Available Online at ESci Journals
International Journal of Agricultural Extension
ISSN: 2311-6110 (Online), 2311-8547 (Print)
http://www.escijournals.net/IJAE

ECONOMIC INCENTIVES AND SATISFACTION OF THE AGRICULTURAL EXTENSION AGENTS

[a]Nafees Ahmad, [b]Muhammad Israr*, [c]Khalid Nawab,[c]Barkat U. Khan, [d]Shamsher Ali

[a] *Department of Economics, University of Malakand, Khyber Pakhtunkhwa, Pakistan.*

[b] *Department of Rural Development, University of Agriculture Peshawar, AMK Campus, Mardan, Pakistan.*

[c] *Department of Agricultural Extension Education and Communication, The University of Agriculture, Peshawar, Pakistan.*

[d] *Department of Soil and Environmental Sciences, University of Agriculture Peshawar, AMK Campus Mardan,Pakistan.*

A B S T R A C T

The objectives of the study was to examine important economic factors affecting agricultural extension services for agricultural development and the perception of extension agents regarding different economic incentives provided by their department. The study comprises the two purposively selected districts (Swat and Buner) of Malakand division, Khyber Pakhtunkhwa-Pakistan. A total of 82 (100%) extension agents of the selected districts were interviewed by means of a pre-tested structure questionnaire. Data were collected on different aspects of economic factors and were analyzed by using descriptive statistics. Findings of the study revealed that 30% of the respondents reported that traveling and daily allowances (TA/DA) was paid to them on time, 70% experienced lags in the payment. Also an overwhelming majority (94% and 91%) of the respondents reported that they did not get timely promotion and were not satisfied with their pay respectively. In respect of the medical facilities provided by the department for the respondents, 96% were not satisfied. Also Only 21% of the respondents opined said that incentives are available while 79% reported that there were no incentives at their disposal for working with the farming communities. In the study area 83% of the respondents answered that the department provided seed, fertilizer and pesticides. The study concludes that the majority of the extension agents were not satisfied with the economic incentives provided by the department and thus this negatively affects agriculture productivity. The study recommends on time TA/DA payment and promotion, pay increases, provision of better medical facilities and on time provision of seed, fertilizer and pesticide in order to enable them to serve the farming community for improved and better livelihoods.

Keywords: Agricultural extension agents, extension services, support for extension agents.

INTRODUCTION

Over the last several decades governments and development agencies have placed much emphasis on discovering and diffusing new knowledge and technologies to improve agricultural production for the benefit of small farmers in developing countries. However, there is now sufficient theoretical and empirical evidence that putting money into science projects, laboratories and in governmental extension and non-governmental advisory service is not enough.S omething is missing in the rural development formula if there was no gape then the smallholder agriculture in developing countries would have experienced more development and innovation in the field of agriculture. Why smallholders do not learn more about improved production methods and adopt knowledge and technical solutions that seem to sit on the shelves unused is a challenging question for the research related to the agriculture field (Hartwich and Scheidegger, 2010).

In most developing countries the majority of the population lived in rural areas and depends directly or indirectly on agriculture for their livelihoods (World Bank, 2007) and face problems of poverty and poor livelihoods. For poverty reduction, economic growth and better livelihoods agriculture plays an important role. Agriculture remains the main source of income for around 2.5 billion people in the developing world (FAO, 2003). The impact of the agricultural sector is wide-

*Corresponding Author:
Email ID: misrar@aup.edu.pk

ranging and extends to economic growth, food security, poverty reduction, livelihoods, rural development and the environment (Higgins and Green, 2012). Moreover, the poorest half of the population benefits significantly more from agricultural growth than growth in other sectors of the economy (UN, 2008). Improving agricultural productivity, profitability, and sustainability in the developing world depends on the ability of rural people in those countries to adopt change and innovate in their use of technologies, management systems, organizational arrangements, institutions, and environmental resources. Expanding the people's capacity to innovate is dependent on their access to knowledge and information services.

