

Agricultural extension coverage under different management systems : status of small farmer

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Abstract

In developing countries, small scale farmers make substantial contribution to the national economies. It seems that in numbers they tend to increase, although they claim for a small percentage of cultivated extent. Further, in many instances, they distributed in a wide area so that often rural development programmes were confronted with the problem of reaching them. Today, we regard agricultural extension as one of the key instruments used in rural development programmes. However, it is evident that past extension approaches have shown a tendency to deal with small number of farmers and often, small scale farmers were not reached. Hence, extension coverage was rather limited to a small percentage of farmers but not to the vast majority. This environment warranted new extension strategies, modifications to the existing systems and also urged governments to take policy measures to secure the status of small farmers, at least to sustain them. Since mid-seventies, the well known Training and Visit (T&V) System of Agricultural Extension was introduced to many developing countries to overcome the problems identified in extension organizations. Specifically, it aims to extend the extension coverage to a wider clientele. The Sri Lankan agricultural framework was re-oriented according to the guideline of the T&V extension management system in late seventies after implementing the system on a pilot scale in a dry zone district. However, with the recent introduction of decentralized Provincial Council (PC) System in the country, the single line of

command deployed by the T&V management was affected as the front line Village Extension Workers (VEWs) were moved from the Department of Agriculture to the administrative purview of the local government authorities. Exploring the field situations under T&V management system and present system, this paper attempts to highlight some facts concerning the status of small farmer with respect to extension coverage. The findings imply that frequency of farmer contacts on agricultural activities by the field officers has drastically declined during the reference period limiting the extension coverage. Therefore, there is an urgent need to reconsider the issues which affected the agricultural extension system after the introduction of recent reform.

Introduction

Poverty problem in rural areas revolves mainly around the productivity and incomes of small farmers. In the world, the great majority of the absolute poor, 90 percent, consists of people who work on farms or are involved in part-time agriculture. More than half are small farmers. Another 20 percent do cultivate in farms. The remaining one-fifth to one-quarter are landless and their livelihood is particularly precarious (World Bank, 1982,79). It has been estimated that more than 50 million farm families cultivate less than one hectare. Between one-fifth and one-quarter of the people of the world are overwhelmingly rural, landless labourers or farmers with no more than one hectare (Lipton, 1980,15). In the last decade small farmers' problems were seriously stressed by many policy makers and rural development workers. The address made by McNamara (1975,14) provides a fine example. The dramatic technical change, popularly known as 'green revolution' which has taken place in agriculture has undoubtedly offered benefits to the whole population in those countries where it took place. But rapid increase in the agricultural production and reduced prices of agricultural

commodities have also reduced real incomes of the farmers who are with low access to resources such as irrigation water, land, agricultural supplies, marketing, extension and other components of the 'developing mix'.

Sri Lankan agricultural economy has two sectors. The plantation sector is mostly restricted to cultivation of export oriented crops, tea, rubber, coconut and minor export crops. It has shown a significant development since the foreign rule. However, the rural or peasant sector which is responsible for the production of food for the nation was neglected till the independence. It consists vast number of small scale farmers. Therefore, their problems were accumulated to a great extent mostly because the agricultural policies were not mounted to incorporate the small farmers to the national economy. Fortunately this fact was realized and measures were taken to improve the rural sector. As a result, agricultural research and extension took new dimensions. As a group, small farmers can affect the national economies of developing countries substantially. They form an important production and consumption category. Moreover, although their proportion in total population might decrease, but it seems unlikely that decline in absolute numbers in the foreseeable future. Fortunately, it is now more widely recognized that development efforts should be designed to reach small farmers more effectively. Promising strategies to assist small farmers, such as targetting technology development and extension, farming systems research (FSR), farmer participatory approach (FPA), etc., are still not widely adopted. In fact, the problem is in the stage of general 'lip service'.

