

Information management of utilization for increase value based on the sufficiency economy philosophy of Horse Mango for agriculturist community on Gulf of Thailand

^[1] Jantira Phooma, ^[2] Oraphan Chanin ^[3] Poonsub Insung ^[4] Pawana pumsawai
^[5] Thanatcha Suriyawong, and ^[6] Narongchai makhong
^[1] ^[2] ^[3] ^[4] ^[5] ^[6] Rajamangala University of Technology Srivijaya, Thailand.

Abstract: *The objectives of this research were 1) to study the community context, attitude, purchasing behavior and consumption of the community's fruit (Horse mango) for agriculturists on the Gulf of Thailand (Nakhon Si Thammarat, Surat Thani and Phatthalung provinces). 2) to study the value of local wisdom of utilization of Horse mango for agriculturists community on the Gulf of Thailand. 3) to use the information that generated from the Horse mango database system of agriculturists community on the Gulf of Thailand, (Nakhon Si Thammarat, Surat Thani and Phatthalung provinces) to manage knowledge within the district, create knowledge, expanding the data to develop benefits in the agriculturists community on the Gulf of Thailand and nearby areas. Using data on consumption behavior of Horse mango and consumer's attitude on sensory to consume horse mango product by using percentage, mean and standard deviation to analyze the need factors to consume horse mango. The study indicated that most of respondents were female, aged over 40 years old, under undergraduate, have agricultural occupation, monthly income 5,001 - 10,000 baht, mostly buy product from fresh market as account for 47.3 percent, mostly planted or processed horse mango; (buffalo leg breed) as account for 57.8 percent, monthly consume horse mango which account for 65.0 percent, convenience and non-toxicity account for 42.5 percent, by consume ripe horse mango (yellowish green color) as account for 55.8 percent, processed horse mango by pickling as account for 47.3 percent that can store more than 1 month. The consumer attitude toward the horse mango's purchasing decision was in good level, by mostly concerned on appearance factors such as fresh and clean. The consumer attitude toward the horse mango's purchasing decision in term of price, overall provided moderate level, but considered in each factor found that the respondent was significantly concerned on the fixed price. The consumer attitude toward the horse mango's purchasing decision in term of distribution channel, overall provided moderate level, but considered in each factor indicated that the mostly respondent was significantly concerned on place on sale at the appropriate time. The consumer attitude toward the horse mango's purchasing decision in term of marketing promotion, overall provided moderate level, but considered in each factor indicated that the mostly respondent was significantly concerned on occasional price reduction.*

Indexterms: *Information management, utilization for increase value based on the sufficiency economy philosophy, Horse mango, agriculturist community on Gulf of Thailand*

I. INTRODUCTION

Agriculturists who are in community area of the Gulf of Thailand in this research is Surat Thani province, Nakhon Sri Thammarat province and Phatthalung Province. Even if, there is an area adjacent to the sea but the most of population was farmer which most of them have a rubber tapper. Due to the economic downturn, the price of rubber has fallen as well, in the contrary cost of living for consumer products has high that resulting in an imbalance between income and expenditure. The income from

rubber tapping is not enough for household spending. Farmers need to have a supplementary career to increase household income after the completion of rubber tapping. Rubber tapping for conducting more latex, mostly of rubber tapper will spend late nights to do tapping rubber and can collect latex in the morning. Thus, they possible have free time during the daytime to be able to do supplementary career for making income for the family.

Agricultural product processing is another option for generating income to farmers. Due to the survey and inquiring farmers in community on the Gulf of Thailand. The researchers found that the community has a variety of fruits that are currently lacking the promotion to make the worth products that is horse mango. The people in the community are popularly used to make food from horse mango such as sour curry or yellow curry, horse mango hot and spicy salad which is not done often. They will consume fruit on the season. This research is aimed to gartering farmers for processing products from horse mango. The objective of group was conducted additional income to farmers from processed products from horse mango, the famers could spend their free time and reduce social problems. This activity will transform the existing things in the community to add up value and develop the community to be a strong model community that can be self-reliant.