Consultancy services provided by agriculture extension agents play an important role in agricultural development and can contribute to improving the welfare of farmers and other people living in rural areas. According to GFRAS (2010) the terms agricultural extension and advisory services are the entire set of organizations that support and facilitate people engaged in agricultural production to solve problems and to obtain information, skills and technologies to improve their livelihoods. Extension services can be organized and delivered in a variety of forms, but their ultimate aim is to increase farmers' productivity and income. Productivity improvements are only possible when there is a gap between actual and potential productivity. They suggest two types of gaps contribute to the productivity differential the technology gap and the management gap (Anderson and Feder, 2003). Extension can contribute to the reduction of the productivity differential - the speed of technology transfer and by increasing farmers' knowledge and assisting them in improving farm management practices (Birkhaeuser *et al*., 1991, Feder et al., 2004). Additionally, extension services also play an important role in improving the information flow from farmers to scientists (Anderson, 2007, Birkhaeuser *et al.,* 1991).

A wide range of factors are likely to influence effectiveness of agricultural extension services. According to Birner *et al*. (2012) effectiveness of the extension system in fostering capacity building, technological adoption and ultimately improved agricultural outcomes depends on key factors relating to the advisory method used, the governance, and capacity and management structures of the advisory method, types of training or technology transfer: demonstrations, field days, courses, farmer-to farmer diffusion, number of clientele, individual, group and mass communication approaches and involvement of clients in planning and problem solving.

Like others developing countries the economy of Pakistan is largely dependent on agriculture and directly or indirectly supports three quarter of the population and satisfies the hunger of 148.72 million people, with its present contribution to GDP at 21%. Further 42% of country's workforce is employed in agriculture but also and 66% of the population living in rural areas is directly or indirectly linked with agriculture for their livelihood (GOP, 2010). In Pakistan, agricultural extension services are responsible to enhance the process of agricultural development to meet the food needs of a rapidly growing population. The aim of agricultural extension is to provide farmers with information that enables them to make good decisions in farming, to transfer appropriate technologies from research and other sources and ultimately to eliminate poverty and hunger by improving their production and food security (Subedi and Garforth, 1996).

Today, commercialization of agriculture is an inevitable reality throughout the world. There are a number of factors affecting the commercialization process in agriculture. Some of them could be named as the rapid growth of economies in the both developing and developed countries, the introduction of new technologies, market expansion, market liberalization, urbanization, rapid increase of demand for food, decreasing of farming population, liberalized and open economic policies, bilateral and multilateral economic agreements, developed infrastructure facilities in farming areas, extension and government agricultural policies (Mahaliyanaarachchi and Bandara, 2006).

In Pakistan like other developing countries the government agencies have inadequate financial resources to adequately cover extension operational at the field level. In the case of public extension, operational budget are a serious problem because field staff is expected to be in the field conducting demonstrations, field days and workshops, and having regular contact with filed farmer communities. According to FAO (2008) in developing countries, front-line extension workers do not have access to government vehicles, and their salaries are so low, most

travel by bus or other form of public transportation. In addition, most field extension offices do not have telephones or access to other communications equipment, especially a computer with internet access. The other serious constraint is the lack of extension programme funds that allow field extension staff to organize field trips for farmers to visit an innovative farmer using new technologies. In Pakistan, there are large gaps in research and unanswered questions on the economic factors that affect the extension agent's services at the field level. On the basis of the preceding discussion the present study was undertaken.

STUDY OBJECTIVES

To determine important economic factors affecting agricultural extension services for agricultural development in the study area.

To ascertain the perception of extension agents regarding different economic incentives provided by their department. To suggest recommendations on the basis of the study findings.

RESEARCH HYPOTHESIS

Alternate Hypothesis: there is significant association in the perception of the respondents in the selected study areas.

Null Hypothesis: there is no significant association between the perceptions of respondents in the selected districts.

