

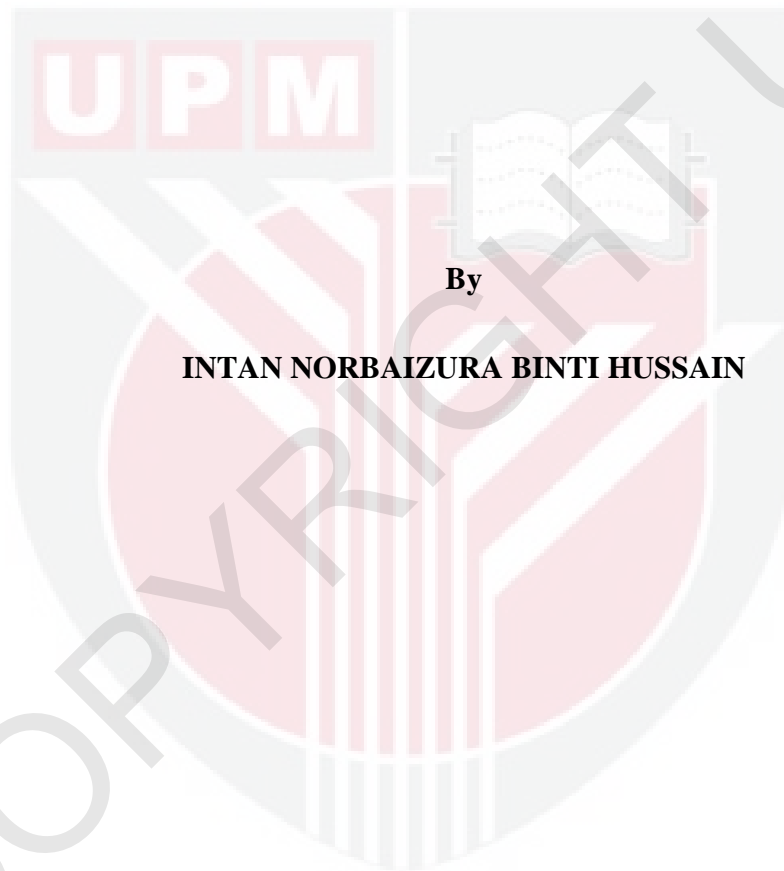


***PERCEIVED COMPETENCIES AND TRAINING PREFERENCES OF
EXTENSION AGENTS IN THE MUDA AGRICULTURE DEVELOPMENT
AUTHORITY, MALAYSIA***

INTAN NORBAIZURA BINTI HUSSAIN

IPSS 2012 6

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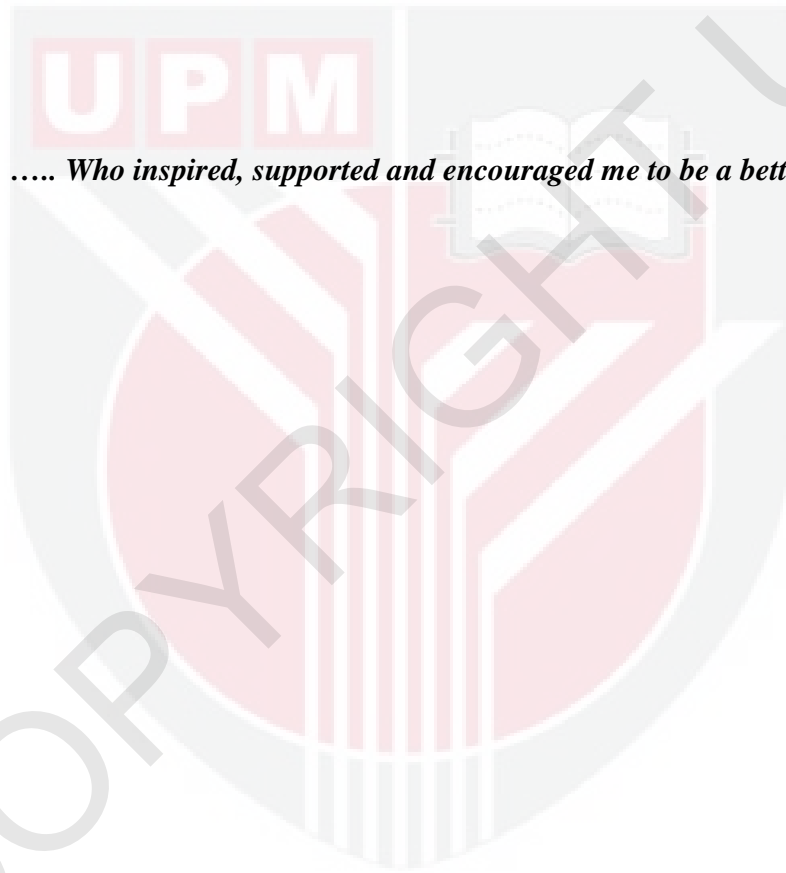
**Thesis Submitted to the School of Graduate Studies, Universiti Putra Malaysia,
in Fulfilment of the Requirements for the Degree of Master of Science**

February 2012

Special Dedicated to...

My husband, Kamaruizani Abdul Manaf

..... Who inspired, supported and encouraged me to be a better person.



Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfilment
of the requirement for the degree of Master of Science

**PERCEIVED COMPETENCIES AND TRAINING PREFERENCES OF
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INTAN NORBAIZURA BINTI HJ HUSSAIN

February 2012

Chairman : Norsida Man, PhD

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Competency is knowledge, skills, abilities and behaviors required for successful performance of job duties (Mirabile, 1995). Extension agents play an important role in developing agriculture systems to overcome many problems. Therefore, competency of extension agent is essential in order to perform their job duties effectively. In addition, extension activity is one of the factors contribute to increase productivity of farmers.

The goals of agriculture extension activity are to transfer technology effectively and to empower the farmers to be more self-reliant in order to achieve the objectives of their farming activities. Researchers have identified lack of proper balance between

technical and professional competencies of extension agents as a common problem in the extension services of developing countries. Therefore, the purpose of this study is to identify the competency level of MADA's extension agents and their training preferences. Adequate and appropriate training in this field are required in order to improve the competency of an extension agent in terms of knowledge, skills, practices and attitude.

There are seven dimensions of competency required by extension agents namely planning in extension activities, implementing in extension activities, evaluating in extension activities, communication in extension activities, guiding in extension activities, farm management in extension activities and ICT in extension activities.

Respondents from this study were 200 extension agents in MADA. They were consist of 26 Agriculture Officer (AO), 30 Agriculture Assistant Officer (AAO) and 144 Agriculture Assistant (AA). Data were collected using structured questionnaire.

Likert type scale of 1 to 5 (1 representing very low and 5 representing very high); were used to measure respondents' competency level and the importance of the seven competency dimensions. The questions asked included items such as their ability in handling a meeting, ability to monitor the farmers and ability to communicate with farmers and colleagues. Descriptive analysis and ANOVA were applied to analyze the data using SPSS.

The findings show that the highest total mean in level of competency is implementing (4.37) and the least (3.69) is guiding. Meanwhile in level of importance, guiding shows the highest mean (4.50) and the least (4.31) is evaluating.

Training preferences were asked using Likert type scale and results shows 99 percent of the respondents highly agreed with the given statements. Statement with the highest mean (4.79) is training is very important to improve skill and ability and statement with the lowest mean (4.26) is training in various field should be given to officer to perform their job.

