

# RESEARCH AND DEVELOPMENT OF INCULCATION PROCESS FOR FUTURE AGRICULTURIST

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**ABSTRACT:** The purpose of this study was to study agriculture wisdom holders and local academics and develop a process for the transfer of their knowledge in a multi-case study. The sample population was 2 agriculture wisdom holders and 2 local academics. Data collection was done through an in-depth interview, document study and through non-participatory observations. The development of the incultation process of agriculture wisdom holders and local academics was evaluated by the experts using the focus group discussion method. The result of the data analysis and discussion with the expert group was the summarizing of the steps which were developed which included: an understanding of the issue, adjusting or modifying the way of thinking, transferring the knowledge and experience, field study at the farmland spot and practical performance and summarizing the knowledge through assessment.

*Keywords:* Agriculture wisdom holders, Local academics, Future agriculturist, Farming, Environment

## 1. INTRODUCTION

At the present time, farming is changing with new technology to work the farm and new technologies for the management of farms however the adoption of these technologies does not guarantee them a successful career. Instead they are still accruing debts and are left with no option other to sell the farmland. Most of the farmers in the country are in debt and live on or below the poverty line. This is the case with farming more than any other vocation, and therefore many people refuse to work as farmers. The younger generations are also more interested in working in other careers which have the potential to earn more salary. As a result the numbers of the laborers who work in the agricultural sector is in a continual decline. In the near future, Thailand may face the problem of not having enough laborers working in the agricultural sector. The results from the October 2013 Thailand census found that of the total population 38.2 million have a job, but the number of workers in the agricultural sector was only 12.85 million or 33.8% of all total workforce. Compared to the statistics in October 2012, this was a reduction of 2.2 million workers in the agricultural sector [1].

Therefore, this research aims to recognize the significance of this downturn in agricultural workers as resources and aims to instill some technical capacity building for the new generation of farmers, through a direct learning process, transferring the knowledge to the learner from the experience of other successful farmers. In these cases, the teacher is the farmer who has been had a

success career in farming, safely producing products for the consumer in an eco-friendly and organic manner, and leading to the development of sustainable food sources. The aim of this paper was to review case studies of these successful farmers and to study their habits to better understand how to instill a successful business model for the Future Agriculturist

## 2. METHOD

This study used qualitative research, by case studies, field research and literature reviews. The study focused on data collection in the field and in the research sector complimented by an interview and observations made by the researcher. The case study information was based on 2 agriculture wisdom holders, or teachers : Suthi nun Pratchapruk (how to modify the suitable technology) from Buriram Province, and Mr. Lek Kudwongkaew (agriculture by agricultural system) from Sakonnakhon Province and two local academics, Sub-District Headman Adison Laosapan (mix agricultural process and Mr. Khumpan Laowongsi (sustainable agriculture) both from the Maharakham Province.

### 2.1 Research Methods

2.1.1 A related literature and other sources of media such as research papers and printing materials were reviewed.

2.1.2 Non-participatory observations of the process of how the agriculture wisdom holders and local academics instilled their work methods to the

new generation of laborers, such as step by step observations, maintenance, record keeping, and the use of other media sources such as taking pictures of the activities were reviewed.

2.1.3 In-depth Interviews, by the researcher aimed to interview the agriculture wisdom holders and local academics using informal interview methods [2] [3].

## 2.2. Tools used for this research

The tools that were used for this research were as follows:

2.2.1 The gathering and collection of significant documents and records, observed at local activities in the community and through in-depth interviews of the key informants

2.2.2 Non-participant observations were also made prior to interviews in order to understand how the teacher instills, and instructs.

2.2.3 An interview using in-depth interview methods with the participants as the key informants.

## 3. RESULTS

The results from this study on how to educate future agriculturists from successful Thai agricultural wisdom holders and the local academics from the community found:

### 3.1. Case-study 1 - teacher Suthinun Pratchapruk (how to adjust or modify the suitable technology) from Buri ram Province.