Past Extension Efforts : Imperfection in the conventional approach

During the past two decades, agricultural extension has gained ground in development programme. As one of the de-

velopment instruments available, agricultural extension has made various efforts to reach small farmers within the framework of national development goals. However, most of the extension approaches have been concentrated on small numbers of innovative farmers in order to achieve national food production objectives as fast as possible. This approach has shown a considerable success in many developing countries, leading to significant increases in total agricultural production. But it often has had adverse effects on small producers. This approach has contributed to an increase in disparities between farmers (Roling et al, 1976). There is a strong case for saying that because government extension services have not been aimed at the poor sectors of farmers (Hunter, 1981,16). The following examples illustrate the point. In Kenya's central province, extension efforts concentrated on progressive farmers. But those were successful in raising the productivity of only 10-15 percent of the farmers (Adams, 1982,49). In India, several institutional arrangements have been made to help the small farmers to adopt improved farm technology but farmers' responses have been quite insignificant. It has been recognized that the benefits of improved technology accrued mostly to the large farmers due to the fact that the resources needed for the adoption of new technologies were only held by them (Jaiswal and Srivastava, 1976). In a nutshell, within the context of past national food production goals, in many developing countries agricultural extension approaches were designed to serve small category of farmers, but not the vast majority. The Transfer of Technology (ToT) model led scientists to determine research priorities, develop technologies in highly controlled conditions and thereafter, pass them over to agricultural extension to disseminate to the farmers. This strategy is very much output oriented and does not make room for client-oriented programmes. In essence, scientists develop a product and extension offers it to farmers (Chambers and Jiggins, 1987). Extension

programmes based on such a strategy have seriously neglected the needs of the resources poor small farmers. Therefore, extension coverage has been highly imbalanced.

Sri Lanka, too, has encountered similar problems while implementing her development efforts. The economy of Sri Lanka largely rests on agricultural production. The agricultural sector contributes one-fourth of the country's GDP (Central Bank, 1990). The rural sector holds 79 per cent of the total population (Department of Census and Statistics, 1986, 21). The staple food crop, rice, as well as other subsidiary food crops are produced in the rural sector but food production was neglected to a great extent till the independence in 1948. Not only the total responsibility for food production rests on this sector, but it has to act as a holding ground for unskilled labour since alternative employment opportunities are severely limited. Hence, it is not an exaggeration to point out the vital need for its urgent improvement. This is a known fact and numerous efforts have been taken to improve the rural sector. However, the majority of agricultural producers have not been able to improve their standard of living. It is evident from a Sri Lankan study that the distribution of benefits following the introduction of high yielding varieties was highly inequitable (Hameed *et al*, 1977, 117). Furthermore, the study illustrates that small farmers with a low capital structure were incapable of benefitting from the modern technology and mostly, benefits were enjoyed by the farmers who have holdings greater than one hectare. Sri Lankan agricultural production mostly rests on small scale farmers. Statistics imply that 42 per cent of small holdings operate less than one acre (0.4 ha) and they account for only 08 per cent of the land area in the small holding sector. In total, there are 1.8 million operators in this sector and the average extent per holding has been estimated to as 1.9 acres (0.8 ha), (Department of census and statistics, 1982). The small holders claim for a considerable percentage in the Sri lankan

agricultural sector with respect to number of holdings. This means that small holding sector provides a holding ground for large number of farm families. Further, small holders are scattered in a wide area. This has made extension operations difficult as there is a severe limitation of extension workers at the field level. Therefore, in order to improve the extension coverage in the small farm sector, it seems that urgent treatments are needed.

The conventional agricultural extension approach uses diffusion model to deliver innovations to the farming communities. It targets innovative or progressive farmers as the contact point for the external source. The assumption made is that the innovation will trickle down from the progressive farmers to the rest. This supposition is attractive, especially to administrators in developing countries, since they are confronted with the problem of serving vast numbers of small farmers with limited numbers of extension workers. For the change agencies, this model seemed to provide a conceptual framework for formulation of cost-effective extension programmes in which they had only to deal with small number of successful farmers (Roling et al, 1976).

However, agricultural extension, so promising of improving productivity and efficiency through greater adoption of new practices failed to make a significant impact on subsistence farmers. The adoption rates in the developing countries usually failed to produce S-shaped diffusion curves covering the whole farming population, particularly in traditional rural areas. Where completion of the S-shaped curves was approximated, it was only in rural areas which were modern in their outlook and approach to agriculture, and had a high access to resources. In less well-endowed rural areas, adoption rates were very low, producing truncated S-shaped diffusion curves (Rogers, 1969, 293). The diffusion process is just not an autonomous process which will ensure trickle down of innovations from one farmers to another

until all the members of the population adopt the innovation. By assuming such automatic process, extension organizations have made significant errors in the past. Hence, time has come to test alternative strategies. At the same time, it is an essential fact to launch evolutionary studies to understand the reliance of such alternatives.