ANOVA was conducted to compare demographic factors with the seven dimensions of competency. Post hoc comparison reveals that there were significant differences between age, education and years of experience. However, the level of position shows no significant differences between AO, AAO and AA in their competencies level.

Based from the findings, this study recommends MADA to carry out proper Training Needs Analysis to ensure the effectiveness of training for extension agent in the future. Demographic factors which show significant differences in term of competencies should be considered and used in planning training to the different extension agents. Additional research to replicate this study with other extension agents from other agency is needed to evaluate the extent to which the results presented here would be similar and recommendation will be applicable. The

findings of this study hopefully can contribute to the success of the extension programs in MADA. Extension agents must be able to see their competency level and willing to improve themselves to perform well in their job duties.



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Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia sebagai memenuhi keperluan untuk Ijazah Master Sains

**TANGGAPAN KOMPETENSI DAN KEUTAMAAN LATIHAN TERHADAP
AGEN PENGEMBANGAN DI LEMBAGA KEMAJUAN PERTANIAN
MUDA, MALAYSIA**

Oleh

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Februari 2012

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Kompetensi adalah pengetahuan, kemahiran, keupayaan dan sikap untuk menjayakan tugas dalam kerjaya. (Mirabile, 1995). Agen pengembangan telah memainkan peranan penting dalam membangunkan sistem pertanian dan mengatasi pelbagai masalah. Maka kompetensi agen pengembangan adalah penting untuk menjalankan tugas mereka dengan efektif. Tambahan pula, aktiviti pengembangan adalah satu factor yang menyumbang kepada peningkatan produktiviti petani.

Matlamat-matlamat aktiviti pengembangan di MADA adalah untuk menyampaikan teknologi dengan berkesan dan mendayakusakan para petani untuk menjadi lebih berdikari untuk mencapai objektif aktiviti pertanian mereka. Penyelidik telah mengenal pasti kekurangimbangan dari segi kompetensi teknikal dan profesional agen pengembangan sebagai satu masalah biasa dalam perkhidmatan pengembangan

di negara-negara membangun. Oleh itu, objektif kajian ini adalah untuk mengenal pasti tahap kompetensi agen pengembangan MADA dan keutamaan dalam latihan mereka. Latihan yang mencukupi dan bersesuaian diperlukan untuk meningkatkan kompetensi agen pengembangan dari sudut pengetahuan, kemahiran, praktikal dan sikap.

Terdapat tujuh dimensi kompetensi yang diperlukan oleh agen pengembangan iaitu; merancang aktiviti pengembangan, melaksana dalam aktiviti pengembangan, menilai dalam aktiviti pengembangan, komunikasi dalam aktiviti pengembangan, panduan dalam aktiviti pengembangan, pengurusan ladang dalam aktiviti pengembangan dan ICT dalam aktiviti pengembangan.

Responden kajian ini ialah 200 agen pengembangan di MADA. Mereka terdiri daripada 26 Pegawai Pertanian (AO), 30 Penolong Pegawai Pertanian (AAO) dan 144 Pembantu Pertanian (AA). Kesemua data diperolehi melalui soal selidik berstruktur.

Skala jenis Likert 1 hingga 5 (1 mewakili sangat rendah dan 5 mewakili sangat tinggi); digunakan untuk mengukur tahap kompetensi responden dan kepentingannya. Soalan-soalan yang ditanya termasuk keupayaan mereka dalam mengendalikan mesyuarat, keupayaan untuk memantau petani dan keupayaan untuk berkomunikasi dengan baik dengan petani dan rakan sekerja. Analisis deskriptif dan ANOVA telah digunakan untuk menganalisis data menggunakan perisian SPSS.

Hasil analisis kajian menunjukkan bahawa min purata tertinggi dalam tahap kompetensi ialah melaksana (4.37) dan yang terendah (3.69) ialah membimbing. Sementara itu di dalam tahap kepentingan, membimbing menunjukkan skor min yang tertinggi (4.50), dan yang paling rendah (4.31) ialah menilai.

Keutamaan latihan ditanya menggunakan skala jenis Likert dan keputusan menunjukkan 99 peratus daripada responden sangat bersetuju dengan pernyataan yang diberi. Pernyataan dengan min yang tertinggi (4.79) ialah latihan adalah sangat penting untuk meningkatkan kemahiran dan keupayaan manakala pernyataan dengan min yang terendah (4.26) ialah latihan dalam pelbagai bidang perlu diberikan kepada pegawai untuk menjalankan tugas mereka.

ANOVA telah dijalankan untuk membandingkan faktor-faktor demografi dengan tujuh dimensi kompetensi. Perbandingan post hoc mendedahkan bahawa terdapat perbezaan yang signifikan antara umur, pendidikan dan tahun-tahun pengalaman. Walau bagaimanapun, tahap kedudukan menunjukkan tiada perbezaan yang signifikan antara AO, AAO dan AA dalam tahap kompetensi mereka.

Berdasarkan dari penemuan, kajian ini mencadangkan MADA untuk menjalankan Analisis Keperluan Latihan yang betul untuk memastikan keberkesanan latihan para agen pengembangan pada masa akan datang. Faktor demografi yang menunjukkan perbezaan yang signifikan dalam ANOVA perlu dipertimbangkan dan digunakan

dalam merancang latihan kepada ejen pembangunan yang berbeza. Kajian tambahan untuk mereplikasi kajian ini dengan agen pembangunan daripada agensi lain adalah diperlukan untuk menilai sejauh mana keputusan yang dibentangkan di sini adalah serupa dan cadangan boleh diaplikasikan. Hasil kajian ini diharapkan dapat menyumbang kepada kejayaan program pembangunan di MADA. Agen pembangunan mesti berupaya melihat tahap kompetensi mereka dan bersedia untuk memperbaiki diri mereka untuk menunjukkan prestasi yang baik dalam tugas-tugas mereka.

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Last but not least, I would like to thank everyone who has contributed in one way or another in this project. May Allah SWT bless all who have kindly helped me.

I certify that a Thesis Examination Committee has met on 24 February 2012 to conduct the final examination of Intan Norbaizura binti Hussain on her thesis entitled “Perceived Competencies and Training preferences of Extension Agents in Muda Agriculture Development Authority, Malaysia” in accordance with the Universities and University College Act 1971 and the constitution of the Universiti Pertanian Malaysia [P.U.(A) 106] 15 March 1998. The Committee recommends that the student be awarded the Master of Science.

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DECLARATION

I declare that this thesis is my original work except for quotations and citations, which have been duly acknowledged. I also declare that it has not been previously, and is not or concurrently, submitted for any other degree at Universiti Putra Malaysia or other institutions.