The researcher was studied the needs of consumers about the products from horse mango which the processing of the horse mango products can increase the value of the local fruit and create additional income for the community in a sustainable manner

II. PROCEDURE FOR PAPER SUBMISSION

Visut Baimai. (2014) [1] said that the product of wisdom and cultural indicators, which are closely linked to biodiversity and have developed a continuous life as "Local wisdom" or "Folk technology" that has accumulated and continues to be a foundation for the development of local community and society to stay peaceful. Yuttipong Kaewtong et.al (2013) [2] assess the economic value of utilizing the direct use of mangrove forests by the participation process of Khok Phayom community, La-ngu district, Satun province. The community has received from all learning processed include: 1. learning about research processes 2. Learning about mangrove forest management with networks 3. Learning about the economic valuation of mangrove forests that all processes lead to the development of community research potential in mangrove forest management by applying research principles and research tools 18 tools for use in the future. Learning Management of mangrove forests with the network makes it possible to receive the principles of group management. Having a network as a knowledge exchange consultant between each other and the valuation process for environmental economics is a principle that reflects the value of resources in direct benefits, indirect benefits and future benefits. The persistence of resources to perform any activities related to the environment requires the use of environmental economics principles to consider when the community uses concepts and principles to practice that make the community aware of sustainable use and conservation of resources.

Sutira Chairaksa (2004) [3] was studying of cultural dynamics of rubber planters: a case study of Thayang sub-district, Thungyai district, Nakhon Sri Thammarat province. The objective is to study the dynamics of rubber planters in households and community's aspect, agriculture and rubber plantation aspect and the living of rubber planter aspect by using qualitative research methods and divided the study into 2 phases: before the year 1972 and the year 1972 to the present. From the study found that the problems and hurdles of the current rubber planters found are (1) the problem of unstable rubber prices (2) The quality of the rubber sheet is still low, which can be sold at a low price. (3) Material price problems, agricultural equipment with higher prices, especially chemical fertilizers (4) rubber disease and insect pest problems (5) climate change problems, such as prolonged rainfall (6) Problems of exploitation of middlemen

Kanyanat Utarachon. et.al (2012) [4] was studying of processed dried chili paste by dividing the study into 2 parts: 1) studying the drying rate of wild olives used as a raw material for making chili paste 2) developing the appropriate formula of dried olives. In the study, drying of wild olives at 50 degrees Celsius for 10 hours found that the moisture of wild olives decreased rapidly in the first 6-7 hours of drying and lowered after 7 hours while testing the recovery of dried olives at room temperature indicated that the size of the olive pieces had an effect on the ability to returning image that the powdered olives (720 microns) can returning image as the best which takes only 2 minutes, followed by rough chopped olives (size 0.4x0.5 cm), takes 8 and 10 minutes, respectively. When comparing the water temperature used in the recovery test, it was found that the water that has high temperature allows the olive to recover better at 80 degrees Celsius and able to catch more water at the temperature of 60 degrees Celsius and 40 degrees Celsius respectively, and in the study of baked wild olives chili paste 3 formulas: Formula 1, using powdered olives; sensory acceptance test results was found that powdered dried olive chili paste had the highest overall acceptance score based on receiving a moderate rating vote 7.2 points

Uraivan Ruxpakawong (2014) [5] was studying on the development of information systems to marketing promotion in the sale of hand-woven fabrics in Phitsanulok province via the internet. The objectives were to develop information systems to promote marketing in the sale of hand-woven fabrics, Phitsanulok Province via the internet. It is a web application development using PHP technology and using the My SQL database management system to promote and sell products via the internet, consisting of 2 parts. The first part serves customers to choose or order products from dealers and inform payment via the system. The second part serves each group of hand-woven cloth dealers can manage the product by themselves, including adding new products, editing product information as well as delete product information and view customer order details, view order summary. According to studies, it has been found that the system can able to meet the needs of users, both customers and dealers as a good level. It will increase distribution channels for weaving dealers in Phitsanulok province. Moreover, the system is also able to provide services for customers to view products and order products online easily and quickly. In the dealer section, it can able to bring the products for online sale.