An Empirical Evidence

Above review gives a wide audience to recognize that the conventional extension approach has not benefited the small farmers. Realizing the same fact, scientists were interested in developing alternative concepts. Further, most of the developing countries felt the need of extension re-orientation as they revealed that the existing dissemination systems are not effective in serving the majority. In this environment, the well-known Training and Visit (T&V) System of Agricultural Extension (Benor and Harrison, 1977, Benor et al, 1984) was born. The essence of this approach is a structured work programme for extension workers based on a schedule of regular and time-bound visit to farmers, technical updating sessions for extension agents, a hierarchical organizational framework and exclusive devotion to extension work. Further, it assures the mobility of extension agents and thus extends the extension coverage to a wider area and also to a wider clientele. This approach has received a considerable attention from the donor organizations, especially from the World Bank and it is evident that more than forty developing countries have implemented it. The studies undertaken by Sivayoganathan (1980, 1985), Feder and Slade (1983, 1984), Feder et al (1985 a,b), Hoeper (1988), Slade et al (1988), Wijeratne (1988), Blum and Isaak (1990), Hassanulla (1990), Mpachika et al (1990), Biscoe (1991), Shah and Rose (1991) have contributed to advance the body of knowledge in the context of T&V and further, have provided valuable empirical realizations

for practical implementation of the extension system. Sri Lanka is among the pioneers which introduced the system to the agricultural sector. It was first introduced to a dry zone district, Anuradhapura in a pilot scale and subsequently implemented in all the other districts from maha (wet) season 1979-80 onwards (Department of Agriculture, 1985). Until the recent implementation of the decentralized Provincial Council (PC) System, the routine extension visits for farmers and bi-weekly training sessions for Village Extension Workers (VEWs) were operationalized according to the guidelines of T&V system.

The investigation was carried out in the southern region of Sri Lanka. The area belongs to low country wet zone and the agricultural enterprise is dominated by small scale rice farmers. Randomly selected 100 farmers were subjected to investigation and a pre-tested questionnaire has been utilized for data gathering. Data were collected for maha (wet) seasons, 86-87, 88-89 and 90-91. Further, detailed personal interviews were made with Agricultural Officers (AOs), Subject Matter Officers (SMOs), Agricultural Instructors (AIs), VEWs and Grama Niladharis (GNs). The GNs are multi-duty workers assigned to the village level. Prior to the decentralized provincial council system they served in the sphere of local government authorities and their responsibilities were mostly dealt with administrative, legal, civil and welfare activities but not on agricultural extension work. The VEWs served as village level agricultural extension workers in the context of T&V extension management system. The execution of T&V system was a prime responsibility of the Department of Agriculture and the VEWs were the grass-root level officers in the framework of single line of command attributed to the T&V system. However, the recent reform in 1990 made all the VEWs to take-up GNs functions and further, affiliated them to the local government authorities. In essence, VEWs too became multi-duty workers resting additional responsibilities. The important

fact to realize is that in the present system, the former GNs and VEWs constitute one category with similar functions and responsibilities even though the two varieties have different professional trainings and skills to their credit.

The extension coverage in the extension systems was measured by the degree of interaction between the village level extension workers and farmers for agricultural activities. As the T&V extension management system was operationalized at the field level till the end of 1989, the frequency of interactions for the maha (wet) seasons 1986-87 and 1988-89 was measured on the farm visits made by the VEWs. Same variable for the maha (wet) season 1990-91 was estimated on such visits paid by the GNs in the sphere of existing provincial council system. The visit frequencies were classified into four categories namely, 'zero visits', a visit paid once in three months, once in two months and once a month. The category zero visits implies that extension workers were unable to make a single contact for a particular farmer during the cultivation season. A cultivation season approximates a spell of four months. The fig. 1 illustrates the changing pattern of visit frequencies offered for farmers over the reference period. It implies that the number of farmers who has not received a single contact for the season has increased considerably while the number of farmers who received one contact per month has reduced over the reference period. The general trend is that offer of high visit frequencies by the extension systems has declined limiting the extension coverage. However, it has to be mentioned that the civil unrest occurred during 1988-89 period disturbed proper execution of extension programmes especially at the local level. Therefore, though the study has shown a relative decline of the number of farmers who obtained high visit frequencies in maha (wet) season 1988-89, the above fact has considerably affected the execution of time-bound visit schedule of the T&V extension system.