INTAN NORBAIZURA HUSSAIN

Date: 24 February 2012



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LIST OF ABBREVIATIONS

AA	Agriculture Assistant
AAO	Agriculture Assistant Officer
ANOVA	Analysis of Variances
AO	Agriculture Officer
CL	Competency Level
DS	Discrepancy Score
EA	Extension Agent
FAO	Food and Agriculture Organization
ICT	Information and Communication Technology
IL	Importance Level
KADA	Kemubu Agriculture Development Authority
M	Mean
MADA	Muda Agricultural development Authority
MARDI	Malaysian Agriculture Research Development Institute
MIL	Mean Importance Level
R	Rank
SD	Standard Deviation
Sig	Significant F
SSL	Self-sufficiency Level
SWOT	Strengths, Weaknesses/Limitations, Opportunities, and Threats

CHAPTER 1

INTRODUCTION

1.1 Introduction

While it is important to recognize the roles of the farmers in agriculture, it is even more important to increase productivity in agriculture sector. Competent and well-trained agricultural extension agents play a vital role in the success of an organization. This study fundamentally focuses on level of competency and training preferences of extension agent in Muda Agricultural Development Authority (MADA). The concept of competency, functions of MADA, competency of extension agent in MADA, role of agricultural extension, issues on extension, agriculture sector in Malaysia and rice industry in Malaysia are discussed in this chapter.

1.2 General Competency

Competency is an integrated set of skills, knowledge, and attitudes that allow one to effectively carry out the activities of a given work to the standards expected in the employment (Lakai, 2010). Competency is ability to accomplish specific tasks required in the employment. A competent worker is someone who is knowledgeable,

highly skilled, with good attitude and excellent job performance. Someone who meets the requirement of the employer is impulsively a competent employee.

Competencies are essential for all educators in order to perform their job effectively. Agents must be proficient in a number of educational competencies or proficiencies that include capabilities, knowledge, and skills that are required to effectively perform their job. While competencies/proficiencies can be defined as those tasks, skills, attitudes and values, and appreciation that are deemed critical to a successful life (Finch & Crunkilton, 1999).

1.3 Muda Agricultural Development Authority (MADA)

Malaysia was formed in 1963. In 1965, the government launched the first five-year national economic development plan, known as the “First Malaysia Plan”. The largest project of which was the Muda Irrigation Project. First conceived by the Federal Drainage and Irrigation Department (DID) in the early 60’s, it was studied by a British consultant firm Sir William Halcrow and Partners, who prepared the feasibility report and detail design subsequently. This project was to develop water resources and conveyance infrastructures such as to enable double cropping for 96,000 ha of paddy fields straddling the coastal plain of the State of Kedah and Perlis.

As construction works were still going on, the government realized that in order to ensure the success, sustainability and further development of such a large scale irrigated agriculture project, a single management organization was required to direct, coordinate and implement many diverse types of activity involved. During that time, irrigation and drainage activities by Drainage and Irrigation Department (DID), agriculture activities by Department of Agriculture (DOA), and farmer organization activities by the Board of farmers Organizations (FO). The prevailing method of coordinating the functions between many related but separately managed federal or state agencies would not be sufficiently effective or efficient to initiate actions or respond to complex problems. A single organization that incorporated core expertise and provided with executive powers would be much more advantageous. Thus the Muda Agricultural Development Authority (MADA) was established in 1970, and delegated semi-autonomous powers by the Parliament to manage the project, directly under the auspice of the Ministry of Agriculture in the Federal Government. A similar organization was later established for the Kemubu Irrigation Scheme in the State of Kelantan, with the name Kemubu Agriculture Development Authority (KADA).

MADA is responsible to operate and maintain all the irrigation and drainage infrastructures; to propagate and advance agriculture technology through training and extension services to farmers; to regulate and promote farmer association activities; and to perform many other functions related to the technical, social and economic development of the agriculture sector. This is consistent with the concept

irrigated agriculture, as a complex socio-technical system, requires coherent and dynamic management effort to nurture and develop both the social and technical assets.

The management should be more sensitive and be more aware of any changes as new needs and opportunities appear, and be well prepared enough to react promptly and creatively if any problems arises.

MADA is governed by a Board of Directors, who decides on major policies, program approval and assumes ultimate control. Executive management is the responsibility of a General Manager, who is also Vice Chairman of the Board. Senior management staff consists of specialists or professionals from various disciplines supported by sub-professionals and trained personnel. MADA is organized into three major divisions by functions, namely Administration, Engineering, Agriculture and Planning and Evaluation, to provide a comprehensive range of services to the farming community, drawing on internal resources, expertise, skills, experience and judgment or external ones whenever required, and emphasis has always been placed on coordinated planning and implementation (MADA, 1975; Afifuddin, 1976).

In 1972, the existence of MADA was formalized under the Muda Agricultural Development Authority Act, 1972. The functions of MADA were:

- 1) To promote, stimulate, facilitate and undertake economic and social development in Muda Area; and
- 2) To plan and undertake within the Muda Area such agricultural development as may be assigned to it by the State Authority of the states of Kedah and Perlis.

MADA is a semi-autonomous responsible to the minister of Agriculture and is governed by a Board of nine members. As seen by one expert, the major factor responsible for the economic and social well-being of the rice farmers is not the land factor, but the human factor.

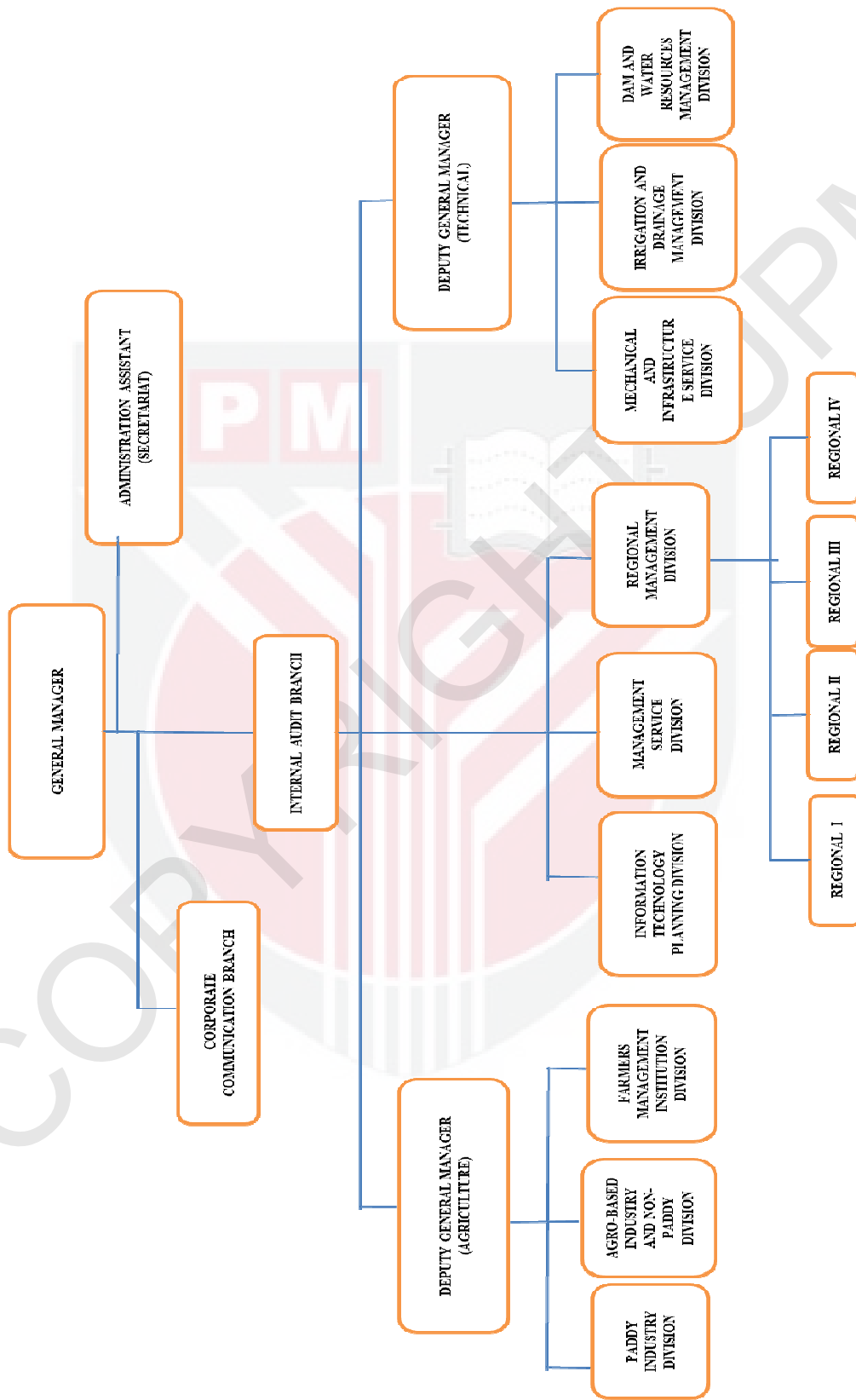
Figure 1.1 shows the organization of MADA. Based from the figure, the highest level of position is held by the General Manager. Meanwhile, General Manager are split to Corporate Communication Branch, Internal Audit and Administration Assistant. There are three divisions under the Internal Audit Branch namely Information Technology Planning, Service Management Division and District Management and the other two Deputy General Manager are divide into Agriculture and Technical purposes.

