



Available Online at ESci Journals

## International Journal of Agricultural Extension

ISSN: 2311-6110 (Online), 2311-8547 (Print)

<http://www.escijournals.net/IJAE>

### AGRICULTURAL EXTENSION AND THE CONTINUOUS PROGRESSIVE FARMERS' BIAS AND LAGGARDS BLAME: THE CASE OF DATE PALM PRODUCERS IN SAUDI ARABIA

Siddig E. Muneer

*Department of Agricultural Extension and Rural Sociology, College of Food and Agricultural Sciences, King Saud University, Saudi Arabia.*

#### ABSTRACT

Even distribution of resources and services to ensure balanced agricultural development, that benefits different regions and farmers groups in a comparable manner, has been a persistent objective of all agricultural development plans in Saudi Arabia. Nevertheless, small farmers with relatively limited resources attendance to and benefit from agricultural extension services is expected to be limited compared to their large and well-off counterparts. This is due to weaknesses and problems constraining agricultural extension efficiency, the most important of which is inappropriate institutional framework and organizational structure. This paper examined the thesis that small and relatively poor farmers in Saudi Arabia benefit less than their large and relatively rich counterparts from agricultural extension service. The study was conducted in the most important seven Date Palm growing administrative areas in Saudi Arabia. Data were collected from a simple random sample of 2637 farmers through face to face interviews. Cross-tabs and Chi square test were used to analyze the data. The study results revealed a statistically significant association between Date Palm producers' participation in extension activities and their educational level, farm size, possession of income from sources other than agriculture and annual income. Also the study indicated that agricultural extension failed to realize high adoption rates of modern agricultural technologies even among the so called "progressive farmers". This is consistent with the general consensus in the extant literature about the need to reform the public agricultural extension systems in most of the developing countries.

**Keywords:** Agricultural extension, public agricultural extension reform, small farmers, progressive farmers, laggards, agricultural development, rural elites.

#### INTRODUCTION:

Use of modern agricultural technology is one of the means for achieving sustainable agricultural development as it raises the efficiency of agricultural resources utilization, improves productivity, increases farmers' revenues and strengthens their competitiveness in the domestic and global market. Consequently, some studies have linked the low rate of economic growth in the developing countries compared to the industrialized countries to the lagging technology used in production in the former and it raised the question of whether the primary cause of wide spread poverty is the lack of resources (labor and capital), or

the technological backwardness (Temple, 1999). In this regard, it has been argued that realization of sustainable development depends primarily on technological development (Kyriakou, 2002). Similarly, Timmer (2003) suggested that, in order to bridge the gap between the developed and developing countries, the latter should investment in technology.

Investment in technology should not be confined to research and development (R & D) in the technical spheres, but should include the social and institutional dimensions that represent impediments to adoption and efficient utilization of technology (Freeman, 1987). Moreover, transfer of modern technology and natural resources conservation practices to small poor producers should be given special attention, as it will not only help them improve the quality of their life but also

\* Corresponding Author:

Email: [siddigmuneer@gmail.com](mailto:siddigmuneer@gmail.com)

© 2014 ESci Journals Publishing. All rights reserved.

preserve the delicate environment they live in (Miller *et al.*, 2008). Emphasizing this, Christoplos (2010) argued that there is a need to convince key decision – makers that technology transfer through effective extension is a cost – effective stimulant to economic growth and a prerequisite for rural poverty alleviation.

One of the main problems that usually result in poor identification and design of rural development projects and agricultural extension programs is what Chambers (1983) called "rural elite bias". This referred to the situation where the better off, men rather women, users of services and adopters of practices rather than non-users and non-adopters are the main sources of information for rural and agricultural development decision makers. In this way, it is the better off and those who are called "progressive farmers" who will articulate the village and farmers' interests and wishes and their concerns will emerge as the village's priorities for development and extension services. Consequently, they receive the lion's share of attention, advice and services from agricultural extension staff. Thus, extension is portrayed as exemplifying the problem of inability to realize equitable and inclusive rural development rather than contributing to its solution (Christoplos, 2010). This represents the ground on which agricultural extension is mainly criticized and demanded to be more targeted and responsive to the clients', particularly the poor, needs (World Bank, 2000).

Despite the fact that even distribution of resources and services to ensure reduction of development disparities among the different regions and social groups has been a persistent objective of all development plans in Saudi Arabia (Ministry of Economy and Planning, 2005), yet the extent of small poor farmers benefit from agricultural extension services is expected to be limited compared to their large and well off counterparts. This is due to weaknesses and problems constraining agricultural extension efficiency, the most important of which is inappropriate institutional framework (Alzaidi and Ahmed, 2004). This paper is intended to examine the thesis that small Date Palm producers benefit from agricultural extension service is very limited. This represents one of the symptoms of the agricultural extension system lack of responsiveness and inability to help in achieving sustainable agricultural development, Pro-poor extension, food security and sustainable rural development.

