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***“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 EDUCATION  
CURRICULUM IN HIGHER AGRICULTURAL  
INSTITUTION IN MYANMAR***



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## ABSTRACT

This study reviewed the development of agricultural extension subject in Yezin Agricultural University. This study pointed out the strong and weakness of current curriculum of agricultural extension research activities and newly developed curriculum for specialization of agricultural extension with semester credit system. This study also raised the questions concerning effectiveness of developed curriculum of Agricultural Extension in YAU.



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## I. INTRODUCTION

As an agricultural country, Myanmar has great potential from the agricultural sector. The agricultural sector takes a strategic role in national economic development. Therefore, the support from various parties to develop the agricultural sector is highly needed. One of the parties is the college/higher education institution. In addition to creating technological innovations in agriculture, the role of higher education institutions is to come up with high quality graduates who are able to provide guidance and assistance so that farmers can apply the right ways of farming. As Myanmar moves towards market integration, the need for abundant supply of quality food produce and agricultural products increases. The country needs to meet growing domestic demands at the same time that it is poised to face the challenge of the global market. With its rich natural and human resources, the country is in the position to maximize opportunities to participate in the international market. The opportunity to increase agricultural yield and expand its market base hinges on its capacity to ensure competitiveness of agricultural produce.

As the premier and only one agriculture university tasked with the development of professional human resources to develop the agricultural sector of Myanmar, Yezin Agriculture University (YAU) faces the challenge of coming up with innovations in program offerings to directly respond to the task of updating the knowledge and skills of farmers.

Yezin Agricultural University existed in Yezin long before the area became the new Capital of Myanmar, Nay Pyi Taw which is 410 km north of Yangon city and 283 south of Mandalay city and it is the only one agricultural university as well as the only one university named after a humble village in Myanmar. The area where the university located later became a unique place in Myanmar which makes itself biological and environmental science space comprised of various institutes and universities. Yezin Agricultural University



(YAU), only one agricultural university in Myanmar, is the main producer of human resources for the agriculture and relevant sectors. The vision of YAU is to be a prime mover of agricultural and rural development in Myanmar through human resource development and a national supplier of scientific knowledge and technical innovation. YAU regards educating professionals and contributing in the nation agricultural development as its mission. With those vision and mission statement “Developing nation through agricultural science and education” became the motto of YAU since the beginning. Being the only one University of its kind in Myanmar, YAU serves as the platform for national agricultural development and human resource development programs (YAU 2014).

Not only in Yezin, YAU’s territory was expanded some years ago throughout the nation for effective area and technology development and better contact with local growers. Generally, YAU has 7 outreached campuses which are hosting the final year bachelor degree students who are doing their graduating research on respective specialization study. Aungban campus in Shan regional state is for hillside farming, Lungyaw campus in Mandalay regional division, Phaaug campus in Mon regional state and Nyaungpinthar campus in Bago regional division: the three are collectively for industrial crop production, Magway campus in Magway regional division is for Dry land farming, Hmawbi campus in Yangon regional division is for rain-fed lowland farming, Hlegu campus which is another campus within Yangon regional division is for crop protection while the main campus Yezin is for Agronomy, Soil and Water management studies, Crop Breeding Technology, Plant Biotechnology and Agribusiness management studies, Agricultural entomology and plant pathology. Being a center of academic and technology, teaching and training, research work and extension service are the major functions of YAU. In conferring the agricultural technology, 7 major academic departments ( Department of Agronomy, Department of plant Breeding, Physiology and



Ecology, Department of Soil and Water Science, Department of Plant Pathology, Department of Entomology and Zoology, Department of Horticulture and Agricultural Biotechnology and Department of Agricultural Economics) are the major responsible departments supported by the 6 minor subject departments (Department of Agricultural Engineering, Department of Animal Science, Department of Myanmar, Department of English, Department of Physics and Department of Mathematics). Annually, the university produces more than 200 graduates both for bachelor and post grad and up to this day, the university has already produced more than 9000 bachelor degree holders together with numbers of postgraduate degrees. As its curriculum, YAU is conferring 5 programs of degrees i.e Ph.D, M.Agr.Sc., M.Phil., Postgraduate Diploma and B.Agr.sc. The medium of instruction is English. The University farm is bounded by the Yangon-Mandalay Highway on the west, by the left Yezin Dam major irrigation canal on the east, by Ma-U-taw Village on the north and by the University entrance road on the south. The farm is principally for teaching, production and research for both students as well as staff members. The total area of the farm is 57.72 ha (144.31 acre) which excludes 5.39 ha (13.48 acre) of the area of roads, buildings, levees and canals. This farm was developed in 1977 with the assistance of FAO Farm Planning and Development Consultant under UNDP/FAO project Bur-71-521 (YAU 2014).