METHODOLOGY

The universe by population for the study was the two purposively selected districts i.e. Swat and Buner, of Malakand division, Khyber Pakhtunkhwa. The respondents for the study were the field workers/assistants and officers of the department of agricultural in the selected districts. There were a total of 19 field assistants and five agriculture officers in district Swat, while in district Buner there were a total of 52 field assistants and six agricultural officers. Summing-up, the total sample size reached to 82, covering 100% of the population of the agricultural extension department in the study districts. Data on different aspects of the economic factors were selected through a pre-tested structure questionnaire. The collected data were analyzed by using descriptive statistics (percentages and averages) and Chi-square test.

RESULTS AND DISCUSSION

There are a lot of economic factors affecting the efficiency for extension agents and their eventual impact on the services for the development of agriculture. These includes the payment of traveling and daily allowances (TA/DA) and time of payment, satisfaction with present pay, extension agents timely promotion in the department, medical facilities satisfaction provided by department and incentives at the disposal of respondents for farming community (provision of seed, pesticide and fertilizer to the respondents by the department and time of provision). The discussion begins on payment of traveling and daily allowances (TA/DA) and time of payment.

Payment of traveling and daily allowance (TA/DA) and payment time: Extension department has a vast network of field force including agricultural officer, field assistant and more. They have a burden of work and perform excess duties to control the jurisdiction of their responsibilities, for which they must paid TA/DA. Data in table I explains the views of respondents in this regard. The data reveal that in district Swat 21% reported that TA/DA was paid to them on time, 79% narrated to be waiting for payment of TA/DA. For the payment of TA/DA, 21%, 16%, 10% and 53% of the respondents wait for a period of one, three, six and 12 months, respectively. In the Buner district 34% of the respondents reported that TA/DA was paid timely, while 66% reported to be waiting for payment of TA/DA. Out of a total 38 respondents who waited for payment, 11%, 39%, 29% and 21% of the respondents waited for a period of one, three, six and 12 months, respectively. In the whole study area 30% of the respondents reported that TA/DA was paid to them on time, 70% reported to be waiting for payment of TA/DA. Out of total 57 respondents who waited for payments, 14%, 32%, 22% and 32% of the respondents waited for a period of one, three, six and 12 months respectively for the payment of TA/DA. It was concluded that procedures for of TA/DA payments was poor and complicated and respondents wait for a long time for payment of TA/DA which negatively affects their efficiency and by implication agricultural development in the area. The Chi-square value for percent distribution and perception about the TA/DA timely payments in the two districts was 18.8345. So the null hypothesis was rejected and the percentages of the duration of payment of TA/DA were different in the two districts however there were no associations between percent of respondents in the duration of wait in the two districts. This implies that there is a lack of facilitation in term of monitory benefits for the extension agent's services in the study area.

Satisfaction with present pay: Extension agents working in the agricultural extension department are paid in different pay-scales. The respondent's opinion about the pay-scale is presented in table II. The tabulated data show that in district Swat 13% of the respondents were satisfied with their pay, 87% were not satisfied with their pay. While in district Buner 7% respondents were satisfied with their pay, while 93% of the respondents were not satisfied with their pay. In the study area 9% respondents were satisfied with their pay, while 91% of the respondents were not satisfied with their pay. It is concluded that an overwhelming majority of the respondents were not satisfied with their pay. The same observation was made by Mallilo, (1990) stated that extension agents were not satisfied and did not have positive attitudes toward their jobs and receive the necessary recognition from within the organization.

The Chi-square calculated value for percent distribution of the respondent's perception about the satisfaction with present pay in the two districts is 7.46, which implies that the null hypothesis was accepted by rejecting the alternative one, that percentages distribution of the respondents satisfaction with present pay are same in the two districts.

Table 1.Distribution of respondents on timely payment of TA/DA and its duration of payment.