One of the major challenges facing the efforts of most developing countries to realize food security is how a

declining farm population could continue to produce more food for an increasing non-farm population (Miller *et al.*, 2008). Effective agricultural extension is thought to be the panacea as its mandate is to serve as change agent for agricultural development and it is considered an essential precondition for creating an enabling environment for farmers, especially the small and poor, to realize their potential for producing more food (Christoplos, 2010; Aloge, 2006). As a leading international organization in the area of agricultural and rural development FAO (2005) indicated that agricultural extension could play a formidable role in fighting hunger and rural poverty. This proved to be true even in densely populated countries such as India (Reddy and Swanson, 2006). Moreover, as most of the rural people depend on agriculture for their livelihoods, studies have indicated that improvements in agricultural productivity, partially induced by effective agricultural extension, not only enhance food security but are associated with substantial reductions in rural poverty (Farrington *et al.*, 2002). Thus, one of the main challenges facing efforts to achieve sustainable rural/agricultural development and food security is how to enable small poor producers to benefit from agricultural extension services.

The agricultural extension services existing in many developing countries are criticized for being "inefficient, irrelevant, ineffective and poorly targeted" (World Bank, 2000). In India Sulaiman and Hall (2002) argued that for agricultural extension to remain relevant it has to be reinvented and this requires considerable institutional and organizational changes. In Ethiopia it has been found that among the constraints facing agricultural extension is the shortage of extension workers and their deficiency in competencies and experience related to participatory bottom – up extension approaches (Belay and Abebaw, 2004). Moreover, some studies (Miller *et al.*, 2008; Sulaiman and Hall, 2002) argued that instead of viewing non- adoption of technologies as being a case of laggardness or antiquarianism, extension service has to reinvent itself, change its outreach strategies, and adapt to the agendas of the stakeholders especially the poor. Indeed, there is a consensus that in many developing countries if agricultural extension is to play its pivotal role in inducing sustainable agricultural and rural development it has to undergo major institutional and functional restructuring so as to be able to reach small farmers and be responsive to their needs (Alonge,

2006). Furthermore, to impact positively on the poor, agricultural extension should depart from its narrow focus on advice for crop and livestock production and widen its traditional scope to include enhancing the voice of the poor and opening opportunities for them as producers or laborers through linkages with the other sub-sectors of the rural economy (Farrington *et al.*, 2002).

It is clear that there is a general consensus in the extant literature that if agricultural extension is to remain relevant, it should undergo institutional, organizational and functional reform. Several developing countries had tried different agricultural extension reform attempts and approaches with varying degree of success. Some researchers are of the opinion that delivery of agricultural extension services through para-extension workers and farmers' organizations and interest groups may help in making it more accountable to farmers and responsive to the needs and priorities of the poor (Farrington *et al.*, 2002; Sulaiman and Hall, 2002). However, the extant literature suggests that there are no universally applicable pathways to the needed reform and it should be grounded in the unique historical, social, cultural economic and political context of each country (Alonge, 2006). This study is intended to help in filling the gap in the knowledge needed to trigger the agricultural extension reform process in Saudi Arabia.

#### **METHODOLOGY**

Because of its historical, economic, social and even religious importance Date Palm, is considered one of the main cash and food crops grown in Saudi Arabia. Although the Saudi agricultural sector is witnessing major changes such as the establishment of large agricultural corporations which are using modern agricultural technologies, Date Palm production is still dominated by relatively resource poor small farmers using relatively old technology and practices in both production and marketing. Thus, it is safe to argue that the Date Palm sub-sector represents the traditional agricultural sector where extension services are mostly needed. Therefore, it is selected for this study. The study was conducted in the most important seven Date Palm producing administrative areas: Riyadh, Qaseem, Shargih, Asser, Madinah Almonawarah, Makah Al Mukaramah and Hail. Consequently, Date Palm producers in these areas represent the study population. A sampling frame was established by gathering and updating farmer lists from the Agricultural General

Directorate in each of the study areas. Total of 2637 farmers were selected using simple random sampling technique as respondents. Some respondents did not respond to all questions, so the response rate varies according to the specific question. This resulted in fluctuations in the sample size in the results section. Data were collected through questionnaire administered through face to face interviews. Prior to data collection the questionnaire was pre-tested and validated. The questionnaire included questions about farmers' education, socio-economic conditions, and number of extension activities attended. Cross-tabs and Chi square test were used to analyze the data using the statistical Package for Social Sciences (SPSS).

