for all the crops including millet. Millet is a minor and low yielding crop. Ridging in millet would not be worth the labour spent on it. The farmers were, therefore, wise enough to outrightly reject this recommendation for millet. In general, technical packages have focused on monocropping cash crops and fertilizer application to maize. In Gulugulu section of Mpamba EPA, application of recommended fertilizer to maize, in demonstration plots conducted by the FA, resulted in crop lodging and recorded only 5-10 per cent increase in yield. In the Mulanje area, the returns to fertilizer application in maize were only MK8/ha for basal dose and MK36 to MK43/ha for top-dressing sulphate of ammonia and calcium ammonium nitrate which cannot be considered attractive (ICRA, 1985).



Insufficient attention has been given to subsistence crops (cassava, local maize, sweet-potato, pulses, sorghum, millet, etc.)

- In spite of the fact that about one-fourth of the households (close to 28 per cent at the national level) in the study area are headed by women, the number of female FAs is only 1 out of 20 in Mpamba EPA, 4 out of 31 for Nkhata Bay RDP and 26 out of 259 for Mzuzu ADD. At the national level only 7.5 percent of the FAs are women. Women farmers being busy on farms, as well as with household chores, send their husbands to the group meetings. This often results in a communication gap between the FAs and the women farmers.
- Due to limited staff, there are more than the recommended number (30-100) of farming families in a block (Table 1). The average number of farming families to be contacted by a FA often exceeds 1,000 (e.g. in Mpamba) and even, though rarely, 2,600 (i.e. Usisya).- Thus, it is difficult, if not impossible, for the FAs to meet all the farmers. In the difficult areas like the Nkhata Bay RDP, the ideal number of farming families per block appears to be around 35 (equal to about 200 farming families per FA).
- The FA has to look after input supply and credit administration functions and is supposed to perform many other tasks (Annex 2). The FA, it seems, has an excessive work load and he is not properly trained to carry out all the activities e.g. child care, home economics, etc. In particular, FAs are not skilled in creating awareness, communication, group behaviour and group dynamics (Moyo, 1986). In-service training in some subject matters has been inadequate and transport and other logistics have been a serious problem.
- There is constant change in managerial staff and an absence of structured career development opportunities or incentives for high achievement (IBRD, 1985).
- Extension services do not get adequate support from the supporting organisations e.g. EABA. The EAB has no updated materials (handbooks, printed materials, tapes, films, teaching aids, etc.) for distribution to the farmers or training the extension staff and the farmers. Extension advice is based on the AGRICULTURAL HANDBOOK OF MALAWI, which has not been updated since 1971. Due to a lack of funds, only a few farmers receive training ~~the~~ in the Day Training Centres and Residential Training Centres (Hekstra et al., 1988). In some sections e.g. Gulugulu, no farmer has been sent for training since 1984. The recruitment is also poor. The EAB printouts for distribution to the farmers are too few to reach a significant portion of the farming community.

- Radio programmes on agriculture are broadcast throughout the country. Village headmen were distributed radios in 1970 which are no longer functioning. Very few farmers have radios to listen to the programmes.
- The planning and budgeting system is inadequate and does not link investment objectives and priorities with resource availability.
- There is a limited direct contact between research and extension. At the top level, there is some linkage between CARO and CAO through a Research Liaison Officer. At the AI RDP level, the subject matter specialists (SMSs) address the FAs once in a month to make them aware of the new enterprises and developments in technology (if any). Extension staff are, however, mostly unaware of recent research findings.

#### 2.4 Observations from the case study on AES in Nkhata Bay RDP:

Due to hilly terrain, scattered houses, poor infrastructure and transport facilities in the RDP, it is difficult for a FA to contact a large number of farmers. The performance of the FAs in the study area, who have to contact on average 370 households per month (65 per block), cannot be considered bad because a majority of the farmers were aware of the extension messages. If the farmers do not follow the recommendations, particularly the credit packages and planting on ridges, it would be unfair to blame only the extension services or the farmers. The reasons are explicit in the message from His Excellency the Life President, Dr. H. Kamuzu Banda: "CLEARLY FARMERS REJECT AVAILABLE TECHNOLOGIES NOT BECAUSE THEY ARE CONSERVATIVE OR IGNORANT BUT BECAUSE THEY RATIONALLY WEIGH THE CHANGES IN INCOME AND RISKS ASSOCIATED WITH THESE GIVEN TECHNOLOGIES UNDER THEIR NATURAL AND ECONOMIC CIRCUMSTANCES AND DECIDE THAT FOR THEM THE TECHNOLOGY DOES NOT PAY," [CIMMYT's Farming Systems Newsletter (1984) 7].