The process by teacher Suthinun allows a knowledge transfer to instill or train students and the local community, from all over the region including the government sector personnel and private sector personnel. The majority of the text reviewed was about forestry emphasizing big trees such as the Siamese Rosewood (*Dalbergia cochinchinensis*) Yang gurjun (*Dipterocarpus alatus*) Malabat ironwood (*Hopea odorata*) and Indian Oak (*Barringtonia spp.*).

The aim of this teacher was to conserve the natural resources and the environment, believing that proper management and use of technology can transform agricultural production using a sustainable approach. This also helps to develop the Thai education that under the principle of sufficiency economy such as delicate agriculture process on 1 Rai of farmland. The practical component of this teacher was to instill or train the knowledge as follows. 1. Compile the problems and the requirements of the student; 2. Change the way of thinking about the problem; 3. Give an example of suitable guidelines for better way of

life; 4. Create co-learning lesson plan; 5. Transfer the knowledge and experience; 6. Provide practical performance on the real farms; 7. Pilot a study and practice the skills identified; 8. Summarize the result of pilot study project and practical performance on the farm and 9. Assess and take the best knowledge learnt for practical application.

### 3.2. Case study 2 - Mr. Lek Kud wongkeaw (Agriculture by agricultural system) from Sakonnakhon Province.

The process Mr. Lek Kudwongkeaw used to instill knowledge was by emphasizing the thinking process more than relying on information. Once the understanding of how to think things through step-by-step is there, the knowledge follow, because everyone can conclude what they can get from the knowledge and experience. The teaching process Mr. Lek instills is to create an awareness of how one can survive by farming. First of all, one must have food to live. Reduce the expenditure in buying food, medicine and others by planting enough vegetables and fruits for own consumption, produce or make materials and tools or equipment for planting and you can plant anything that you want to eat. The result of this case study at Mr. Leks' farm can be summarized as follows. 1. Inspiration of the awareness; 2. Adjust the thinking process; 3. Adapt and modify to a suitable way of life, know how to save, and economize the expenses; 4. Transfer the knowledge and experience by emphasizing a good thinking process, more than the knowledge; 5. Gain the knowledge from practical studies on the farm; 6. Discuss and take the best knowledge for practical application.

### 3.3. Case study 3 - Mr. Adisorn Lao sapan (mixed agricultural) from Mahasara kham Province.

The process to instill or transfer knowledge used by Mr. Adisorn Laosapan was to determine the needs of the learner in order to justify the objectives of the learner. Then he explains the contextual knowledge and takes the learner to study on the farm, conducting lectures and explaining the details step-by-step so the learner can understand processes of mixed agriculture so that they are able to the processes by themselves, and then divides the land for each of the students to practice on. The process of instilling this can be summarized as follows. 1. Inquire of the objective of the learner. 2. Exchange the knowledge and experience of mixed or combined agriculture process, frog raising turkey raising, making fertilizer, and planting mushrooms. 3. Practical learning from the farmland. 4. Summarize the

knowledge. 5. Assess and take the best knowledge for practical application.

**3.4. Case study 4 - Mr. Khampan Laowongsi** (sustainable agriculture process) from Mahasarakham Province.

The process Mr. Khampan Laowongsi uses to instill is “Wishing all of you would use the Royal initiative project of our King to apply in your own farmland. Our Thai farmers are very lucky to live under His Royal highness the king’s grace.” Mr. Khampan does not have land of his own for farming, but modifies and develops the use of theory for agricultural practice. Mr. Khampan has a life with no debt and his process can be summarized as follows. 1. Inquire the need of the learner. 2. Explain and exchange the knowledge and experience. 3. Study from agricultural farmland and practical performance. 4. Summarize the knowledge. 5. Have self-confidence and believe in an organic methodology in agriculture.