Regional Management Division is divided into four regionals, I, II, III and IV which represents the area of rice cultivation in Muda. This will be discussed later in page 15. The Deputy General Manager (agriculture) has three divisions below namely Paddy Industry, Agri-Based Industries and Non-Paddy Division and the other one,

Institution Management Division. Meanwhile, under the Deputy General Manager (technical front), are three divisions which are Mechanical and Infrastructure Services Division, Irrigation and Drainage Management Division and Dams and the Water Resources Management Division.



Figure 1.1 : MADA Organization Chart



(Source: MADA 2010)

1.3.1 Pertubuhan Peladang Kawasan in MADA

Pertubuhan Peladang Kawasan (PPK) or Area Farmers' Organization was established initially under the name of the Persatuan Peladang (Farmers' Association) and registered under Farmers' Association Act 1967. It was later changed to the name of PPK when Pertubuhan Peladang Act 1973 was approved by Parliament. PPK of MADA was first established in 1968 with the establishment of Persatuan Peladang Kubang Sepat in which membership is about 215 people and shares valued at RM500.00. Establishment of Persatuan Peladang was increased until the year 1974 where all 27 PPKs have been established.

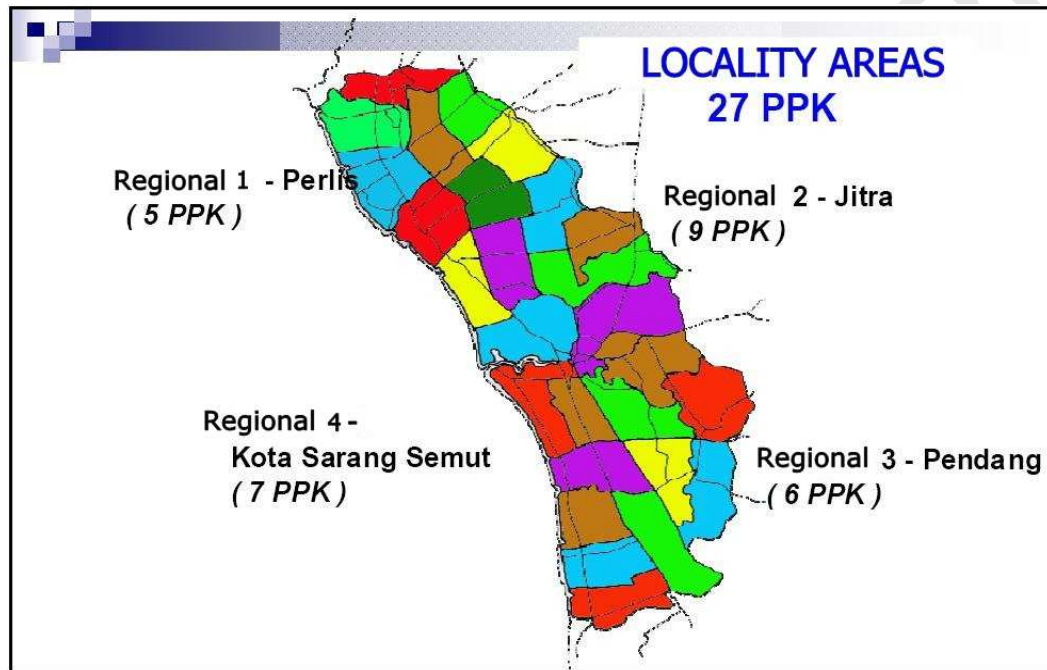
Objectives of the establishment:

- 1) To increase their socioeconomic;
- 2) To gain knowledge and skills of members;
- 3) To increase yield and income of the members;
- 4) To improve their way of life; and
- 5) To create a progressive farming community, independent, prosperous and united.

In order to achieve the goal of MADA to develop a large number of well-being of rural people and increase yield for national requirement, PPK has been actively involved in several projects, including agriculture, welfare and social

and business activities. Figure 1.2 shows the locality areas of MADA consists of Regional 1 to Regional 4.

Figure 1.2: Locality Areas of MADA



(Source: MADA 2009)

Figure 1.3 shows four regionals in MADA consists of 27 PPK in total.

Figure 1.3: List of MADA's Regional

Areas	Regional 1	Regional II	Regional III	Regional IV
A	Arau	Kokdiang	Hutan Kampong	Batas Paip
B	Kayang	Sanglang	Alor Senibong	Permatang Kundur
C	Kangar	Kerpan	Tajar	Kangkong
D	Tambun Tulang	Tunjang	Titi Hj Idris	Permatang Buluh
E	Simpang Empat	Kubang Sepat	Kokbah	Bukit Besar
F		Jerlun	Pendang	Sungai Limau Dalam
G		Jitra		Guar Cempedak
F		Kepala Batas		
G		Kuala Sungai		

(Source: Adapted from MADA 2010)

Regional 1 which is Perlis consists of PPK Arau, Kayang, Kangar, Tambun Tulang and Simpang Empat. Regional II which is located in Jitra consists of PPK Kodiang, Sanglang, Kerpan, Tunjang, Kubang Sepat, Jerlun, Jitra, Kepala Batas and Kuala Sungai. Regional III which is located in Pendang consists of PPK Hutan Kampong, Alor Senibong, Tajar, Titi Hj. Idris, Kobah and Pendang. Regional IV which is located in Kota Sarang Semut consists of PPK Batas Paip, Permatang Kundur,

Kangkong, Permatang Buluh, Bukit Besar, Sungai Limau Dalam and Guar Cempedak.