## **II. AGRICULTURAL EXTENSION CURRICULUM IN YEZIN AGRICULTURAL UNIVERSITY**

Since YAU was founded on 22<sup>nd</sup> December 1924 as “Burma Agricultural Collage & Research Institute”, she could not able to offer extension education subject for 60 years. The agriculture extension was taken by Agronomy Department as part of the Agronomy subject at those years. Around 1985, Agricultural Extension was promoted as a separate subject for teaching under





and post-graduate classes within the Agronomy subject areas. In the near future, the Department of Agricultural Extension will be established to take responsibility of teaching and production of agriculturists with extension education background.

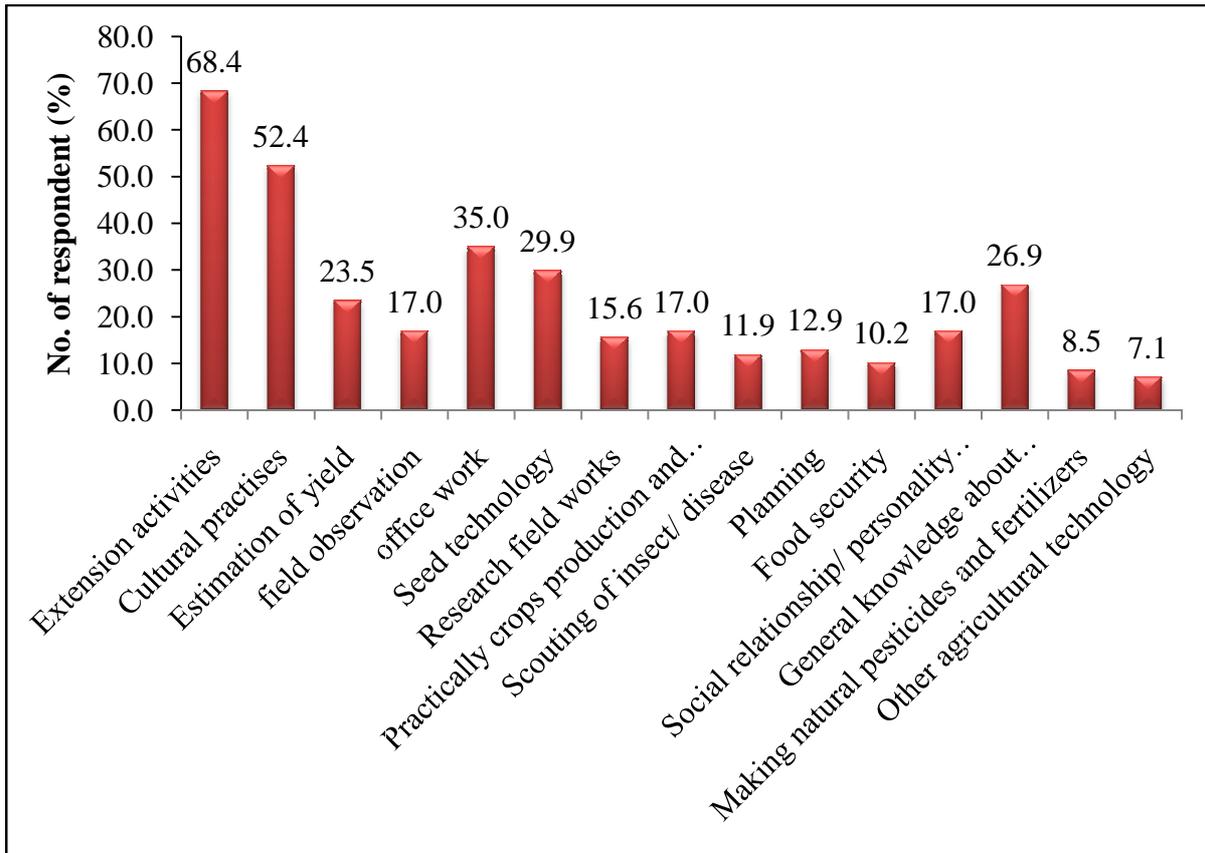
Department of Agronomy offered agricultural extension subjects in third year and final year classes as a compulsory subject and elected subject in fourth year class. Department of Agronomy also offered Agricultural Extension subjects in graduate classes produced master and Ph.D degree holders specialized in agricultural Extension. Agricultural extension courses offered by Department of agronomy are shown in appendix 1. Australian Centre for International Agricultural Research (ACIAR) and Southeast Asian Regional Center for Graduate Study and Research in Agriculture (SEARCA) provided financial and technical supports for curriculum development of agricultural extension in YAU in 2016 (unpublished report of Department of Agronomy 2016, Nyein Nyein Htwe 2016).

