Australian Government
Australian Centre for International Agricultural Research

Australian Aid

"Strengthening Institutional Capacity, Extension Services and Rural Livelihoods in the Central Dry Zone and Ayeyarwaddy Delta Region of Myanmar"

(ASEM-2011-043)

REVIEW ON EXTENSION METHODOLOGY AND ACTIVITIES PRACTISED IN MYANMAR

NYEIN NYEIN HTWE, KAY THI KHAING, SOE PAING OO AND PHYU THAW HTUN

Research Document: 12-YAU-ASEM-2011-043

SEPTEMBER, 2017

ACIAR
Research that works for developing countries and Australia
aciar.gov.au

Australian Aid

Australian Government
Australian Centre for International Agricultural Research

Acknowledgement

Authors would like to express special gratitude to Yezin Agricultural University (YAU) for kindly administrative support for the completion of study. Special thanks are extended to Dr. Kyaw Kyaw Win, Professor and Head, Department of Agronomy, YAU, for him giving encouragement in this study. Great appreciations are also extended to the project the title of "Strengthening Institutional Capacity, Extension Services and Rural Livelihoods in the Central Dry Zone and Ayeyarwaddy Delta Regions of Myanmar (ASEM – 2011 -043)" by Australia Centre for International Agricultural Research (ACIAR) which support research grant to this study.

Organized by

Dr. Theingi Myint

Project Coordinator

Professor

Department of Agricultural Economics

Yezin Agricultural University

Email:theingi.myint@gmail.com

REVIEW ON EXTENSION METHODOLOGY AND ACTIVITIES PRACTISED IN MYANMAR

NYEIN NYEIN HTWE, KAY THI KHAING, SOE PAING OO AND PHYU THAW HTUN

SEPTEMBER, 2017

ACIAR
Research that works for developing countries and Australia
aciar.gov.au

Australian Aid

Australian Government
Australian Centre for International Agricultural Research

ABSTRACT

This study reviewed the Extension methodology practiced in Myanmar. An empirical study was conducted to know the extension methodology practiced selected in Myanmar. This study pointed out the current extension providers in Myanmar, farmers preferred extension methodology and activities by private and public sectors. This study also raised the questions concerning effectiveness of extension activities and methodology currently praising in Myanmar.

CONTENTS

ABSTRACT i

I. INTRODUCTION 1

II. CURRENT STATUS OF AGRICULTURAL EXTENSION IN MYANMAR 2

2.1 Department of Agriculture (DoA) 2

2.2 Public Sectors 3

2. 2.1 Transforming Farmers Lives; The Awba integrated approach 4

2.3 Participatory Extension Approach in Myanmar 5

2.3.1 Extension and Innovation in Delta (GRET) Bogale Township (Source: Report of GRET (Bogale), Extension and Innovation in Delta presented to YAU and Stakeholders, 1st and 2nd June 2017 – Bogale) 7

III. EXTENSION ACTIVITIES OF PUBLIC AND PRIVATE SECTORS IN MYANMAR 9

3.1 Extension Activities of the Farmers in Study Areas 10

IV. CONCLUSION 19

V. REFERENCES 21

LIST OF TABLES

Table 3.1 Information providing organizations in study areas 11
Table 3.2 Extension methodology practiced by DoA extension staff in selected areas.....12
Table 3.3 Farmers' preference of individual methods practiced by DoA extension staff in study areas 12
Table 3.4 Farmers' preference of group methods practiced by DoA extension staff.....13
Table 3.5 Farmers' preference of mass methods practiced by DoA extension staff.....14
Table 3.6 Extension methodology practiced by company extension staff in study areas.....15
Table 3.7 Farmers' preference of individual methods practiced by company extension staff 15
Table 3.8 Farmers' preference of group methods practiced by company extension staff 16
Table 3.9 Farmers' preference of mass methods practiced by company extension staff in study areas, 2015.....17
Table 3.10 Farmers to farmers technology exchange in study areas, 2015.....18