Jantira Phooma. et. al (2015) [6] From the study of machine for product design and raw material sources in the production of machinery, it was found that the peeling effect of the horse mango with the peeling machine was 8.17 seconds, average weight loss in the peeling of the horse mango as account for 11.07 percent, providing performance as equal to 112 results / hour that more than 3.5 times of the peeling force by human labor of the horse mango and the cost of production of the peeling machine is 6,121 baht / machine. Tools used in processing of the fruit, besides helping to save time, it will also help to avoid being exposed to dangerous of horse mango latex because it can cause blistering. In addition, the study was found that the product can be added to other products such as horse mango water products, conserved horse mango products, and horse mango salad instant which makes the horse mango products consumed for longer time and can be consumed throughout the year. In addition, the research results also contribute to conservation and preservation of the fruit in the community vie used tool that without chemical in processing. The processing of the horse mango products can increase the value of the local fruits and also generate additional income for the community in a sustainable manner. It is also a learning resource for future generations.

Piyaphon Sriklinuwat and Mathurada Imsap (2012) [7] studied the behavior of purchasing processed fruit, Ban Kluay Shop Amphawa Floating Market, Amphawa District, Samut Songkhram Province. The results found that consumers who choose to buy processed fruits are the most of female, age between 40 - 49 years old, 137 people of occupying as private employees, the average monthly income was 30,000 baht and more than 322 people have domiciled in Bangkok. For the analysis of behavioral factors, it was found the most of consumers are aware of the information by themselves. Reasons for choosing to buy as delicious flavors, 381 people. There are 362 people choose the type of

fruit is solar baked bananas. There are 354 people to pay the cost per time approximately 301 - 400 baht. Marketing mix analysis result also indicated that the factors that affect consumers for purchasing as products aspect and followed by the importance of location aspect and price aspect, respectively.

Research Objective

1. To study the community context, attitude, purchasing behavior and consumption of fruit of the agriculturist community on the Gulf of Thailand
2. To study the value of using local wisdom, The utilization for the horse mango of the agriculturist community on the Gulf of Thailand
3. To lead information from the database system of agriculturist community on the Gulf of Thailand to manage learning within the district, create knowledge, expanding the information to agriculturist community on the Gulf of Thailand and nearby areas.

III. RESEARCH METHOD

In this research is research on opportunities and choices of communities, agriculturist groups on the Gulf of Thailand: Development of horse mango potentials for commercial. The researcher uses documentary research together with survey research. Questionnaires are used as a tool to store quantitative data that is primary data and using interviews is a collection of qualitative data with the following methods of research

Populations and Sampling

The population were the general population living in Nakhon Si Thammarat province, Surat Thani province and Phatthalung province. The researcher determined the size for samples, in the case of unknown population numbers by using the formula to calculate the sample size of W.G. Cochran (Kanlaya Vanichbuncha. 1995: 74) [8], A total of 400 samples were obtained by sampling. The researchers used convenience sampling.

Designing of Research Tool

The research tool for this study are:

Steps to create tools, the following this steps:

1. Analyze the conceptual framework and objectives of the research, and study the theoretical concepts from textbooks and related documents.
2. From the above studies, the questionnaire was created which the researcher created according to the conceptual framework that is divided into 2 parts.
3. Required for advice from experts, to monitor the content and structure for making improvements.
4. Determination of confidence by applying the revised questionnaire and then experimenting with 30 sample groups and calculate the whole confidence with statistical software for finding confidence (Cronbach's Alpha Coefficient) (Boonchom Sri Sa-ard, 1995: 174) [9] with alpha values as equal to 0.9386 which can be considered a high level of confidence.
5. Leading the questionnaire to be checked and modified.
6. Using the questionnaire (the complete version) to collect data