Internship program is the compulsory for final year students of YAU. Students were dispatched to Department of Agriculture, Department of Agricultural Research and NGOs such as GRET and agrochemical companies. During internship studies, the students learnt and got knowledge and experience related to extension activities, cultural practices, and office work and so on. “Assessment of internship program of final year students in 2015-16 academic year” was conducted with the support of JICA TCP education task force in October 2016. The students reported that the major activities during their internship program are extension activities (Table 1). The students also reported that the knowledge and experience gained from their internship program was agricultural extension (Figure 1) (NyeinyeinHtwe2016).



**Table 1. Major activities during internship program of final year students in 2015-16 academic year**

Activities	No. of respondent (%) n= 294	
	Frequency	Percent
Extension activities	220	74.8
New village project	7	2.4
SRI	15	5.1
GAP	29	9.9
NGO/INGO project	13	4.4
Seed production/ distribution	158	53.7
Research experiments	140	49.6
Crops production	27	9.2
Inspection of agrochemical shop	4	1.4
Other activities	23	7.8



**Figure 1. Knowledge and experience gained from internship program of final year students**

The students also realized the importance of agricultural extension for development of nation agricultural sector and improvement of livelihood of rural people, therefore, they would like to study/ learn during their internship program was discussion with farmers related to their problems and observe farmers' fields (Figure 2).



### **III. RESEARCH RELATED TO EXTENSION EDUCATION IN AGRICULTURAL INSTITUTION**

There is research related to agricultural extension in YAU (Appendix 3). Most of them are related to technology dissemination and technical efficiency. There are also research related agricultural educations of YAU (Appendix 4), mostly assessment of courses offered by YAU and students and staff perception on educational system of YAU conducted by JICA-TCP program. These researches pointed out the strong and weakness points of YAU education system. However, there was no research concerned with agricultural extension curriculum.

### **IV. DEVELOPMENT OF AGRICULTURAL EXTENSION CURRICULUM IN YAU**

The Department of Social Science is established in June 2017 and plan to offer agricultural science major in agricultural extension as a new program offering in order to provide a cadre of agricultural professionals who possess the ability to combine technical and social knowledge to motivate farmers to adopt modern farming practices and encourage stakeholders along the supply chain to innovate. This new specialization program provides graduates with necessary agricultural technical knowledge combined with knowledge of communities, skills in promoting entrepreneurship and social processes in the areas of program management, education and communication which are necessary to move people and communities. Therefore, agricultural extension as a specialization in the bachelor of agricultural science curriculum was designed with technical assistance from the Southeast Asian Regional Center for Graduate Study and Research in Agriculture (SEARCA). The curriculum for the Agricultural Extension specialization program was conducted with the objectives of institutional, program and course outcomes. As a higher education



institution, the curriculum describes the attributes of their ideal graduates which they expect to see five years after graduation. Also sets competencies (related knowledge, skills, and attitudes) that all learners are expected to demonstrate. These are what graduates can do immediately after finishing the courses. The courses are also designed to specify the course outcomes, the content and methodologies for the whole semester as well as the assessment and evaluation adopted for the particular course. The participatory curriculum planning process including the residential curriculum planning conducted in YAU, the review process sent to partners of YAU and final review and validation by YAU faculty members was conducted. The Agricultural Extension curriculum was designed to the following institutional and program outcomes.