I. INTRODUCTION

Agricultural extension plays a crucial role in promoting agricultural productivity, increasing food security, improving rural livelihoods, and promoting agriculture as an engine of pro-poor economic growth (IFPRI 2017). The role of extension services is invaluable in teaching farmers how to improve their productivity. Extension is also critical to move research from the lab to the field and to ensure a return on investment in research by translating new knowledge into innovative practices (Agriculture for Impact 2017). There are three types of Extension services:

Technology transfer – the traditional model of the transfer of advice, knowledge and information in a linear manner;

Advisory – the use by farmers of a cadre of experts as a source of advice in relation to specific problems faced by them;

Facilitation – the aim of this model is to help farmers to define their own problems and develop their own solutions.

Traditional extension systems focus on increasing agricultural productivity, use a top-down approach and often emphasize the transfer of technology. This model for extension, however, is becoming out-dated in the more competitive, market-oriented climate of today's agriculture. Alternative models have emerged that recognize other actors than traditional public extension services – including agribusiness companies, NGOs, agro-dealers, producer organizations and farmer to farmer exchanges (Agriculture for Impact 2017).

II. CURRENT STATUS OF AGRICULTURAL EXTENSION IN MYANMAR

2.1 Department of Agriculture (DoA)

Department of Agriculture (DoA) under Ministry of Agriculture, Livestock and Irrigation (MOALI) is only one public agricultural extension service in Myanmar. Agricultural extension practiced in Myanmar may have its own specific system and approaches (Khin Oo 2011). DOA is responsible for the transfer of appropriate technology through agricultural extension programs. Agricultural Extension Division (AED) of DoA plays a key role in disseminating research findings and proper message to the farmers, and feedback to researchers on farmers' reactions to improved technology (Myint Myint Aye 2017).

Conventional agricultural extension system was started in 19 27 during British colonial era. After independent in 1948, Training and Visit system was induced in 1974 with World Bank initiative. Training and Visit system was modified to adapt Myanmar condition, Special High Yielding Program was initiated in 1975. Based on the experiences of Special High Yielding Program, Special Crop Production Zone was implemented in 1999 to increase production of crops under different agrological regimes. Block- wise Crop Production Program is one of the strategies to improve crop production in Myanmar in 2000 (Myint Myint Aye 2017).

The AED has been undertaking the following extension activities:

- Training and capacity building of extension agents;
- Training of farmers in transfer of technology through Farmers Field Schools (FFS); Farmers to farmers discussion, training and education;
- Farmer-based participatory demonstration trials and field visits by local authorities and extension agents;

- Delivery of educational materials, pamphlets, newsletters and books on new crops;
- Education of farmers in the utilization of quality seed, drum seeder, combine harvester, dryers, etc.
- Explanation of post-production losses in rice production to the farmers;
- Cooperation among government, non-government and other relevant institutions for the dissemination of advanced technology at village level (GFRAS 2012).

With the initiative and technical assistance, cooperation with JICA and ACIAR, Participatory Extension Approach was being implemented in Myanmar. Nowadays, Commodity Development and Production System especially Fruits and Vegetable production in accordance with GAP practices, being implemented to increase local consumption and export of fruits and vegetables. In 2016, reorganization of Ministry of Agriculture, Livestock and Irrigation, MOALI is emphasized not only on agriculture but also livestock, fisheries and rural development. Integrated Agricultural Development Programs is being implemented in public extension service of MOALI.

2.2 Public Sectors

The main providers of agricultural extension in Myanmar are suppliers of fertilizer and agro-chemicals who provide information and advice at various levels. The fast expending of input-supply shops can be found at township and village levels and their networking is demanding. They became very active in the countryside and agronomists from private sector tour the villages and arrange farmers meetings and field-days. There is a fierce competition between several companies to strengthen their position in the fast growing market (LIFT 2015).

Seed companies also play an increasing role in the provision of extension activities particularly in the maize and vegetable subsectors. Some commercial companies have strong informal linkages with the public institutions and their personals as business partners (LIFT 2015).