1.4 Competency of Extension Agents in MADA

Competencies of an extension agent may vary from one organization to others since it depends to the requirement of the level of positions and the employment in total. In MADA, officers are responsible to disseminate information and technology to farmers; hence competency as the middle man is imperative.

If extension agents failed to meet the competency required by the organization, the whole extension process will not progress smoothly and this will delay the process of reaching the targets. There are few barriers that may restrained the extension agents to reach the standard competency level as expected by the employer which are increased work load, lack of time, lack of funding, increased in personal costs related and lack of training in certain tasks.

Being as an extension agent, one must has these seven needed competencies namely planning, implementing, evaluating, communication, guiding, farm management and ICT skill in extension activities. Extension agent and specialists need skill and competence to design, implement and evaluate educational programs for farmers. (Raad et al., 1994).

Competency in planning refers to ability in planning in every aspect regarding extension process. All agents are supposed to be competent in planning since it will provide a clear sense of direction to the extension activities and to the extension agents themselves. It will strengthen their confidence in understanding where the activity is heading and the purposes, the best way to ensure MADA moves along the right track, and when should they take what measures to achieve the goals of the activity.

Competency in implementing is important to make sure the success of any programs or plans, or else it would not progress as planned. When extension agents plan a program, they have to make sure that the activity or program meets the farmers or MADA's needs. Without an efficient, effective, timely, and successful implementation, the extension activities will never be able to succeed or reach their return in investment of time and money.

Competency in evaluating is important to evaluate the degree of achievement of all implemented activities. It can lead the way and ensure future success by becoming intensively engaged in improvement through a number of criteria. A thorough evaluation should be well planned by the extension agents. Halim and Ali (1988) defined evaluation as a process to determine the relevance, effectiveness, and impact of activities in light of their objectives. Examples of items under competency in evaluating are to build some criteria on the effectiveness of certain activity and to collect all data and information on certain activity done.

Competency in communication is significant particularly for the middle men who are supposed to translate any technology or knowledge into a simpler medium. Communication is one of the basic functions of management in any organization and it is a process of transmitting information, ideas, thoughts, opinions and plans between extension agent, farmers and organization. It is not possible to create human relations without any communication. Hence, good and effective communication is required to avoid misunderstanding among the farmers because when any technology wrongly applied to their farm, it can lead to huge losses. One of the item under competency in communication is finding the strategy to communicate during technology transfer.

Competency in guiding can lead towards consistency within the environment in MADA and trust within the farmers to the extension agents. Guidance can also serve as a foundation when there is a need or pressure to rush changes in any extension activities. Examples of item under competency of guiding are control a meeting effectively and convince farmers on any new technology.

Competency in farm management is significant because it is very important for extension agents to know how to keep complete and accurate records in order to maintain or improve farm and also to ensure the paddy's yield can bring profitability. The logic is simple, if extension agents are not convinced on how to manage a farm, how can they be expected to educate farmers? So, extension agents supposedly have knowledge on paddy farming more than any farmers themselves.

Two examples of item under farm management are; to make farm planning and to give farmers marketing information.

The important of using ICT is that it can improves the complexity and function in works given, as well as to reduce time consumption and help extension agents run any activities using computers or internet smoothly. Examples on items under competency of ICT are ability to use internet system and email ability to use Microsoft excel.

1.5 Issues on Agricultural Extension Agents

It is imperative that extension professionals are not only well educated and capable of specialized tasks, but also are prepared to meet the challenges of the profession (Gibson & Hillison, 1994). In essence, an extension agent should have several traits such as highly skilled in their job description; a good relationship and well-bonded with the farmers; be the experts in agriculture; involve in social responsibility; the ability and willingness to teach; skills and knowledge as a successful farmer; has a good political approach with a good communication skill; and patience and sincere to the farmers community and colleagues. Nevertheless, there are various obstacles and issues related to extension agent in MADA area in need of solutions. Among them are:

1.5.1 Appreciation and commitment to the task

Working as an extension agent who have to build up the farmer's confidence and interest, whom are most probably older than them; require them to have good work ethics. Definition of extension, philosophy; goals and objectives should be embraced and translated into action in carrying out extension work.

As they work to educate farmers, change their thinking and living standards positively, commitment of work regardless of time is needed. Appreciation and high commitment to their job duties will help the extension process running smoothly, and their relationship between farmers and their colleagues may improve from time to time up to the point they can have relationship like a good friend.

Many farmers nowadays are knowledgeable, have higher demand for the technology and information, good at expressing their views, rights and concerns. Therefore, the extension agents should be sensitive to environmental changes including the knowledge, expertise and skills in agriculture or any related fields to assist them accurately.

1.5.2 Training to Improve Job Quality in Extension

Adequate and appropriate training in this field needed to create a competent extension agent. In fact, the training module that incorporate knowledge about the field of technology, extension, motivation, communication and so on should be considered.

In order to improve the quality of an extension agent, training should be given for them to improve themselves in terms of knowledge, skills, practices and attitude. Merriam and Caffarella (1991) indicated that fast changes in society, technological developments, complex roles and responsibilities of professionals require continuing education, lifelong learning, in-service training and, in most cases, graduate education.

In MADA, the department that responsible to supervise training to the staff is the Management Services Division. Annual training plans designed to give emphasis to training courses that help improve the competency and professionalism of officers.

Currently MADA provides training to officers based on types of training namely 1) Induction or Orientation Training; 2) Strengthening Training or Refresher Training; 3) Basic Training or Policy (Foundation Training); 4) Direct Training (On-the-Job Training); and 5) training or career development (Career Development or Training).

1.5.3 Training Needs of Extension Agent

Analysis of training needs whether before or even after any training should be done by MADA to ensure the needs and the suitability of the course is known. Buford, Bedeian and Lindner (1995) said to ensure extension agents are well trained, extension management must determine training needs to increase agent capabilities. Assessment of the effectiveness of the programs attended by extension agents should be implemented systematically to minimize the gap of knowledge and expertise of extension agents and training needed.

The most important things from the training, an extension agent should at least learn something new and valuable to assist the farmers and the extension process in general. However, training should be identified whether it needs to be carried out according to their position's level, their needs or so on.

1.5.4 Distribution and Placement of Extension Agent

The ratio of extension agents and farmers in every regional should be considered and calculated if the process of technology transfer and developing human capital need to be carried out effectively. This is to prevent the farmer's problems unheard because of too many farmers were given to be handled by one extension agent.

According to the Department of Agriculture (2010), one agent is capable of carrying out extension works up to 800 farmers in a village in Peninsular Malaysia; contrast with the situation in Sarawak and Sabah where the ratio of extension agent and farmers is about 1: 10.

1.5.5 Workload

Perception of job routine duties refers to the understanding of job description. All extension agents should have an understanding of their job description. Perception of work-load has two aspects: (1) it relates to the way in which an extension agent perceives the various components of his/her job such as its structure, relative importance of its contents, tasks, etc. and (2) it relates to his/her idea about how much work-load is involved in the performance of the tasks assigned to him/her (Ajayi, 2001).

1.5.6 Paradigm Shift

The need for paradigm shift from top down to participatory extension in is required for acceptance and appreciation of the duties as agriculture extension agents. Four important criterias required in their work which are: 1) always help farmers change themselves, through guidance, advice and continuous information given; 2) always

put the agriculture and extension position at the top; 3) always ensure that the strategies and goals of extension can be well achieved; and 4) always look forward to increase the capacity of agriculture and farmers' societies to be competitive and comparable with other countries.