Graduates will have competencies to become:

1. Leaders in the development and dissemination of scientific knowledge
2. Facilitators of agri-business entrepreneurship
3. Facilitators of community development fueled by green growth

### ***Intellectual Competencies***

1. Respect and adherence to rules and regulations of the profession.
2. Respect to the community and professional organizations.
3. Lifelong learning and ability to contribute personally and meaningfully to the country's development.

### ***Personal and Civic Competencies***

1. Communicate fluently in native and international languages
2. Assess research results with community and institutional outcomes
3. Adherence to participatory and learner centered teaching
4. Synthesize, propose and defend innovative solutions to agriculture and rural development



### ***Practical Skills***

1. Provide updated science-based technical farming/agricultural advice along the agricultural supply chain (pre-production, production, post-harvest and marketing) to various stakeholders
2. Design and evaluate Information, Education and Communication (IEC) campaign materials for educational purposes
3. Design, manage, and evaluate teaching and learning interventions in formal and non-formal settings
4. Perform leadership and managerial skills in terms of agricultural community development
5. Interpret and explain agricultural policies, rules and regulations to various stakeholders

Seven courses were developed namely, Introduction to Community Development, Entrepreneurship in Agriculture, Community Organizing and Mobilization, Introduction to Issues and Policies in Agriculture, Theories and Principles of Education, Communication and Media Production, Approaches and Methods in Extension. Catalog Course Descriptions were formulated with the topics of Course Number; Course Title; Course Description; Semester/s Offered; Course Credit; Number of Hours; Course Goal; Schedule; Lifelong Learning Activities; Assessment; References.

Nowadays, YAU is reforming its system of semester based to credit system, Department of Social Science is developing courses for agricultural extension as a specialization in the bachelor of agricultural science with the vision of to develop capable agriculturists who are empowered with knowledge, skills, and attitudes to make informed and responsible decisions in a diverse and interdependent world. The newly developed curriculum includes 26 courses comprising general education, core subject and selected courses for bachelor degree program based on the curriculum formulated by SEARCA expert. Appendix 2 shows the curriculum map for agricultural extension as a



specialization in the bachelor of agricultural science. Recently, all courses and syllabus are still developing in YAU.

A bilateral MOU between Government of India and Government of Union of Myanmar, Advanced Centre of Agricultural Research and Education is establishing in YAU since 2013. It is a state-of-art institution, implementing cutting edge science in conjugation with the traditional knowledge and ecological prudence for sustainable food, nutritional and livelihood security of farm families of Myanmar. IM-ACARE has four divisions including participatory knowledge management. This division is envisaged to develop and implement relevant model for effective and efficient transfer of scientific and technological know-how to the farmers and other stakeholders and to undertake research work for on-farm technology assessment and refinement with active participation of the personal form IM-ACARE and DoA, farmers and other stakeholders so that effective crop and location specific technologies can be developed and disseminated for early adoption for higher profitability and sustainability. The designed content will be uploaded to the network server for access to the users. Four Village Knowledge Centres will be set up and equipped with computers along with the necessary accessories and internet connection for quick dissemination of technology to the farmers (YAU 2012).



## V. CONCLUSION

In conclusion, YAU is developing curriculum for Agricultural extension in line with credit system and State Agriculture Institute also improve its curriculum, the following issues are still raised concerning curriculum of Agricultural Extension in YAU.

1. Capacity building concerns – Who will teach the courses? How can we ensure that they are equipped with the necessary knowledge and skills?
2. Faculty complements concerns – Will there be new faculty members to be recruiting for this specialization? How can this be implemented when there are few faculty members and the number of students is increasing?

YAU and SAI should address as answers to these critical issues for the successful implementation of the specialization program. In terms of the capacity building and faculty complement concerns, YAU will recruit faculty members at the same time serve as partners in improving the capacities of the faculty members in areas where they do not initially have capacities.