The same messages have been repeated in recent years. This was one of the reasons for little attendance in the farmer meetings and for the number of farmers contacted by the FAs to decline. However, the situation took a favourable turn after the mealy bug (CMB) attack on cassava (Table 2) when more farmers contacted FAs for remedial measures. The first message from the extension was to uproot and bury or burn the infected plants which was rejected by the farmers. The extension service modified the messages into early planting (November to mid-January), keeping fields weed-free, growing early maturing varieties like Gomani and Chitembere and early harvesting. Farmers were advised to diversify their cropping system with maize, bananas, sweet potatoes, yams and cocoyams. In another case study on CMB, it was found that many farmers were aware of these messages and were following them in the ongoing crop



season (Hekstra et al., 1988). This is basically because the messages, in relation to CMB, were need-based and fitted very well in the farmers' circumstances. Therefore, the task of the scientists, both research and extension, is to incorporate a knowledge of farmers' circumstances into the design of technologies so that they are consistent with those circumstances.

Table 2. Contacts between FAs and farmers in Mpamba EPA

Year	FAs	Number of contacts	
		Total	Per FA
1982/83	11	26,400	2,400
1983/84	12	25,920	2,160
1984/85	16	33,600	2,100
1985/86 <sup>1</sup>	18	54,000	3,000

<sup>1</sup>The year of mealy bug attack on cassava.

Source: D.O. Mpamba EPA, Nkhata Bay RDP, Malawi.

## 2.5 Future Outlook

The country has a sound institutional framework for providing extension services to the smallholder farmers. To improve the efficacy of the AES, the findings and recommendations by the 1982 review of the National Rural Development Programme should be implemented. This review highlighted the need to develop acceptable technological packages for subsistence crops, to make extension advice relevant to the farming system in each area and to ensure that this advice is technically sound and financially attractive to the farmers. This could be achieved through the ARTs.

There is a need to train the extension staff on mass communication techniques and orient them towards farming system concepts. The staff training should be based on the identification of job specific training needs analysis. The EAB could produce a wide range of training and teaching material.

It is also recommended that (i) ARTs should be implemented in all the ADDs to strengthen the research-extension-farmer linkage. The extension services, based on their experience on constraints to and opportunities for agricultural development, should plan their programme in collaboration with the ARTs. Results of the ARTs' work should then be taken into account for further 'Technical Component Research' by NARCs and (ii) more females should be recruited, trained and posted as FAs to extend the technological messages to women farmers.



## 2.6 Concluding Remarks

Generation and transfer of need based technology, based on an indepth understanding of the farmers' problems and circumstances, is a pre-requisite for alleviating hunger and accelerating the pace of agricultural development in the developing countries. The miraculous growth of agriculture in the Punjab state of India, which contributes nearly 60 per cent to the national foodgrains pool, is attributed mainly to the generation and transfer of need based technology by its agricultural scientists most of whom have their roots in the farming community. The other States/countries can make a move on the path of agricultural progress shown by the Punjab, India.