Therefore, without a shift in thinking, no changes can be made and the quality of agricultural extension will be in the old notch despite various efforts have been made to improve it.

1.6 Muda Granary Area

Muda is the most important granary area in the country in terms of both size and output. The Muda irrigation scheme is located in the northwest region of peninsular Malaysia, covering both the states of Kedah and Perlis. The total area is about 126,000 hectares, of which 77,300 hectares are located in Northwest Kedah and the remainder in the Southern part of Perlis. About three-quarter of the total area is under rice cultivation, with the rest under other cash crops.

The region is currently the largest rice producing area in Malaysia, representing 29 percent of cultivated area and 41 percent of the total national output. The cropping intensity is now approaching 200 percent indicating that almost all paddy fields are double cropped. The MADA area is located in one of the most fertile plains in the

country, under the influence of the tropical monsoon with an average annual rainfall of 290 cm and temperature of 28°C.

1.7 Agriculture Extension in Muda Area

Extension activities is one of the factors contribute to increase productivity and prosperity of farmers in Muda area, and therefore the issue of agriculture extension in this area becomes an issue to be discussed and resolved. Goals of the extension activities undertaken by MADA are to transfer technology effectively to be adopted by farmers; and to empower the farmers to be more self-reliant community to achieve the objectives of their farm. In order to achieve these two goals competency of all extension agents who will carry out the extension activities should be the focus.

Therefore, delivery and effective implementation of extension activities is depends on the knowledge, skills and expertise of extension agents. Quality of extension agents should be increased from time to time in line with changes in agriculture's world and the importance to meet the needs of farmers to achieve the goal of educating and empowering them so that agriculture can be independent.

MADA has been successful in their efforts to improve rice's yield of and solve various problems in the paddy farming for the past two decades through programs

that have been carried out. Agricultural innovations that occur as the provision of infrastructure and proper care, the discovery and use of quality seeds, the introduction of agricultural machinery, crop conversion system once a year to twice a year and convert to direct seeding techniques in the Muda area has succeeded in increasing rice production in general.

Eventhough MADA has brought agriculture to the degree of success today, but as time passes, agricultural technology still facing various obstacles and challenges to ensure the continuous success and to achieve greater level to suit farmers' needs and requirements. There are many problems to be solved, for example, pest problems, diseases, productivity, irrigation system, farmers' acceptance and adoption of technology and also development of effective systems.

Rice production in MADA is currently reaching an average of four to five tons per hectare. This figure is way better than one or two decades ago. However, to meet the needs of our country and overcome the problem of excess imported food and dependency on foreign countries to supply the country's food is primarily the responsibility of the major rice production areas of Malaysia which is MADA and KADA. Through this awareness, rice production and the degree they put the target of 10 tonnes per hectare to be achieved can be increased.

As the hard work has been done since the two decades to reach the level today, this scenario should be continued if the target of 10 tonnes per hectare was to be

achieved. Moving together to achieve this goal, willingness of all parties, including farmers and extension agents is crucial.

In order to perform the duties of MADA, agriculture officer appointed to carry out their activities as an extension agent. Extension agent who carry out extension work in MADA can be categorized into three, Agriculture Officer (AO), Agriculture Assistant Officer (AAO); and Agricultural Assistant (AA). The number covers the three positions is 383 people.

Following the tradition, AO will be appointed from those who qualified with a bachelor's degree or equivalent, the AAO with diploma or equivalent, and whereas AA are qualified with agricultural certificate or equivalent. Placement of the officers at any specified place is up to MADA. AO will be working either at the headquarters in MADA Ampang Jajar, Alor Setar, or as a manager in any regional of MADA. AAO will be placed either at the headquarters, any regional center or as a manager of agriculture. Whereas, AA will be located at MADA Headquarters or any regional, but mostly they were placed in the centers where it will be easier for them to work as the frontliner to reach the farmers.

In another angle of view, the extension agent is seen as: an initiator (melts the mind of the farmers and provide awareness), an assistant (knowledge, attitude, skills and practice), an aliquidator of problems; and a source linker (requires knowledge and link).

Regarding that, the role of extension agent can be focused into the following, namely, to help farmers improve their living standards; to help farmers achieve short and long term objectives; make practical recommendations to farmers in enabling them to achieve their goals; acting as middlemen between farmers and MADA/researchers; to help farmers find solutions of their problems; assist in application of government policies; and to help farmers restructure their farm structure.

Through efforts from extension agents in performing their duties, the impacts of the project shall be, farmers would feel responsible to develop the agricultural sector; farmers will be more responsible to produce the best in term of quality and productivity; the objectives will be easier to be achieved when the farmers are confident in making decisions; and farmers will be proactive and responsive to the challenges and time demands.

1.8 Agriculture in Malaysia

Agriculture role remains as the food provider for the nation and as an important source of employment, especially for those who live in the rural areas. Generally, the agriculture sector in Malaysia is characterized by the estates' sub-sectors as well as smallholders' sub-sectors. It could further be classified into food and industrial

crops. The food subsector includes paddy, vegetables, fruits, meat and fish while the main industrial crops are oil palm, rubber, cocoa and forestry.

In the early years before the independence of Malaysia, the involvements of people in agriculture sector were limited. Most of them farmed for their own foods or farmed because they just inherited from their family tradition which no technology used to improve the output. But since the independence day on 31st August 1957, agriculture sector started to play a vital role in Malaysia economics. The main commodities back then were palm oil, rubber, paddy, and coconut. As years past, the agriculture sector becoming an industry that provides many job opportunities and food supplies to Malaysian. In fact, this sector is used as a way to eradicate several big issues such as poverty and the gap in socio-economic among different races.

However, in 1990, government started to focus on heavy industries and hi-tech sectors such as electrics and electronics, automobile and others as it could bring more revenue to Malaysia compared to agriculture. But when the financial crisis hit Aisa in 1997, all the electric and electronics industries as well as the heavy industries fell down and our government began to refocus on agriculture by encouraging the farmers to increase the food production to meet domestic consumption.

After Datuk Seri Abdullah Ahmad Badawi took over the leadership of Malaysia from Tun Dr. Mahathir by the end of 2003 till 2005, many plans to enhance and

increase the productivity of agriculture industry in Malaysia have been suggested ever since. It was like a door opening to agriculture sector in Malaysia.

Now that government has realized that agriculture sector has significant role in supplying foods to people in the country, government starts to reemphasize on the development of agricultural courses in local universities such as biotechnology, horticulture, agribusiness and many others courses in order to produce agriculture specialist in research and development. Agriculture development is now focusing on the high value added product such as fruits, vegetables and livestock.

As a proof of government commitment to bring up the positive transformation in the agriculture sector, the allocation for the agriculture sector has been increase to RM1.5 billion (2005), up to 33% compared to RM977 million in the previous year (2004). Futher more, our Deputy Prime Minister, Datuk Seri Najib Tun Razak, after launching the state-level Farmers, Livestock Breeders and Fisherman Day Celebrations on 11 September 2004 said that among Datuk Seri Abdullah Ahmad Badawi's agenda since taking over the helm was to further strengthen the agriculture sector and to give a new lease of life to it which was all this while considered to be a sector that was weak, not linked to development. Besides, the Ministry of Agriculture and Agro-based Industry had planned various approaches towards increasing agriculture production in order to reduce the country food import bill amounting to RM12 billion.