#### **RESULTS AND DISCUSSION**

Contrary to expectations agricultural extension in Saudi Arabia, with all the available resources, still suffers from one of the main problems that characterize the public extension services in resource poor developing countries; inability to reach small farmers with relatively limited resources (Miller *et al.*, 2008; Sulaiman and Hall, 2002). As indicated in Table (1) more than two thirds (69.5%) of the contacted Date Palm producers did not receive any extension services. This is most likely due to the fact that the Date Palm sector is still dominated by small, old, poorly educated and relatively resource poor producers who required more efforts to reach and even more efforts to be convinced to adopt new technologies. Thus, they might not be a priority to the extension workers who usually seek to see apparent impact of their programs; high adoption rates of new agricultural technology. This thesis is reinforced by the fact that the limited extension service offered to farmers in the Date Palm sector was mostly received by the relatively educated (Table 1), large (Table 2) and better off producers (Table 3 and 4). Chi - Square test revealed a statistically significant association between Date Palm producers' participation in extension activities and their educational level, farm size, possession of income from sources other than agriculture and annual income; a typical case of agricultural extension pro-progressive farmers bias. The association between farmers' income and their participation in agricultural extension activities perpetuates the status quo and actually it is more complicated than what is presented. The relation between the two variables is symmetrical, circular and each of them can be claimed as the cause of the other depending on the time reference of the data used. In this

study it is argued that most probably at the beginning the relatively better off farmers were targeted by the extension service and this is confirmed by the statistically significant association between farmers' participation in the extension activities and their possession of income from sources other than agriculture (Table 3). About one third (32.7%) of those who have income from sources

other than agriculture received extension services, compared to less than one quarter (23.4%) of their counterparts who depend solely on agriculture as their source of income. It is imperative that this will lead to differentially higher rates of increase in the future agricultural income of the better off farmers who most probably possess income sources other than agriculture.

Table 1. Association between Date Palm farmers' education and their participation in agricultural extension activities.

Access to extension service	Education		Frequency total
	Illiterate (%)	Literate (%)	
Didn't participate in extension activities	78.9	65.9	1780
Participated in extension activities	21.1	34.1	783
Percentage total	100	100	
Frequency total	702	1861	2563

Chi - Square 40.84 (P < 0.001)

Table 2. Association between Date Palm farmers' farm area and their participation in agricultural extension activities.

Access to extension service	Farm area		Frequency total
	Small (%)	Large (%)	
Didn't participate in extension activities	75.3	58.6	1782
Participate in extension activities	24.7	41.4	773
Percentage total	100	100	
Frequency total	1708	847	2555

Chi - Square 75.13 (P < 0.001)

In this way agricultural extension instead of promoting equality between the farmers with relatively limited resources and their relatively better off counterparts, it is widening the income gap between the two groups and creating what Chambers

(1983) called "rural elites" who speak to the extension workers and other development officials, articulate farmers interests and consequently their concerns emerge as the farmers' priorities for development.

Table 3. Association between Date Palm farmers' possession of income from sources other than agriculture and their participation in agricultural extension activities

Access to extension service	Having income from sources other than agriculture		Frequency total
	No (%)	Yes (%)	
Didn't participate in extension activities	76.6	67.3	1831
Participated in extension activities	23.4	32.7	794
Percentage total	100	100	
Frequency total	684	1941	2625

Chi - Square 20.61 (P < 0.001)

Table 4. Association between Date Palm farmers' annual income and their participation in agricultural extension activities.

Access to extension service	Annual income (Saudi Riyals <sup>1</sup> )			Frequency total
	< 50000	50000 - <100000	>100000	
Didn't participate in extension activities	76.6	75.2	56.8	1765
Participated in extension activities	23.4	24.8	43.2	745
Percentage total	100	100	100	
Frequency total	684	1109	717	2510

Chi - Square 88.75 (P < 0.001)

<sup>1</sup> 1 US\$ = 3.75 Saudi Riyals

Table (5) revealed the expected result of the association between farmers' attendance to agricultural extension activities and their adoption of some Date Palm recommended husbandry practices. Using the traditional criteria of adoption rate of technology to judge the success of agricultural extension services (Sulaiman and Hall, 2002) delivered to Date Palm producers, it is clear that although the total number of those who have high adoption level of technologies (have adopted 50% or more of the technologies under consideration) is low (37.2%), yet this group is much higher among those who attended extension activities (43.7%) compared to their counterparts who did not attend (31.5%). This indicates that agricultural extension activities in Saudi Arabia is

Table 5. Association between participation in extension activities and adoption of some Date Palm recommended husbandry practices.