2. 2.1Transforming Farmers Lives; The Awba integrated approach

(Source: Awba Group, MELA meeting, June 2016)

Myanma Awba takes a complete value chain approach for farmers in Myanmar. With three ambitious goals, Myanma Awba have the opportunity to transform agriculture in Myanmar of growing more, and better quality food, Creating happy and healthy farmers and Enriching rural communities. Myanma Awba develops crop solutions to allow growers to access progressive agricultural technology with confidence with brings growers the widest range of agricultural technology of crop nutrition, crop protection and seed. Technology, distribution and farmer education are essential for improvements in crop yield, quality and rural communities. Myanma Awba heavy focus on extension of more than 1,000 techno commercial team, more than 500 complete demos per year, more than 12,000 farmer meetings per year and more than 200,000 spot demos per year. Farmer training is the core to Awba approach. Traditional tools and mobile technology provide in-field assistance to growers and dealers with weekly publication and mobile application. Micro financing is also initiated by Awba group which is seeking to become a leading bank, starting with rural credit. Options with local and international players to secure market premiums for growers, off taking, contract farming and processing of black sesame and plantation crops also is implementing in collaboration with farmer groups for food processing to offer a role in our value chain and build in-country skills .

2.3 Participatory Extension Approach in Myanmar

Myanmar is one of the least developed countries in South-East Asia and agriculture is the basic economy of the country. Agricultural extension approaches and methods have been changing in a number of developing countries in recent years to reflect a new development paradigm that emphasizes sustainability, institutional change, and a participatory learning process leading to local capacity building and empowerment (Cho, K.M. and H. Boland 2003).

A participatory learning process needs to be incorporated where farmers and other development beneficiaries have real decision-making power and are part of the problem analysis and solution generation (Roling and Pretty 1997). Extension will need to involve farmers themselves in the process of research and development in such a way that their participation is highly interactive and empowering. This implies changes in values, attitudes, and behaviour in order to ensure that significant learning takes place among all actors: researchers, extensionists, and farmers (Roling and Pretty 1997). They identified three major lessons to be learned for extension from past experience: a) demonstrate the feasibility of sustainable practices through increased visibility and giving farmers the necessary tools for monitoring their own farm situation, b) utilize farmers' knowledge for location-specific sustainable agriculture, and c) facilitate learning processes, instead of "transferring" technology (Roling and Pretty 1997). In the 1990s, development programs worldwide have recognized that local participation is the key to the sustainable transfer and long-term adoption of new technologies and approaches. Interactive participation is the approach that facilitates this kind of learning environment (Chambers, 1993; Adhikarya, 1994; Landon Lane and Powell, 1996; Pretty and Vodouhe, 1997).

Participatory extension approaches (PEA) are a way of improving the effectiveness of rural extension efforts by government agencies, NGOs and

other organizations engaged in rural development. If they are institutionalized in extension organizations, they can help to improve organizational performance at the interface between the service providers (the extensionists) and the clients (the farmers) (Hagmann, J. et al., 1998). The role of extension agents is to facilitate this process. Researchers assist farmers and extension agents in the joint experimentation and learning process and contribute their knowledge of technical options to find solutions to the problems identified by farmers (Hagmann, J. et al., 1998). There are diverse participatory methods in use today, and they share certain assumptions. The participatory methods (sometimes called tools, techniques or instruments) used in the system of learning and action can be structured into four classes: methods for group and team dynamics, for sampling, for interviewing and dialogue, and for visualization and diagramming and shown in following table (Pretty 1995).

There are a total of 65 international NGOs, of which about three are actively involved with agriculture and forestry extension activities at grass roots level (GFRAS 2012). They have being introduced a range of participatory techniques for problem identification, program planning, project implementation, grass roots training and project evaluation. These techniques have been applied to many aspects of rural development including agriculture, forestry, health, education, micro-finance, marketing, water supply and rural roads. NGOs often work in conjunction with government agencies, which provide technical and policy inputs, and have developed and implemented training programs in participatory methods for both NGOs and government staff. These NGOs have been instrumental in bringing to the extension scene of a greater emphasis on “bottom up” planning and action. As initiators of a more participatory approach to extension, NGOs have found the need to carry out extensive training of their own staff in people-oriented extension, needs

assessment, data collection and planning. These training programs are built into project budgets and provide opportunities, usually at township and village levels, for participation of government extension and technical officers. The emphasis of NGO extension training has been on community based techniques to identify needs, obtain local data and knowledge, plan appropriate projects, implement and evaluate projects (Cho and Boland 2003).