Agriculture sector has achieved positive development during The Eight Malaysia Plan (RMK8). To sustain this positive development the Malaysian government has announced in the 2010 budget that RM6 billion has been allocated for agriculture sector. One of the agriculture sectors that can profit from this allocation is the paddy industry. As we know, food crisis happened recently or known as “silent tsunami” has caused instability on the food prices in Malaysia. Rice is one of the basic foods that recorded 100% price increase. This indeed has brought difficulties to communities especially the poor and the low income group. (Hayrol, Azizan & Azahari, 2010).

1.9 The Rice Industry in Malaysia

Rice constitutes one of the most important staple foods for more than half of the world’s population. It ranks third after wheat and maize in terms of production. (Bandyopadhyay and Roy, 1992). Rice industry in Malaysia has always been given special treatment based on the strategic importance of rice as a staple diet commodity and it is regarded as the most important crop in the food sub-sector in Malaysia. Apart from providing the country’s staple food, the rice industry also provides the main livelihood to about 296,000 farmers, nearly 40 percent of whom are exclusively rice farmers. (Dano and Samonte, 2001).

In the 1960s, when rice imports from rice exporting countries were unstable and Malaysia's paddy rice industry was still undeveloped, the government was driven to ensure food security through the Rice Self-Sufficiency Policy. The policy objective since then was not solely confined to ensure food sufficiency, but was also directed towards increasing farmers' income and maintaining stable rice supplies for consumers. The aim to generate income for producers was mainly based on social, economic and political considerations, and premised on increasing the economic status of rice farmers, the majority of whom are Malays and living in the rural areas.

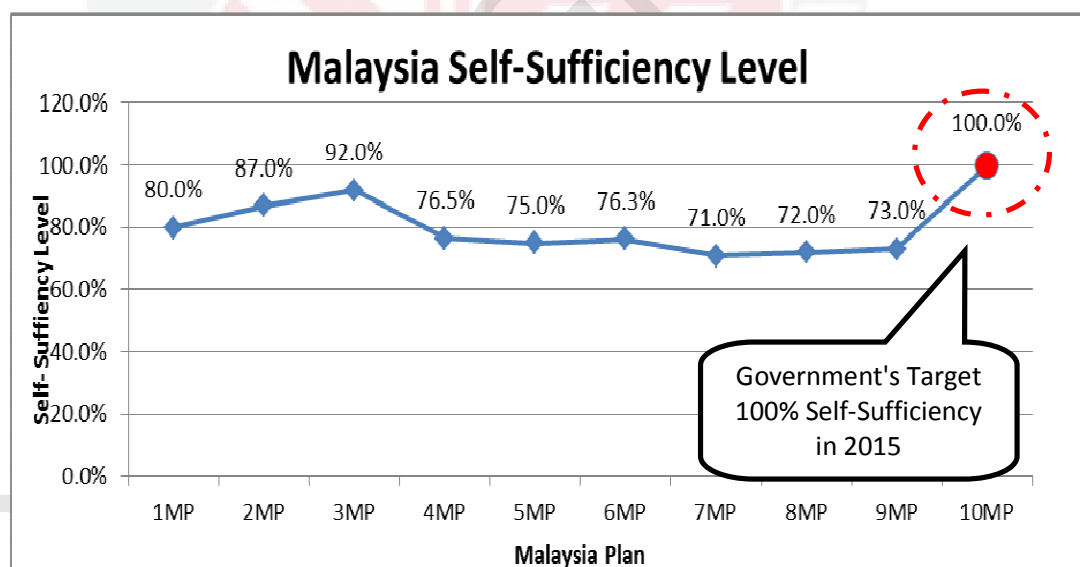
The policy objectives and instruments in Malaysia's paddy and rice industry can be stretched back as far as the First Malaya Plan (1956-1960) to the current Ninth Malaysian Plan and the 1st National Agricultural Policy (1984-1991) to the third National Agricultural Policy (1992-2010) but food security has been the thrust of the policy for the sector. The vital need to increase rice production was addressed in the Third national Agricultural Policy (1998-2010) where eight granary areas were developed. Self-sufficiency Level (SSL) was targeted at a comfortable level of 65 per cent in the third National Agricultural Plan (1998-2010) but was required to be at 86 per cent by the end of the Mid-Term Review of the Ninth Malaysia Plan (2006-2010) in order to fit its production-centric vision of self-sufficiency level in most commodities for reducing deficit in trade balance.

Deputy Minister Agriculture and Agro-Based Industry, Datuk Wira Mohd Johari Baharum, stated that Malaysia could achieved it's target of not having to import

rice by 2015 and reach 100 percent SSL if the two major rice-growing areas of the country, Muda Agricultural Development Authority (MADA) and the Kemubu Agriculture Development Authority (KADA) area in Northeastern Kelantan state can raise their production between five percent and ten percent. (Bernama, 2010).

Government is targeting for full self-sufficiency in rice by 2015. However, in 2010 Malaysia's SSL is only 72 percent. (Teh, 2010). Figure 1.4 shows percentage of SSL in rice since First Malayan Plan (1966-1970) until Ninth Malaysia Plan (2006-2010).

Figure 1.4: Malaysia's Self-sufficiency Level in Rice



(Source: Adapted from Department of Statistic 2011)

The government has set SSL target of 70 percent in the 10th MP plan period, with the shortfall being met through imports. Given Malaysia's shortage of arable land, output is being increased through raising yield (Oxford Business Group, 2010).

Based on the data from Department of Statistics Malaysia, land utilization for paddy production in 2008 is 656, 602 hectares all over Malaysia. Average yield per hectare is 3,584 kgs, paddy production for 2008 is 2,353,032 tonnes and rice production is 1,516,470 tonnes. Paddy hectareage in Sarawak and Sabah accounted for 19 percent and six percent of the total hectareage respectively.

The industry is heavily regulated because of its social, political and economic importance. It once was associated with poverty and the majority of the farmers were Malay. Hence, measures to improve the farmers' living standards were undertaken as the government's social, economic and political responsibilities. Public policy pertaining to the industry was towards self-sufficiency. During the 1960's and 1970's, the government was committed to achieve almost 100 percent self-sufficiency through various production-oriented strategies like the construction of irrigation facilities and the provision of cheap credit and other infrastructural development.

Being a security crop, the government encourages domestic production. However, the national average yield is low at just over three tons per hectare. Local production can only cater approximately 60 to 65 percent of domestic requirements. Hence, the shortfall is supplemented by imported rice. About 40 percent of annual imported rice is from Thailand. The others are from Vietnam, China and Pakistan as well as some new supply option, such as India, Australia, Myanmar, Cambodia, USA and Argentina.

Policies on rice in Malaysia are closely associated with poverty and priorities for sectoral growth. Over the years the agriculture sector's contribute to the GDP declined, although it remains as an important sector in Malaysia economy. Since the 1970's, the government invested heavily on massive infrastructure development in the eight granaries. Fertilizer subsidy, support price and price subsidy are offered to rice farmers by the government to ensure a good yield and sufficient and consistent income for the farmers, especially farmers who totally depend on paddy farming's income.