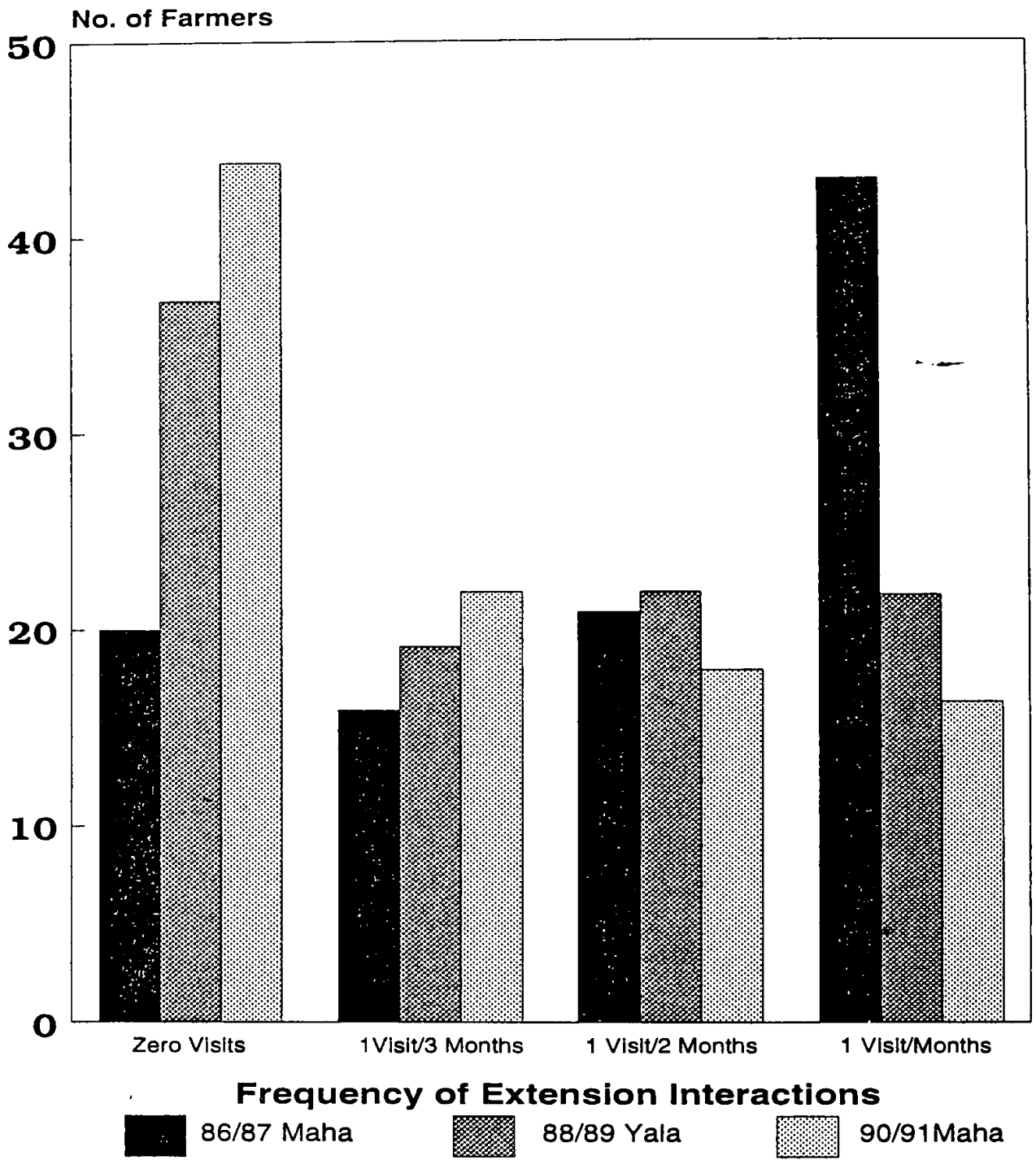


Fig. 1: Changing pattern of Extension Interactions

The data correspond to the maha (wet) season 90-91 imply the farm visit frequencies of multi-duty GNs in the context of existing provincial council administration. The two systems can be compared for extension coverage by analysing the data obtained for maha (wet) seasons 86-87 and 90-91. The table 1 presents the results. It demonstrates that while shifting from T&V to provincial council system, number of farmers who obtained high degree of interactions such as an interaction per month and an interaction per two months has declined. Further, number of farmers with zero interactions has considerable increased. The X^2 analysis has been employed to test the null hypothesis; there is no difference in degree of interaction under two extension management systems. The null hypothesis is valid if X^2 7.815 (df=3, 5% level). However, as the calculated X^2 value approximates 22.51, the null hypothesis has to be rejected and alternative hypothesis ; the different management systems have an impact of the degree of interaction, has to be accepted. In fact, the association is significant at .1 % level. In essence, as described above the two extension systems are differ in their coverage offer and the extension coverage is relatively limited in the present management system.