2.3.1 Extension and Innovation in Delta (GRET) Bogale Township (Source: Report of GRET (Bogale), Extension and Innovation in Delta presented to YAU and Stakeholders, 1st and 2nd June 2017 – Bogale)

Ayeyadady Delta is a major rice production region in Myanmar with many other secondary sources of income and livelihood. The population of rice farmer and general worker with no or limited land is 66% and high prevalence of stunting. Nargis cyclone was hit in 2008 severely impacted productive and economic systems.

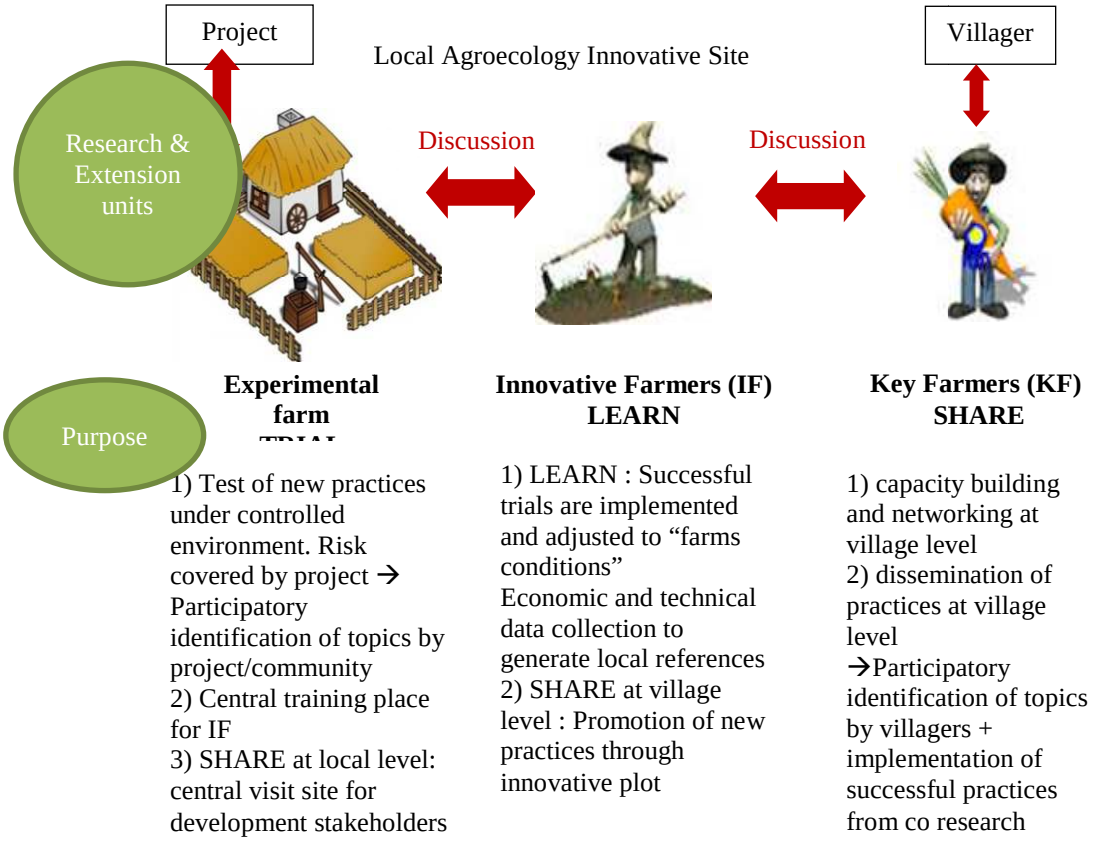
Gret started to work in Delta after Nargis, in 2008 and work in 66 villages of Bogale and Mawlamyinegyun Townships. The aim is to contribute to improvement of livelihood security, economic development and local governance in Delta by: empowering the rural households through knowledge and skills building, supporting the emergence and strengthening CBO to sustainably provide appropriate services for rural communities, facilitating experience sharing and networking of rural development stakeholders.