To ensure continuous revision of the program, a course review by the students should be solicited every semester. The continuous improvement of the course and the program review should be conducted one year after the graduation of the first batch. The graduates of these specialization program and their employers should involve in this review program.



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## **Appendix 1. Current Curriculum and Syllabus of Agricultural Extension in YAU**

AGY- 321: Agricultural Extension and Rural Sociology

(Theory 2 + Practical 2)

Theory

Introduction to agricultural extension; Adult learning; Diffusion of innovation; Extension models; Extension methods; Group extension; Communication process; Communication strategies; Building social capital

Practical

Extension teaching methods: individual methods, group methods, mass methods, printed media; Participatory tools: social mapping; historical timeline, matrix scoring; transect walk

AGY – 4105: Agricultural Extension Approaches and Methods

(Theory 2 + Practical 0)

Extension education strategies and organization, comparison of extension approaches, theoretical models of communication, principles and processes of communication, Analysis of extension teaching methods, nature and channels of communication in extension system, audio-visual media in extension, Problem based learning; Extension program planning and evaluation; Social context in agricultural extension

AGY – 5101: Participatory Extension Approach

(Theory 2 + Practical 0)

Agricultural extension approaches; Types of participatory extension approaches, Characteristics of participatory extension approaches; Typology of participation. Tools and approaches for participatory research and development; Gender in agriculture; ICT in agriculture, Sustainable livelihood approaches

AGY – 652 Advanced Rural Sociology

Credit-3

Rural subculture in developed and developing countries; social interaction and processes; patterns of influence, motivation, attitudes, value and value systems; group dynamics; application of rural sociological principles to



extension practices; role of private and government organizations serving rural community.

AGY – 653 Extension Organization & Management

Credit-3

Extension workers in organization; management by objectives; program planning evaluation; achievement motivation.

AGY – 654 Extension Research And Evaluation

Credit- 3

Mode building; hypothesis construction; development of theoretical concepts and empirical measures; survey techniques; sampling techniques; data management; statistical techniques used in social sciences.

AGY – 655 Communication

Credit - 3

Theories of communication, methods and problems related to interpersonal. Group and mass communications. Diffusion of scientific information in rural-sub culture Practical classes develops skills in diagnosing communication problems. Writing and speaking and formulating methods appropriate to effective communication within social, work and organizational settings.

AGY – 656 Agricultural Extension Practices

Credit - 3

Innovation and communication in farming communities extension farms; broad areas of problem-solving and learning; achievement motivation; leadership; the extension worker in organization; management by objectives; program planning and evaluation.

AGY- 719: Agricultural Extension in Rural Development

Content of extension, Institutional factors in extension, Micro factors in extension, organization and management of extension, Human resources within extension.



## Appendix 2. Tentative Curriculum Map of Agricultural Extension

Year	Semester	GE (C)	GE (S)	SE (C)	SE (S)	P (C)	P (S)
		2	3	2	1		
First Year	1st	SPT-101, ENG-101	History of Agriculture				
	2nd	ENG- 102, BIO-101	Introduction to Rural Sociology				

Year	Semester	GE (C)	GE (S)	SE (C)	SE (S)	P (C)	P (S)
		2	3	2	1		
Second Year	1st	ENG-103, Gen. Agri.			Introduction to Agricultural Extension		
	2nd	ENG-104, Gen. Agri.			Introduction to Community Development		



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Year	Semester	GE (C)	GE (S)	SE (C)	SE (S)	P (C)	P (S)
		0	3	3	2		
Third Year	1st		Extension Models	Research Methods in Behavioral Science (P)	Indigenous Development		
	2nd		Theory and Principles of Education	Participatory Tools in the Development Process (P)	Community Organization and Leadership		

Year	Semester	GE (C)	GE (S)	SE (C)	SE (S)	P (C)	P (S)
		1		3	2	2	2
Fourth Year	1st	Presentation skills by Dept.		Communication Strategies (P)	Social Context in Agricultural Extension		
	2nd	Paper Writing skills by Dept.		Media Production (P)	Capacity Building in Rural Areas		