Table 1 : Degree of extension interaction under two management systems

Farmers	T&V Management System (maha 86-87)		PC Management System (maha 90-91)	
	Percentage	Cumulative percentage	Percentage	Cumulative percentage
Degree of interaction				
Zero contacts	20	20	44	44
Once in three months	16	36	22	66
Once in two months	21	57	18	84
Once a month	43	100	16	100

N = 100 $X^2 = 22.51$

Conclusion

It is evident that most of the past extension approaches were disinclined to serve the small farmers. Instead, they dealt with small numbers of farmers and in many instances, change agencies inclined toward progressive farmers who generally have the necessary resources to adopt innovations. Hence, benefits were largely reaped by a limited number of producers. Empirical evidence show that small farmers were neglected to a great extent. However, this conventional approach gave a conceptual guide to evolve cost-effective extension programmes. Next, almost all the developing countries confronted with the problem of serving large numbers of small production units with limited numbers of trained extension personnel. Therefore, for extension organizations, it became the most convenient management tool. Today, extensionists regard this conventional approach as the default option. It has seriously neglected the vast majority of small farmers and further, has contributed to widen the socio-economic gaps between farmers. Such realizations warranted to test alternative strategies.

Most of the developing countries favoured introducing the Training and Visit System of Agricultural Extension and it is evident that over forty developing countries have adopted it since mid-seventies. One of the major objectives of adopting this extension system is to expand the extension coverage to a wider clientele, especially to serve small scale producers. The Sri Lankan agricultural framework was re-oriented according to the guidelines of T&V approach in 1979-80 maha (wet) season. The field level agricultural extension programmes were designed on its regular, frequent, time-bound visit schedule to offer an effective extension coverage to the scattered small farmers. This system was operationalized at national, district and village level for a decade. In 1990, the government of Sri Lanka introduced an administrative decentralization. This reform shifted certain na-

tional level functions and administrative powers to the provincial level. The provincial level stands between district and national levels in the administrative set-up. This provincial council system made an effect to integrate local level officers attached to different line departments. In fact, such officers were brought into the administrative sphere of the provincial council authorities. This reform severely affected the execution of agricultural extension programmes, especially at the local level as the Village Extension Workers were transferred from the Department of Agriculture to the local government management. In essence, these officers became multi-duty workers (Grama Niladharis) instead of full-time extension agents. This study made an attempt to compare the extension coverage under two systems. The extension coverage was estimated on the degree of interaction between the village level workers and farmers. In fact, frequency of farm visits was regarded as the variable for above estimation. The findings reveal that comparatively the T&V extension management system has offered high visit frequencies for more number of farmers than that of the present system. On the other hand, during the reference period, number of farmers who received 'zero visits' has significantly increased.

Hence, the extension coverage has not shown any improvement after the recent reform. However, albeit the T&V system implemented for an approximate spell of a decade, it has not rendered an effective extension coverage as previously conceived. Therefore, it warranted modifications based on field experiences and empirical realizations. Instead strengthening the agricultural extension framework, it seems that the recent reform has disturbed its working environment. At present, the peasant sector is experiencing an unfavourable situation, ---- degradation of extension coverage. Further, benefits rendered only to a limited number of farmers will result the same adverse effects experienced in the conventional extension approach. The decentralized reform has affected the T&V system on following issues. Dialution of hierarchical agricultural extension framework by

removing village level extension agents; disturbances made to the single line of command which facilitated two-way communication; disconnection of extension-utilizer linkage which made a provision for knowledge transfer and backward flow; limited time allocated for agricultural activities as the extension workers have to shoulder non-agricultural responsibilities; and limited trainings and professional skills attributed to the present category of extension workers. As mentioned earlier, almost all the developing countries have discouraging records for agricultural extension. Sri Lanka too, has a similar experience. The T&V extension system re-structured the extension framework though it was unable to bring expected benefits to the investment due to certain constraints. However, this system was introduced on the results of careful experimentations in different countries, regions and field situations. Therefore, Sri Lanka should have modified the system according country's needs rather than moving to another alternative. In fact, there is a great danger because the present system was deployed without empirical realizations. This may result adverse economic and social consequences as it seems that majority of the farmers will be affected. Therefore, it is an important fact to reconsider the structural changes made in the agricultural extension framework.

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