Therefore, agricultural extension approaches strengthen innovation capacity of family farms as well as the recognition of their contribution to food sovereignty. AE aims to reduce the use of external inputs, increase food and nutrition quality, increase production diversification, increase biodiversity, ensure soil fertility, ensure environment conservation, empower farmers, and fight against climate change. An innovative process was formulated to sharing

knowledge and link with other stakeholders. Co-creation of knowledge between technician and farmers, i.e integration of farmers in the research process was initiated. It include trials in a farm to test new ideas, techniques or crops first in the LAIS farm, managed by an agronomist and trials in innovative plots where successful techniques will be implemented in famers' field manage by innovative farmers. The objectives of LAIS farm are to demonstrate innovative agro ecological techniques adapted to Delta conditions with parameters all controlled, less risk for farmers, knowledge, experience and lesson learned before implementation in field, to show the good results and convince farmers to try some new ideas, to train farmers on innovative technique, to get proper data record for capitalization and dissemination, to be a place for exchange/visit with other stakeholders, innovative plots process being use the some participatory tools of Participate in farmers' needs assessment, Propose ideas to answer these needs, Participate to design protocol/indicators, Implement the co-designed protocol, Data record, Participate in training and exchange visits, Analyze all together and Sharing knowledge with other farmers.

Farmers to farmer's extension approaches are used to meet the farming needs, to ensure sustainable dissemination of technologies. Extension implementing plan include the identification of key farmers, site selection by farmers themselves, key farmer workshop/meeting for problem assessment and identification of possible solutions, design of demonstration protocols with Agronomist; implementation and monitoring: demonstration plots implementation, regular field visits open to surrounding farmers to share follow up, technical and facilitation training to Key farmers by staff, multiplication training to farmers by key farmers, sharing results: exchange visit and workshop to analyze and discuss; dissemination: production and dissemination of lessons learnt through IEC materials.

Field innovation and extension organization



III. EXTENSION ACTIVITIES OF PUBLIC AND PRIVATE SECTORS IN MYANMAR

An empirical study was conducted in Tatkone, Myinmu and Magway Townships, central dry zone of Myanmar to identify the extension methodology in dissemination of agricultural information in Myanmar. The data for this study will be generated through the use of structured interview questionnaire, to cover the information relating to socio-economic characteristics of the sample farmers, major sources of information, communication channels used by extension services, available communication channels, utilization of information, social participation in organization and level of information utilized; farming problems faced by farmer for accessing of mass media usage

and relevancy of information sources. Descriptive was employed for the data analysis by using SPSS ver. 16.3.1 Extension activities accessed by farmers.

Table 3.1 presents information providing organization in study areas. Two thirds of the respondents mentioned their information providing organizations were DoA and private sectors. They also pointed out private sector alone as their information providing agency. No respondents from Myinmuu mentioned NGOs or INGOs as their information providing organizations.

3.1 Extension Activities of the Farmers in Study Areas

Table 3.2 present the extension methodology practiced by DoA extension staff in selected areas. Two third of the respondent from Tatkon Township reported that DoA extension staff used all extension methodologies. However, farmers from Magway Township answered the DoA staff used group method more than individual and mass methods. The DoA staff from Myinmu practiced more on individual and mass methods and group method was least pointed.