District	Payment on time		Total	Duration of wait (months)				Total
	Yes	No		1	3	6	12	
Swat	5 (21)*	19 (79)	24	4 (21)	3 (16)	2 (10)	10 (53)	19
Buner	20 (34)	38 (66)	58	4 (11)	15 (39)	11 (29)	8 (21)	38
Total	25 (30)	57 (70)	82	8 (14)	18 (32)	13 (22)	18 (32)	57

X^2_{cal} = 18.8345, $X^2_{tab(5\%)}$ = 16.919

* Value in parenthesis is the percentages. Source:Field survey, 2012.

Table 2. Distribution of respondents on satisfaction with present pay.

District	Respondents satisfaction with present pay		Total
	Yes	No	
Swat	3 (13)*	21 (87)	24
Buner	4 (7)	54 (93)	58
Total	7 (9)	75 (91)	82

X^2_{cal} = 7.646, $X^2_{tab(5\%)}$ = 7.815

* Value in parenthesis is the percentages. Source: Field survey, 2012.

Extension agent's timely promotion in their department: Leading service structure, training and great experience are common facts for the promotion of individuals. The data presented in Table III present the pattern of promotion of extension agents in the department. It is clear from the data that in district Swat 13% of the respondents reported that they got promotion in time, 87% did not get their promotion in time. While in district Buner 3% answered that they obtained promotion on time, while 97% of the respondents did not get their promotion on time. In the whole study area 6% of the respondents reported for getting timely promotion, while 94% of the respondent's answered that they did not have timely promotion. It is observed that most of the respondents were not getting their timely promotion in the study area.

Satisfaction from medical facilities provided by department: The agricultural extension department provides different kind of facilities to employers such as residential, medical, transport and modern technological needs. Respondents were asked about the medical facilities provided to them which are explained in table IV. It is evident from the findings of the data that in district Swat 8% of the respondents were satisfied with the medical facilities and 92% were not satisfied with medical facilities provided to them by the department. In

the Buner district, 2% of the respondents were satisfied with medical facilities while 98% were not satisfied with medical facilities provided to them by the department. It was further noted form the data that in the study area 4% of the respondents were satisfied with medical facilities, while 96% were not satisfied with these facilities. It is concluded that most of the respondents were not satisfied with medical facilities provided to them by the department.

Table 3. Distribution of respondents on getting timely promotion in their department.

District	Respondents perceptions		Total
	Yes	No	
Swat	3 (13)*	21 (87)	24
Buner	2 (3)	56 (97)	58
Total	5 (6)	77 (94)	82

* Value in parenthesis is the percentages. Source: Field survey, 2012.

Table 4. Distribution of respondents on medical facilities provided by department.

District	Conception		Total
	Yes	No	
Swat	2 (8)	22 (92)	24
Buner	1 (2)	57 (98)	58
Total	3 (4)	79 (96)	82

* Value in parenthesis is the percentages. Source: Field survey, 2012.

Incentives at the disposal of respondents for farming community: Agricultural development implies the shift from traditional methods of production to new, science based methods of production that include new technological components such as new varieties, seeds, cultural practices, commercial fertilizers and/or pesticides. To promote these new technologies extension agents have classically relied on incentives or support for demonstrating and sharing the new technologies. The perception of the respondents on the adequacy of the incentives or resources for their work is placed in table V. In district Swat, 29% of the respondents reported that they had adequate amount of resources/incentives at their disposal for farming community, 71% narrated in negative response. While in district Buner, 17% reported that adequate amount of resources/ incentives were present at their control, while 83% of the respondents said that adequate amount of resources/incentives were not present at their disposal for farming community. In the study area 21% of the respondents said that adequate amount of resources/incentives were present at their command, 79% rendered for non-availability of adequate amount of resources/incentives at their disposal for farming community. It is concluded that overwhelming majority of the respondents were not having adequate amount of resources/incentives at their disposal for farming community.