Generally, rice producers in Malaysia are divided into three categories which are private estate sector, public sector, and small farmers. Private estate sector for example are Guthrie and Golden Hope. Public sector such as Federal Land Consolidation and Rehabilitation Authority (FELCRA), Muda Agricultural Development Authority (MADA) and Sarawak Land Consolidation and Rehabilitation Authority (SALCRA).

1.10 Problem Statement

Competency of extension agent is an important element in educating the farmers and accelerating agricultural development in each country. Competency refers as a collected combination of knowledge, skills and abilities demonstrated by organization members which are critical to the effective and efficient functioning of the organization.

Gibson and Brown (2003) emphasized that professional competencies or proficiencies are essential for all extension agent in order to perform their job effectively. Extension agents must be proficient in a number of competencies or proficiencies that include capabilities, knowledge, and skills that are required to effectively perform their job.

As one of the largest granary area in Malaysia, MADA is responsible to help government getting closer to reach the target of full self-sufficiency in rice by 2015. There are many extension programs in MADA and therefore extension agents play an important role as the middle men between organization and farmers. Oakley and Garforth (1985) stated that the extension agent is the key element in the whole extension process; without an agent in the field to guide, direct and supervise local extension activities, there would be no extension service available to farmers. In fact, Bradfield, 1966; Maunder, 1972; Easter 1985 identified that lack of proper balance between technical and professional competencies in staff has been identified

as a common problem in the extension services of developing countries. So, competent and well-trained extension agents are needed to ensure the success of every extension program in MADA and this will lead to reach MADA's goals.

If every extension program in MADA is well developed and succeed, perhaps MADA can raise their production. Basically, the success of these extension programs is depends to the extension agents and the extension program itself.

The whole extension process is dependent upon the extension agent, who is critical element in all extension activities. If the extension agent is not able to respond to a given situation and function effectively, it does not matter how imaginative the extension approach is or how impressive the supply of inputs and resources for extension work. Indeed, the effectiveness of the extension agents can often determine the success or failure on an extension program (FAO, 1985).

Following this tradition, extension work begins with research activity conducted by researchers to generate and develop new technology. The new technology is then transferred to extension agency/extension agents to be disseminated to clients.

Extension agents, should have to translate/transform technology information into a simpler way that would make the technology easier to understand and to adopt.

Hence, competent extension agents are needed in MADA.

We need to answer these research questions regarding the extension agents in purpose to understand their level of competency and their training preferences that can fulfill the gap between their competency and the importance of their role in bringing the agriculture sector to upper level. There are:

- 1) What is the perceived competencies and importance of the extension agents?
- 2) How far the demographic factors and training will affect their competency as extension agent?

1.11 Objectives of the Study

The general objective of this study is to identify the competencies of MADA's extension agents and the specific objectives of this study are:

- 1) To identify the respondents' profiles.
- 2) To determine extension agent competency level and the importance.
- 3) To determine the extension agents' training preferences.
- 4) To compare differences in competencies among selected demographic factors.

1.12 Significance of the Study

Agricultural extension services in Malaysia are characterized by agency specialization in commodity lines. MADA is one of the agencies that specialized in paddy farming other than Kemubu Agriculture Development Authority (KADA) and Integrated Agriculture Development Area (IADA).

The main thrust of the extension services has been on the transfer of new technology to the target groups to increase production and increase farmers' income from paddy farming. Extension service of MADA is provided to their respective targets group by extension agents. These extension agents are the middle men between agencies/ researchers and farmers.

Since extension agent is the middle men, it is important to have a competent and well trained extension agent in order to ensure the research findings or technical outputs from research agencies like Malaysian Agricultural Research and Development Institute (MARDI) and Department of Agriculture (DOA) reach the target groups.

Therefore, the study is done in order to find competencies and importance of the extension agent in MADA and their training preferences. Results of this study can be used by the extension agent in MADA as a guide for future planning in order to reach their targets.

1.13 Organization of the Thesis

This section will deal with how the thesis is organized. This study consisted of five chapters covering different areas of the study. The introduction in Chapter 1, gives wider knowledge of the agriculture in Malaysia, extension agent, MADA specifically, issues involved in extension agent and competency. Apart from that, it also contains problem statement, objectives of the study, research questions and significant of the study. Chapter 2 provides literature review of the relevant studies in this field. Chapter 3 discusses sample and sampling techniques, methods of data collections and methods of data analysis. Chapter 4 presents and elaborates on the results and the analysis of the study. Chapter 5 summarizes major findings, suggestions for future direction of research in this area, conclusion of the whole study, recommendation and limitations of the study.

1.14 Definition of Terms

Competency:

The ability of the respondents in doing their job duties as extension agent.

Importance:

The importance of every item under the seven dimensions of competency.

Extension:

A reciprocal process of transferring technology and information to farmers by the extension agents from MADA or other researchers.

Extension Agent:

Officers in MADA who are responsible in disseminating technology and knowledge to farmers.

Training Preferences:

Respondents perception on training.

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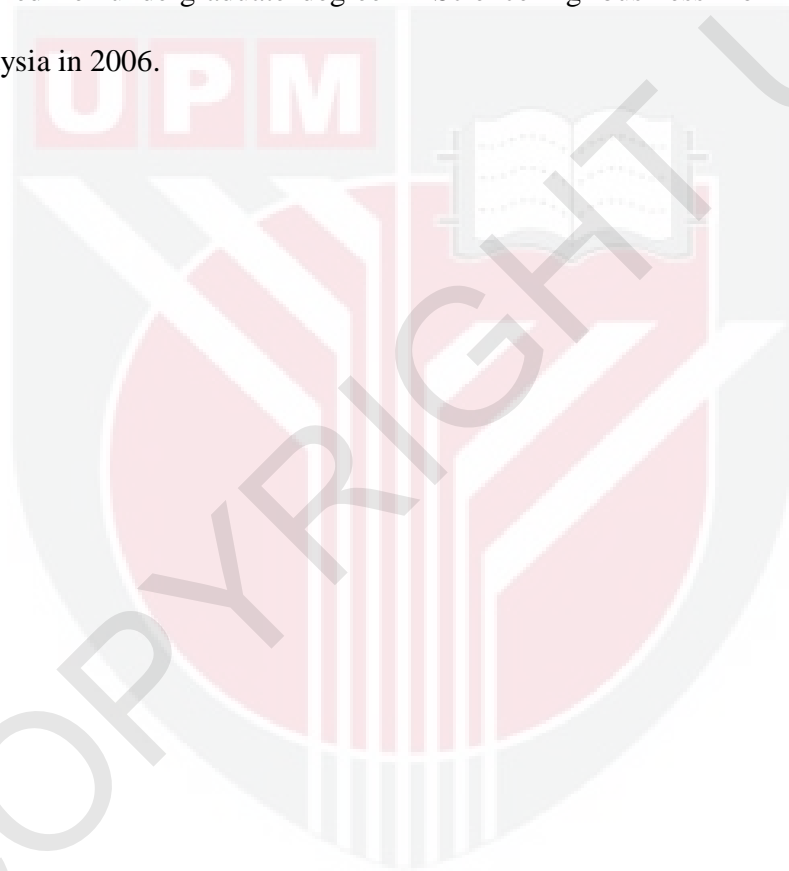
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