Table 3.1 Information providing organizations in study areas

	Respondent (%)					
	Tatkon (n=50)		Magway (n=50)		Myinmuu (n=50)	
Organization	Frequency	Percent	Frequency	Percent	Frequency	Percent
DoA	3	6	1	2	1	2
Private	3	6	12	24	5	10
DoA+ Private	35	70	23	46	44	88
Private +NGOs	0	0	2	4	0	0
DoA+ Private+NGOs	0	0	7	14	0	0
DoA+ Private+ INGOs	8	16	3	6	0	0
DoA+ Private+NGOs + Others	0	0	1	2	0	0
DoA+ Private+ INGOs+ Others	0	0	1	2	0	0
DoA+ Private+ Others	1	2	0	0	0	0
Total	50	100	50	100	50	100

Table 3.2 Extension methodology practiced by DoA extension staff in selected areas

Extension Method	Respondent (%)					
	Tatkon (n=50)		Magway (n=50)		Myinmu (n=50)	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Individual	38	76	18	36	35	70
Group	39	78	36	72	33	66
Mass media	37	74	24	48	38	76
Don't know	3	6	9	18	5	10
Missing system	0	0	4	8	0	0

Farmers' preference of individual methods practiced by DoA extension staff was farm and home visit (Table 3.3) due to understanding of the field condition practically and getting more information.

Table 3.3 Farmers' preference of individual methods practiced by DoA extension staff in study areas

Individual Method	Respondent (%)					
	Tatkon (n=50)		Magway (n=50)		MyinMuu (n=50)	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Farm and home visit	32	64	14	28	29	58
Office call	-	-	-	-	1	2
Phone call	-	-	2	4	1	2
Do not know	12	24	26	52	15	30
Missing system	-	-	6	12	-	-

Farmers' preference of group methods practiced by DoA extension staff was study tour in Tatkon (28%) and Magway (32%) and group discussion in Myinmuu (30%) in Table 3.4 due to getting more information from other farmers.

Table 3.4 Farmers' preference of group methods practiced by DoA extension staff

Group Method	Respondent (%)					
	Tatkon (n=50)		Magway (n=50)		Myinmuu (n=50)	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Result demonstration	13	26	9	18	5	10
Method demonstration	6	12	7	14	11	22
Group discussion	6	12	9	18	15	30
Study tour	14	28	16	32	9	18
Farmers day or field day	3	6	6	12	-	-
Do not know	8	16	2	4	10	20

The farmers reported that the mass method used by DoA staff were Radio, TV, Leaflet, poster, magazine, newsletter and journal. Compare to the study areas, farmers from Tatkon Township mentioned the mass methods more than other two townships. It means DoA staff from Tatkon used mass methods than others because it is Nay Pyi Taw Area and more attention was given to this area than others. Moreover, Myanmar Radio and Television was also located in Tatkon Township (Table 3.5).

Farmers' preference of mass methods practiced by DoA extension staff was leaflets followed by Radio and TV (Table 3.5). The preference of leaflets was due to it availability at any time.

Table 3.5 Farmers' preference of mass methods practiced by DoA extension staff

Mass method	Respondent (%)					
	Tatkon (n=50)		Magway (n=50)		Myinmuu (n=50)	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Radio	5	10	6	12	12	24
TV	8	16	5	10	9	18
Leaflets	14	28	9	18	13	26
Poster	1	2	0	0	1	2
Magazine	0	0	1	2	0	0
Newsletters	0	0	1	2	1	2
Journal	6	12	4	8	1	2
No	13	26	20	40	10	20
missing system	-	-	4	8	-	-

Table 3.6 present the extension methodology practiced by agrochemical companies (private sector) extension staff in selected areas. Two third of the respondent from Tatkon Township reported that agrochemical companies extension staff used all extension methodologies. However, farmers from Magway Township answered the agrochemical company's staff used group method more than individual and mass methods. The agrochemical company's staff from Myinmu practiced more on group and mass methods and individual method was least pointed.

The farmers also mentioned farm and home visit methods was their preference one (Table 3.7) due to Knowing condition of farm practically.