Provision of seed, pesticide and fertilizer by the department and time of provision: Agriculture extension may have simple change such as new time of planting, seeds of new varieties, fertilizers and use of pesticides to improve modern agricultural crops. Farmers were questioned about the provision of seeds, pesticides and fertilizers which is presented in table VI. The data show that in district Swat 75% of the respondents reported that the department provided seed, fertilizer and pesticides, 25% said that the department did not provide seed, pesticides and fertilizer for farming community. It was reported by 78% and 22% for the provision of these materials arrived in time and late, respectively. In the Buner district, 86% said that the department provided seed, fertilizer and pesticides, 14% answered that the department did not provide seed, pesticides and fertilizer for farming community. It was also reported by 90% and 10% of the respondents for the provision of these materials in time and late, respectively. In the study area 83% answered that the department provided seed, fertilizer and pesticides, while 17% reported that the

department did not provide these materials for farming community. The structure of provision for these materials was in time or late. It was reported by 87% for in time and 13% for late provision of these materials. From the findings presented in the table it may be concluded that majority of the respondents answered for the provision of material and within time. The Chi-square calculated value for percent distribution of the respondents on the structure of provision in the two selected districts was 2.403. Therefore, the null hypothesis was accepted by rejecting the alternative one by stated that the percent distribution of the structure of provision is the same in the two districts. The reason of the same proportion was that the incentives were provided by the directorate general of the province at the early seasons for different crops.

Table 5.Respondents distribution on incentives for farming community.

District	adequate amount of resources/Incentive		Total
	Yes	No	
Swat	7	17	24
	(29)	(71)	
Buner	10	48	58
	(17)	(83)	
Total	17	65	82
	(21)	(79)	

* Value in parenthesis is the percentages. Source: Field survey, 2012.

Table 6. Distribution of respondents on provision of seed, pesticide and fertilizer by the department and time of provision.

District	Conception		Total	Structure of provision		Total
	Yes	No		In time	Late	
Swat	18	6	24	14	4	18
	(75)	(25)		(78)	(22)	
Buner	50	8	58	45	5	50
	(86)	(14)		(90)	(10)	
Total	68	14	82	59	9	68
	(83)	(17)		(87)	(13)	

、X^2_{cal} = 2.403, $X^2_{tab(5\%)}$ = 7.815

* Value in parenthesis is the percentages. Source: Field survey, 2012.

CONCLUSION AND RECOMMENDATIONS

From the findings of the study it is concluded that 30% of the respondents reported that TA/DA was paid to them on time, 70% stated that they had to wait for payment of TA/DA. Out of total 57 of the respondents who wait for payment, 14%, 32%, 22% and 32% of the respondents wait for a period of one, three, six and 12 month, respectively for TA/DA payment. Most of the respondents were not satisfied with their pay. In the study area an overwhelming majority 94% of the respondents reported that they did not get promotion timely, while also an overwhelming majority 96% of the respondents was not satisfied with the provision of medical facilities by the department. Also79% of the respondents reported for non-availability of adequate amount of resources/incentives at their disposal for farming community. Majority (83%) of the respondents mentioned that the department provided seed, fertilizer and pesticides for farming community and the structure of provision is on time as reported by 87% of the respondents in the area. On the basis of study findings the following recommendations are made:

Extension agents of the agriculture extension department shall be paying his/her TA/DA on time, so that he/she shall be motivated for work. The timely payment of his/her TA/DA shall facilitate them for effective work with the farmer's communities in the field.

To develop the agriculture in our country in general and in the area in particular there is a need to increase the pay of the agricultural extension agents for his/her satisfaction and better work.

Timely promotion of the extension agents shall play a vital role in the development of his services and experiences and thus facilitate them for effective delivery of the extension services. The timely promotion may be made sure by the government for effective delivery of the extension services. Incentive is also important for efficient work, therefore the extension agents shall have to be

given better medical facilities. Timely provision of seed, fertilizer, pesticide and other inputs will built a friendly environment between the farmers and the extension agents, so these shall have to be provided for improvement the famer confidence on the extension agents for improved and developed agriculture and better livelihoods.