Level of adoption of husbandry practices	Participation in extension activities		Frequency total
	Did not attend (%)	Attended (%)	
Low	68.5	56.3	726 (63.8%)
High	31.5	43.7	411 (37.2%)
Percentage total	100	100	
Frequency total	707	430	1137

Chi - Square 37.63 (P < 0.001)

#### CONCLUSION AND RECOMMENDATIONS

Despite of the relatively good resources available to the agricultural extension in Saudi Arabia, yet not only it has failed to reach/attract small farmers with relatively limited resources to attend its activities, but also failed in realizing high adoption rates of modern agricultural technologies among the so called "progressive farmers". The limited extension service offered to farmers in the Date Palm sector was mostly received by the relatively educated, large and better off producers. This is inferred from the statistically significant association between Date Palm producers' participation in extension activities and their educational level, farm size, possession of income from sources other than agriculture and annual income; a typical case of agricultural extension pro-progressive farmers bias. This result reinforced the general consensus in the extant literature about the irrelevance and inefficiency and the need to reform the public agricultural extension systems in most of the developing countries so as to be able to spearhead the efforts exerted to achieve sustainable agricultural and rural development.

Agricultural extension in Saudi Arabia needs to design and implement agricultural extension programs that suit

not only attended by progressive farmers (tables 1, 2, and 3), but even when it is assessed using the traditional criteria of the overall adoption rate of technology (Sulaiman and Hall, 2002) among Date Palm producers, it had realized very modest level of success where only 37.2% of all the respondents were in the category that had high level of adoption of technologies. These results not only revealed that the public agricultural extension activities in Saudi Arabia were mainly attended by the so called "progressive farmers" but also it failed to realize high rate of adoption of recommended agricultural technologies among them. This is similar to the situation of the agricultural extension service in most of the developing countries.

Date Palm producers needs and socioeconomic characteristics so as to increase the adoption rate of modern technologies in this important subsector. Moreover, the extension programs should target small farmers with relatively less resources. Also, there is a need to reform the public extension system to render it more efficient and responsive to farmers' needs.

#### REFERENCES

- Alonge, A.J. (2006). Bringing stakeholders into agricultural extension reform agenda: a participatory SWOT analysis of the Trinidad national agricultural extension service. Proceedings of the 22nd annual conference of the Association for International Agricultural and Extension Education: 12-23.
- Alzaidi, A. & Ahmed, E. (2004). An analytical study to the compatibility between the institutional framework of agricultural extension services in Riyadh area (Saudi Arabia) and its activities. The agricultural research center, King Saud University, Saudi Arabia.
- Belay, K. & Abebaw D. (2004). Challenges facing agricultural extension agents: a case study from south - west Ethiopia. African Development Bank.

- Chambers, R. (1983). Rural development: putting the last first. Essex (UK): Longman Scientific & Technical.
- Christoplos, I. (2010). Mobilizing the potential of rural and agricultural extension. Rome: FAO.
- FAO (2005). Modernizing national agricultural extension systems: a practical guide for policy-maker of developing countries. Rome: FAO.
- Farrington, J., Christoplos, I. & Kidd, A. D. (2002). Extension, poverty and vulnerability: the scope for policy reform. Working paper 155. London: Overseas Development Institute (ODI).
- Freeman, C. (1987). Technology Policy and Economic Performance: Lessons from Japan. Pinter, London.
- Kyriakou, D. (2002). "Technology and sustainable growth: towards a synthesis". Technological Forecasting & Social Change, 69 (9): 897-915. <http://www.sciencedirect.com/science/article/pii/S0040162502001907>
- Miller, M., M. J. Mariola & D. O. Hansen. (2008). EARTH to farmers: Extension and the adoption of environmental technologies in the humid tropics of Costa Rica. Ecological Engineering 34 (4), 349 - 357.
- Ministry of Economy and Planning (2005). The 8th development plan. Ministry of Economy and Planning, Riyadh, Saudi Arabia.
- Reddy, M. N. & Swanson, B.E. (2006). Strategy for up-scaling the "ATMA" model in India. Proceedings of the 22nd annual conference of the Association for International Agricultural and Extension Education, 22, 561 – 569.
- Sulaiman, R.V. & Hall, A. (2002). Beyond technology diffusion – can Indian agricultural extension reinvent itself? Policy Brief 16. New Delhi (India): National Centre for Agricultural Economics and Policy Research.
- Temple, J. (1999). The new Growth Evidence. Journal of Economics literature. 37 (1), 112-156.
- World Bank (2000). Decentralizing agricultural extension: lessons and good practice. Washington D.C. The World Bank.