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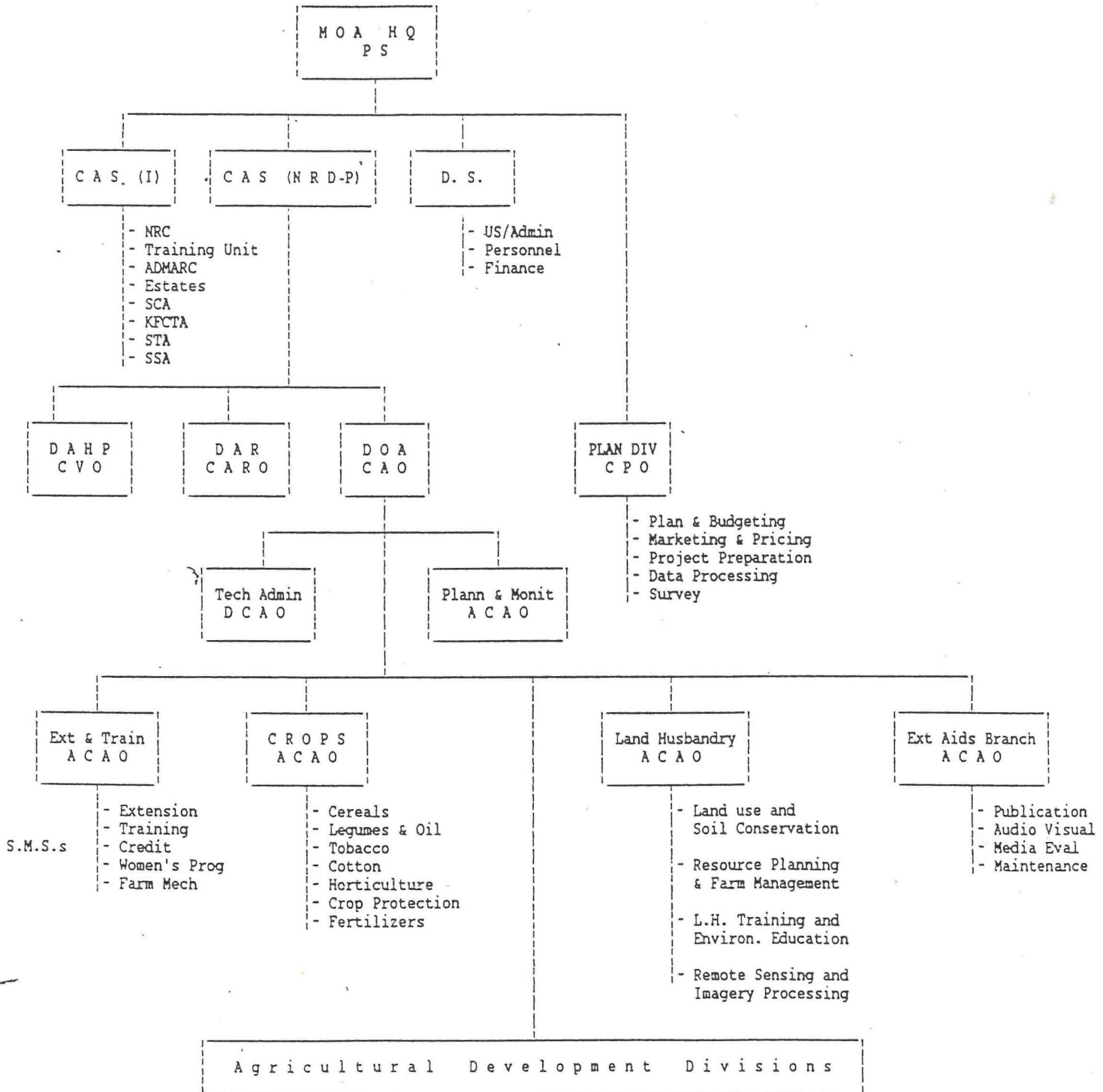
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ANNEX 1 ORGANIZATIONAL STRUCTURE OF THE MINISTRY OF AGRICULTURE AND ITS DEPARTMENTS