Table 1 Synthesis process form case studies

Case study	Suthinun Prachapruk	Lek Kud Wong Keaw	Adisorn Lao Sapan	Khampan LaowongSi	total
Process					
1. Compile the problems and Inspiration	✓	✓	✓	✓	4
2. Change the way of thinking.	✓	✓	✓		3
3. Exchange the knowledge			✓	✓	2
4. Adjust the way of thinking process		✓			1
5. Adapt and modify the suitable way of life		✓			1
6. Give the example of suitable guideline for better life living	✓				1
7. Create co-learning lesson plan	✓				1
8. Transfer the knowledge and experience.	✓	✓	✓		3
9. Provide practical performance on the farmland	✓	✓	✓	✓	4
10. Pilot a study and practice.	✓				1
11. Summarize the result of pilot study	✓	✓	✓	✓	4
12. Assess and take the best knowledge	✓	✓	✓		3
13. Have self-confidence and strongly believe in agricultural				✓	1

The researcher collected all the data from the field work survey and analyzed the process on how the teacher used Thai intelligence and local folk wisdom in agricultural practice of each teacher and summarized into 6 steps as follows: 1. Summarize the requirements of the learner. 2. Adjust the way of thinking 3. Transfer the knowledge. 4. Provide field study at the farmland and practical performance 5. Summarize knowledge gained and 6. Assess and take the best knowledge.

The results of the data analysis and discussion with the expert group was that the researcher has summarized 5 proposal steps and 12 sub-topics (Fig.1) as a suggestion for developing process to train agriculturists, as follows:

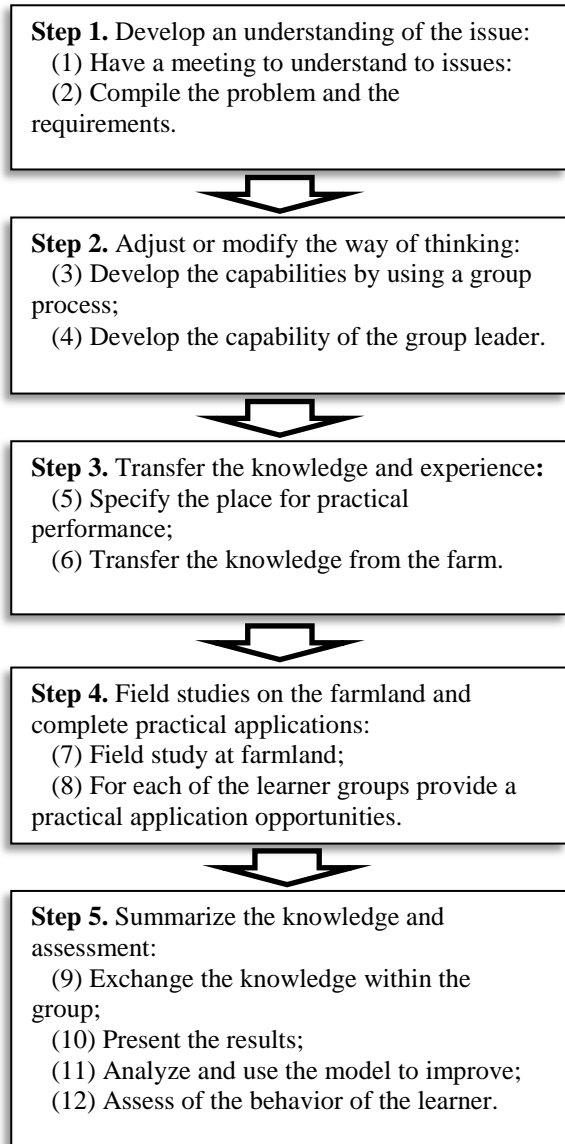


Fig.1 Inculcation Process for Future Agriculturist

**Step 1. Develop an understanding of the issue:**  
Compile the problem and inquire to the needs of the learner in order to resolve the problems together and find out from the learners what they most want to know. There are sub-topics to be discussed as follows:  
(1) Have a meeting with a participant about the process, then provide a decision making processes to commit the participant to process.  
(2) Compile the problems and the requirements of the participants by questioning

their needs, knowing the problems in order to resolve them.

**Step 2.** Adjust or modifying the way of thinking:

Aim here is to change the way of thinking about agricultural techniques within their career. This process needs to challenge the learner to think by using the knowledge of the key informants, and analyze how to train the learners to use their imagination to analyze and identify the root of the problem, this step has 3 subtopics:

(3) Develop the capability by using group process and brain storming to find out the positive aim, such as dividing into subgroup, plant, animal, fishery and mixed or combined agriculture. In order for each group to gain the correct information have a group leader for this activity.