Table 3.6 Extension methodology practiced by company extension staff in study areas

Extension method	Respondent (%)					
	Tatkon (n=50)		Magway (n=50)		Myinmuu (n=50)	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Individual	40	80	27	54	22	44
Group	41	82	47	94	40	80
Mass media	43	86	37	74	41	82
Don't know	2	4	-	-	1	2
Missing system	-	-	1	2	-	-

Table 3.7 Farmers' preference of individual methods practiced by company extension staff

Individual method	Respondent (%)					
	Tatkon (n=50)		Magway (n=50)		Myinmuu (n=50)	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Farm and home visit	35	70	24	4	18	36
Office call	3	6	1	2	3	6
Phone call	2	4	3	6	-	-
Farm clinic	-	-	4	8	-	-
No	10	20	18	36	29	48

The farmers reported that the group method used by agrochemical company's staff were result demonstration, method demonstration, group discussion and study tour. Farmers' preference of group methods practiced by agrochemical company's extension staff was group discussion in all selected township followed by method demonstration in study areas (Table 3. 8) due to getting more information from other farmers and sharing the knowledge among farmers.

Table 3.8 Farmers' preference of group methods practiced by company extension staff

Group method	Respondent (%)					
	Tatkon (n=50)		Magway (n=50)		Myinmuu (n=50)	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Result demonstration	5	10	8	16	1	2
Method demonstration	13	26	9	18	12	24
Group discussion	15	30	24	48	25	50
Study tour	3	6	8	16	1	2
Farmers day or field day	2	4	-	-	-	-
Farmers Field School	-	-	2	4	-	-
No	14	28	3	6	11	22
Missing system	-	-	1	2	-	-

The farmers reported that the mass method used by agrochemical companies were Radio, TV, Leaflet, poster, magazine, newsletter and journal. Compare to the study areas, farmers from Tatkon Township mentioned the mass methods more than other two townships. It means respondents from Tatkon used mass methods than others because it is Nay Pyi Taw Area and more attention was given to this area than others (Table 3.9). Moreover, respondents from Tatkon Township were more access to mass media by all extension services. Farmers' preference of mass methods practiced by agrochemical companies' extension staff was leaflets and poster in Tatkon Township followed by Radio.

Table 3.9 Farmers' preference of mass methods practiced by company extension staff in study areas, 2015

Mass method	Respondent (%)					
	Tatkon (n=50)		Magway (n=50)		Myinmuu (n=50)	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Radio	8	16	2	4	15	30
TV	2	4	6	12	7	14
Leaflets	12	24	16	32	17	34
Poster	22	44	-	-	-	-
Magazine	1	2	-	-	1	2
Newsletters	-	-	-	-	2	4
Journal	2	4	4	8	3	6
Campaign	4	8	3	6	-	-
No	8	16	17	34	5	10
missing system	-	-	2	4	-	-

Table 3.10 shows the farmers to farmers' technology exchange in study areas. Most of the respondents reported that they got technology, knowledge and information from friends and neighbors. It is needed to consider the farmers to farmers' extension approach for conducting extension activities in Myanmar. However, there were very few farmer organizations in study areas and participation in farmer organization was also very low. There was no reason for non-participation of farmer organizations. In this regards, it is needed to initiate the formation of farmer organizations in the study areas and convince to the farmers how importance of farmer organizations.

Table 3.10 Farmers to farmers technology exchange in study areas, 2015

Items	Respondent (%)					
	Tatkon (n=50)		Magway (n=50)		Myinmuu (n=50)	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Yes	47	94	48	96	46	92
No	3	6	2	4	4	8
Total	50	100	50	100	50	100

IV. CONCLUSION

Based on the result of the study, the farmers relied the DoA as their source of information followed by agrochemical companies. The farmers do not realized the activities of NGOs and INGOs. The extension agents from both public and private sectors used individual, group and mass methods. However, they used farm and home visit as their extension activities and farmers preferred this method due to discuss their field condition and problems visually. Phone call is popular nowadays and it can be applied as tools for dissemination of agricultural information to the farmer. Farmers' preference group extension methods were study tour and field day, therefore, public and private extension services should more emphasis on these methods. Moreover, group discussion is an alternative way. Regarding to mass media, leaflet is the most useful for farmers and extension services should take into consideration in their extension programs. Farmers' preference agricultural program from Radio and TV were talk show and success story program, and their preference time for listening is afternoon and night time, Farmer channel and MRTV and radio programs should take into account it. However, farmer's response regarding to mass methods is still low. Farmer channel and MRTV needed to improve the programs to attract farmers' attention. Farmer to farmer information exchange was very significant among farmers; farmer field school approach is the most appropriate approach for dissemination of agricultural information to farmers. In this regards, it is necessary to convince the farmers how importance of farmer organizations for their sustainable livelihoods. It is also needed to emphasis on establishment of farmer organizations collaboration with cooperatives.