REFERENCES

Anderson, J.R. and Feder,G. (2003). Rural extension services, World bank policy research working paper 2976, World Bank, Washington D.C. Retrieved from: http://econ.worldbank.org/files/24374_wps2976.pdf, dated; December 12th 2012.

Birner, R., K.Davis, J.Pender, E.Nkonya, P.Anandayasekeram, J.Ekboir, A.Mbabu, D.Spielman,

D.Horna, S.Benin, M.Cohn (2012) From "best practice" to "best fit": A framework for analyzing pluralistic agricultural advisory services worldwide. J. of Agri, Edu.and Ext. 15(4), 341–355.

Birkhaeuser, D., Evenson, R. E. and Feder, G. (1991).The economic impact of agricultural extension: A review; J. of Econ. Dev. and Cultural Change, 39, (03), 607-650.

Spielman,A. D., Horna, D., Benin, S. and Cohen, M. (2012) From best practice to best fit; A framework for analyzing pluralisticagricultural advisory services worldwide, J. of Agric. Edu. and Ext. 15 (4), 341-355.

Food and Agriculture Organization (FAO) (2008) global review of good agricultural extension and advisory service practices; Research and extension division natural resources management and environment department and policy assistance and resources mobilization division technical cooperation departmentRome; Retrieved from; ftp://ftp.fao.org/docrep/fao/011/i0261e/i0261e00.pdf, Dated; 12th November, 2012.

Food and Agriculture Organization (FAO).(2003). Statement at the ministerial conference of the World Trade Organization- Circulated by H.E. Mr. Hartwig de Haen, Assistant Director-General', Fifth session, Cancun, 10- 14 September, Doc No: WT/MIN(03)/ST/61. Retrieved from:http://www.wto.org/english/thewto_e/minist_e/min03_e/statements_e/st61.pdf Dated; December 12th 2012.

Feder, G., Murgai, R. and Quizon, J.B. (2004). The acquisition and diffusion of knowledge: The case of pest management training in farmer field schools, Indonesia, J. of Agri. Econ., 55, (2), 221-243.

Hartwich, F. and Scheidegger, U. (2010).Fostering innovation networks: the missing piece in rural development, Rural development news.Swiss college of agriculture, Department of International Agriculture Laenggasse 85, CH – 3052 Zollikofen, Switzerland 1.1-7.

Global Forum for Rural Advisory Services (GFRAS).(2010). A brochure introducing GFRAS, Eschikon 28 8315 Lindau, Switzerland, Retrieved form; http://www.g-fras.org/en/knowledge/gfras-publications/file/2-gfras-brochure, dated; 17th November, 2012.

Government of Pakistan (GOP).(2010). Economic Survey of Pakistan, Economic Advisor's Wing Finance Division, Islamabad, Pakistan.

Higgins, J. and Green, S., eds. (2012) Cochrane handbook for systematic reviews of interventions. The Cochrane Collaboration, Retrieved Dec., 2012, from, www.cochrane-andbook.org

Mahaliyanaarachchi, R.P., Bandara, R.M.A.S. (2006). Commercialization of agriculture and role of agricultural extension, Sabaragamuwa Uni. J., 06, (1), 13-22.

Subedi, A. and Garforth, C.. (1996). Gender, information and communication network: Implication for extension. J. of Agri. Edu., 56, (01), 63–74.

United Nations (UN). (2008). Trends in sustainable development, agriculture, rural development, land, desertification and drought, Department of economic and social affairs of the United Nations, New York. Retrieved from; http://www.un.org/esa/sustdev/ publications /trends2008/fullreport.pdf, Dated; Dec. 11th, 2010.

WorldBank. (2007). World development report; Agriculture for development, WorldBank, Washington, D.C. Retrieved from,http://siteresources.worldbank.org/INTDR2008/Resources/WDR_00_book.pdf, Dec. 11th 2012.