(4) Develop the capability of the group leader to gain the knowledge and fully understand the development activity, and have the teacher as the group advisor.

**Step 3.** Transfer the knowledge and experience:

To transfer the knowledge and experience is the most important step and needs the advice from the teacher and who has the capability and experience in the agricultural field. By conducting lectures and retelling the story and experiences, the informers must have an acceptable knowledge and understand the needs of the learner. This step is divided into the sub-topics as follows:

(5) Specify the place for practical application, such as the farmland or agricultural in the university campus or use the farmland of the teacher in the nearby local area.

(6) Transfer the knowledge in the form of short term training, exhibition lecture discussion and questioning or using teaching aid media such as audio – visual materials.

**Step 4.** Field study at the farmland spot and practical application:

(7) Provide a field study site at farmland after having gained the knowledge from the teacher's experiences. The learners must have their own experience in the field study and have experience at practical application of the techniques being taught.

(8) For the practical application, each of the learner groups must participate in the activity, step by step until proving that everyone is capable for applying the new agricultural skills.

**Step 5.** Summarize the knowledge and assessment:

(9) Exchange the knowledge within the group who were interested in the same topic in order to build the understanding for development of the subject.

(10) Presentation of the results of the knowledge from teacher to all groups including the

suggestion of using appropriate technical resources for fully understanding and successfully achieving skills.

(11) Analyze and use the model to improve the process for producing the agricultural product in of better quality.

(12) Assessment of the skills learnt by the students on how much they have developed in the process of working in agricultural production, emphasizing on giving mental support and cooperative help as well as maintaining good relationships and the assessment in the form of knowledge, attitude and skill.

#### **4. SUMMARY AND DISCUSSION**

The process of how to instill agricultural knowledge by the agriculture wisdom holders and local academics was the process of performing the agricultural production based on a self- sufficiency theory which was initiated by His Royal Highness King Rama IV of Thailand. Basically it emphasizes to produce the product for your own consumption. The left over can then be given to neighbors and friends, and after that the product can be sold in the local market. Developing cooperatives or group production for the agricultural products can expand the marketing potential. A self-sufficient farmer can become a strong and creating a happy family living with little or no debt. If the people in the community cooperate, the environment and ecological system are well-balance and full of biodiversity which is consistent with the philosophy of the ecologist that gives significance to the relationship between the living things and the environment. By using these types of agricultural processes we can build the community to become stronger and bring the happiness to both mind and body of community members. The Inculcation Process for Future Agriculturist development is consistent with the findings of [4] who studied the synthesis process form knowledge process to the Thai profession whose wisdom gave 14 participants, [5] the opportunity to study and develop the transmission process through knowledge, wisdom and teachers in rural Thailand agriculture. The study of teacher wisdom in Thailand found that 6 participants identified wisdom through the [6] study of common themes from wise community leaders with modern agriculture in northeast. The transfer process is different, but the pattern of transfer process knowledge in the profession. The five stages, namely the awareness of the importance of vocational training to the recipient, the opportunity to extend the learning, joint planning and teaching course exercises and the evaluation of recipients is consistent at each step [7].

## 5. CONCLUSION

The data from the interview, field work survey and processes on how the Thai teachers taught information and local folk wisdom in agricultural practice can be summarized into 6 steps as follows: 1. Summarizing the requirement of the learner. 2. Adjusting the process of thinking 3. Transferring this knowledge. 4. Studying at the farmland and practical performance. 5. Summarizing of the gained knowledge. 6. Assessing and take the best knowledge for practice. The result for data analysis and discussion with the expert group was that the researcher has summarized the study of inculcation process for future agriculturist, the process was consisted of 5 steps which were making understanding, adjusting or modifying the way of thinking, transferring the knowledge and experience, field study at the farmland spot and practical performance and summarizing the knowledge and assessment.

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