In compares with DoA extension and private sector extension services, DoA used more on individual method and agrochemical companies practiced group method. However, there was no difference between services. Both services used mass methods for dissemination of information among farmers. The responses of farmers from all study areas were low and they did not really understand extension activities of both private and public sectors. Moreover, extension staffs from both services are still using traditional methods and only

emphasis on increasing crop production. The questions arise here are **"Do we need to change appropriate extension approaches to improvement of livelihood of people in rural areas?" "How do we to introduce the new extension activities for both farmers and extension staff?"** The farmers answered on NGOs and INGOs activities were mainly focus on material technologies, did not answer the extension activities for empowerment of rural peoples. It is one of the constraints for sustainable livelihoods of the farmers in these areas. The solution is using the empowerment and participatory approaches. The participatory extension approaches have positive effects for the most of the generic problems of extension in Myanmar.

V. REFERENCES

Adhikarya, R. (1994). Strategic Extension Campaign: A Participatory-oriented Method of Agricultural Extension. Rome, Italy: FAO.

Agriculture for impact (2017).Agricultural Extension. (http://ag4impact.org/sid/socio-economic-intensification/building-human-capital/agricultural-extension/) (Available at 23 September 2017).

Chambers, R. (1993). Methods for analysis by farmers: the professional challenge. Journal for Farming Systems Research and Extension, 4(1), 87-101.

Cho, K.M. and H. Boland (2013). Participatory Learning for Agricultural Extension and Future Development in Myanmar, Institute of Rural Sociology and Extension, University of Giessen, Germany.

GFRAS (2012). http://www.g-fras.org/en/world-wide-extension-study/94-world-wide-extension-study/asia/south-eastern-asia/313-myammar.html.

Hagmann, J. Chuma, E. Murwira, K; Connolly, M. (1998). Learning together through participatory extension: A guide to an approach developed in Zimbabwe.

IFPRI (International Food Policy Research Institute) (2017). Agricultural Extension. http://www.ifpri.org/topic/agricultural-extension (Available at 23 September 2017)

Khin Oo and K. Ando (2012). Improving Myanma Agricultural Extension Services: Empirical study on views and perception of field extension agents in Mandalay Division of Myanmar. Kyoto paper on areas studies. No.123 (G-COE series121).

Landon Lane, C. & Powell, A. P. (1996). Participatory rural appraisal concepts applied to agricultural extension: a case study in Sumatra. Quarterly Bulletin of IAALD, 41(1), 100-103.

Livelihood and Food Security Trust Fund (2015). Study on extension and farm advisory Services (EAS), AFC Consultants International GmbH. Dottendorfer Str. 82. 53129 Bonn, Germany.

Myint Myint Aye (2017). Current Status of Agricultural Extension in Myanmar (unpublished report).

Pretty, J. N. & Vodouhe, S. D. (1997). Using rapid or participatory rural appraisal.In Swanson (ed.), Improvingagricultural extension: A reference manual, 47-55. Rome, FAO.

Roling, N., & Pretty, J. N. (1997). Extension's role in sustainable agriculture development. In: B. E. Swanson, R.

Photos are books which have been published by YAU_ACIAR_ Strengthening Institutional Capacity, Extension Services and Rural Livelihoods in the Central Dry Zone and Ayeyarwaddy Delta Region of Myanmar (ASEM-2011-043)

Arranged by Dr. Theingi Myint, Coordinator, Professor of Agricultural Economics, Yezin Agricultural University

ACIAR
Research that works for developing countries and Australia
aciar.gov.au

Australian Aid

Australian Government
Australian Centre for International Agricultural Research