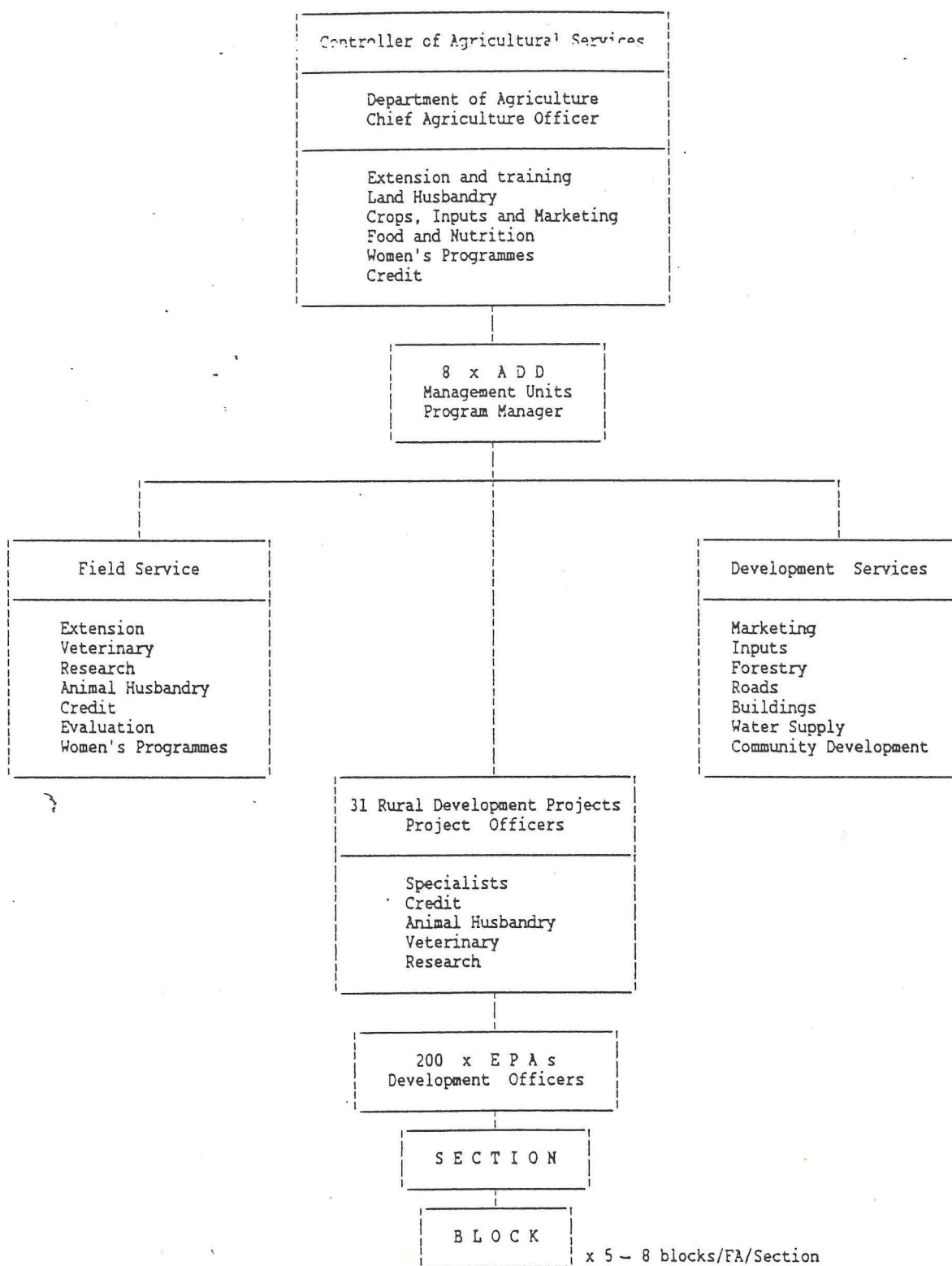
A. Organizational Structure of the Ministry of Agriculture



C.A.S. = Controller of Agricultural Services  
 N.R.D. = Department of Animal Health and Production  
 D.A.R. = Department of Agricultural Research  
 D.O.A. = Department of Agriculture  
 S.M.S. = Subject Matter Specialists