Year	Semester	GE (C)	GE (S)	SE (C)	SE (S)	P (C)	P (S)
				2	2	Internship (3)	0
Final Year	1st	Internship (3)		Issues and Policy in Agriculture	Entrepreneurship in Agriculture		
					Public Policy of Developing countries		
	2nd	-	-	-	-	Thesis (10)	Seminar (1)



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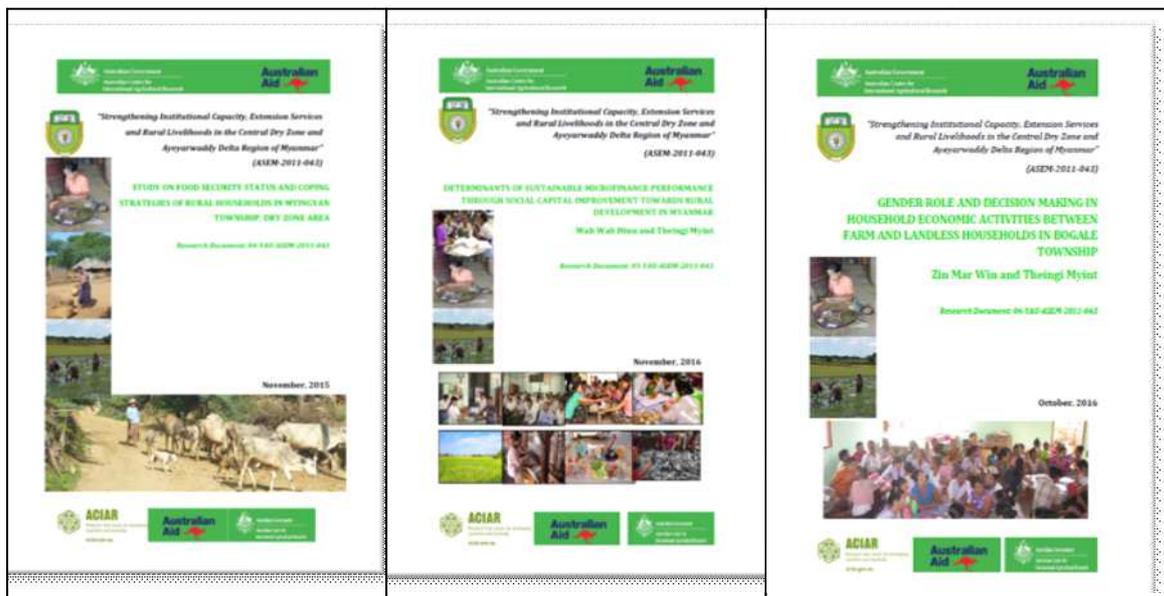
### **Appendix 3. Research activities related to Extension (Postgraduate Program)**

1. General role and technical efficiency of agricultural extension agents under human resource development (HRD) in Myanmar.
2. Improving the agricultural extension services: empirical study on prospects and perception of field extension agents in Mandalay Division of Myanmar.
3. Farmer's technical knowledge, communication and adoption behaviour on rice production technology package in Pyinmana area.
4. Impact of flood on livelihood and agricultural production in Seikphyu Township, Magway region.
5. Towards private extension trend in Myanmar: analysis of parallel extension services in greengram production area, Yangon Division.
6. Self-sufficiency of fodder crops in Seikphyu Township, Magway Region, central dry zone of Myanmar.
7. Livelihoods and decision making on livelihood assets of farming community at household level: a case study in Tatkon, Nyaung U and Meiktila Townships, Myanmar.
8. Cropping patterns and extension methodology accessed by pulses growing farmers in Central Dry Zone, Myanmar.



## **Appendix 4. Research activities related to agricultural education system of YAU**

1. Students' perception on educational system of YAU, 2016
2. Academic staffs' perception on educational system of YAU, 2016
3. Assessment of internship program of final year students of 2015-16 academic year, 2017
4. Students' perception on educational system of YAU, 2017
5. Academic staffs' perception on educational system of YAU, 2017
6. Favorable attitudes towards selection of specialization of third year students f 2016-17 academic year



**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**