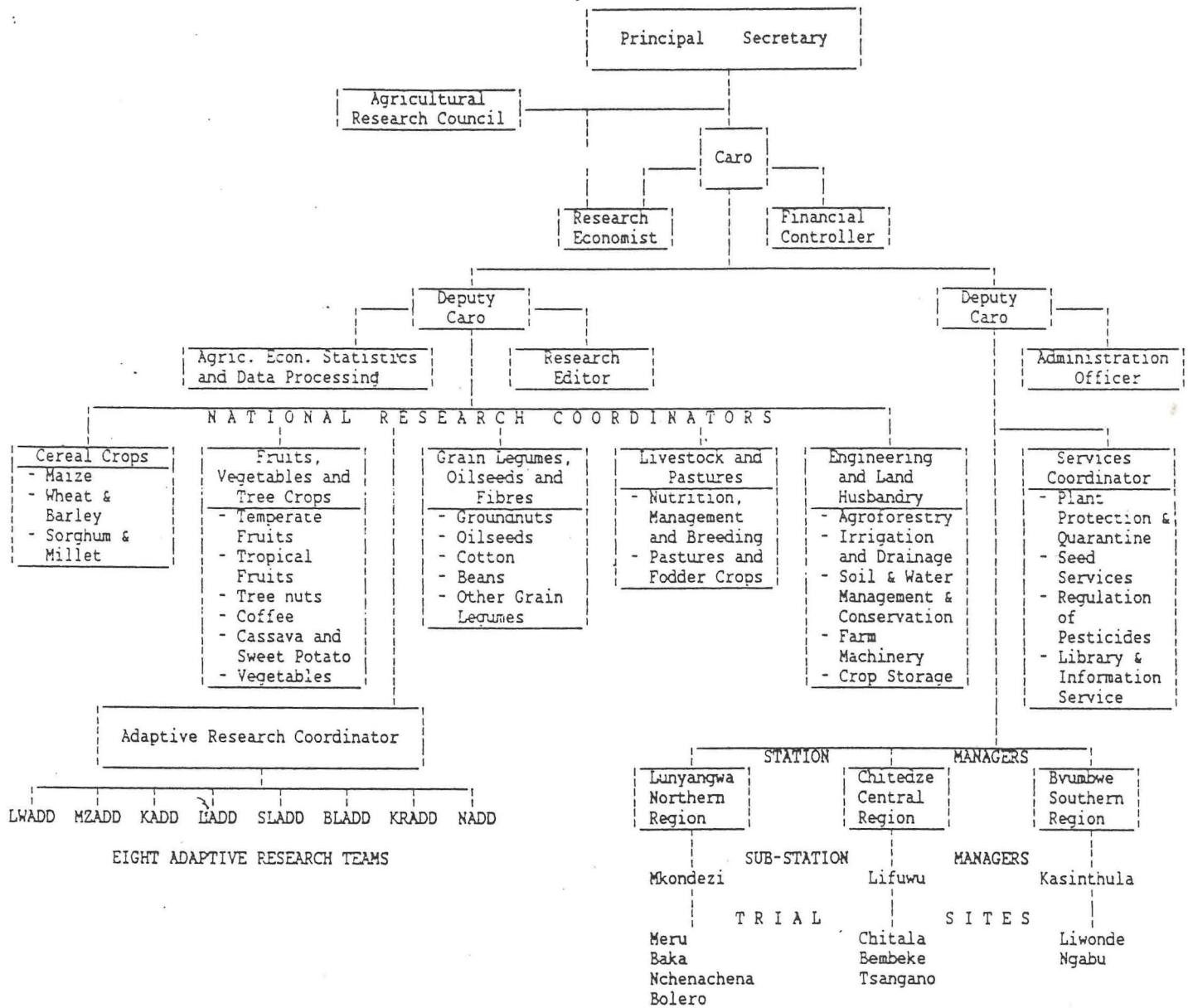
Source: MOA, Internal Report 1987

8. Organizational Structure of the Department of Agriculture



Source: MOA, Internal Report, 1987  
IBRD, 1985 .

C. Organizational Structure of the Department of Agricultural Research (Proposed 1985)



Source: IBRD, 1985



## ANNEX 2 TASKS TO BE PERFORMED BY A FIELD ASSISTANT IN MALAWI

1. Assist the smallholder farmers to identify their needs and wants and enable them to take action in satisfying their needs and overcome problems.
2. Influence the rural people and motivate them to find better means and ways to promote their conditions and attain better living.
3. Assist smallholder farmers to gain new skills and techniques and adopt new and better attitudes towards various aspects of living.
4. Assist rural women to gain new knowledge and skills related to home-making, home economics and child care.
5. Assist in educating the rural youth to become self-reliant in solving their problems and prepare them for future leadership roles.
6. Raise the level of productivity of the farmers and familiarize them with the various options available.
7. Free farmers from traditionalism by teaching them new concepts and better habits.
8. Publicize and generalize the success achieved at certain places to less fortunate areas in other parts of the country to multiply their positive effects.
9. Exert the greatest effort to place the results of research in the hands of the farmer so that no gap in his level of knowledge and performance would develop as to hamper the application of science to his farming operations.
10. Assist in the administration of credit, farm management and marketing.

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<sup>1</sup> Source: Malindi (1986)