Statistics Used in Data Analysis

1. Take the questionnaire, part 1, which is a questionnaire about the basic information of the respondents. Questionnaire was used to analyze descriptive statistics via finding the frequency and percentage to interpret the data obtained from the consumer response
2. Take the questionnaire, part 2, information on community context, attitudes, consumer behavior of fruit products and information management of using of fruits in community

3. Take the questionnaire, part 3, the purchasing behavior of fruit in the community and satisfaction to information system of fruits in the community

IV. DATA COLLECTION

This research, the researcher has collected data according to the following steps:

1. Secondary data, via interviewing relevant people and studying from articles, documents, texts, etc.
2. Primary data, the researcher has collected data with 400 questionnaires. The respondents were the consumer on the Gulf of Thailand area (Nakhon Si Thammarat, Surat Thani and Phatthalung provinces).

V. DATA ANALYSIS

1. Take the questionnaire, part 1, which is a questionnaire about general information of respondents to analyze by descriptive statistics to find the frequency and percentage and interpret the data. It was obtained from the questionnaire of consumer response.

2. Take the questionnaire, part 2, information on community context, attitude, consumer behavior of fruit products in community and information management in the utilization of fruits in community by finding the frequency and percentage in order to interpret the data obtained from the questionnaire of consumer response. Then, the information of satisfaction for fruit products in community was analyzed by standard deviation to interpret the data obtained from the questionnaire

3. Take the questionnaire, part 3, the purchasing behavior of fruit in the community by finding the mean and standard deviation to interpret the information received from the questionnaire

VI. SECONDARY DATA

Secondary data was obtained from interviews, collection of documents, texts, articles, various associated agencies. The researcher was analyzed and synthesized to develop a distribution channel for products from the horse mango, for farmer groups on the Gulf of Thailand.

VII. SCOPE OF RESEARCH

1 Content scope This research has a scope for collecting information about daily life of agriculturist community on the Gulf of Thailand. To provide opportunities and choices for the agriculturist community on the Gulf of Thailand: the development potential of the horse mango in term of commercial. About rubber plantation agriculture career, Income from occupation, Free time during an inability to work, Opportunities and choices of communities, agriculturist groups in the Gulf of Thailand: Developing potential of commercial horse mango by exploring the fruits that are available in communities. They can be added to add value and income to farmers. Including the methods and trends of the garnering of farmers in the community as well as using descriptive statistics and inferential statistics to analyze the product data from the horse mango.

2 Research Area Scope the province that located on the Gulf of Thailand, In this research is Nakhon Si Thammarat province, Surat Thani province and Phatthalung province.”

VIII. HELPFUL HINTS

Applying of data analysis and discussion of the result of research: The development potential of horse mango to add value based on the sufficiency economy philosophy of agriculturist community on Gulf of Thailand. It was divided into 4 part as followed:

Part 1 : General Information for personal fundamentals.

Part2: Information on community context, attitudes, consumption behavior of fruit products in community and information management for utilization of community’s fruit

Part 3 : Information on the purchasing behavior of fruit in the community and satisfaction of the fruit in community information system

Part 1 General Information for personal fundamentals.

Personal fundamental factor of respondent		Total (People)	Percent age(%)	
1.Gender	Male	155	38.8	
	Female	245	61.2	
Total		400	100	
2.Age				
	under 20 years old	16	4.0	
	21 to 25 years old	119	29.8	
	26 to 30 years old	25	6.3	
	31 to 35 years old	44	11.0	
	36 to 40 years old	71	17.8	
	more than 40 years old	125	31.3	
Total		400	100	
4.Occupation	agriculturist	108	27.0	
	government servant	30	7.5	
	state enterprise/private trading/private business	5	1.3	
	general employment	106	26.5	
	student	60	15.0	
	unemployed	81	20.3	
		10	2.5	
	Total		400	100

Gender The respondents were mostly female, 245 people as represent as 61.2 percent and male, 155 people account for 38.8 percent.

Age The respondents were mostly higher than 40 years old, 125 people as represent as 31.3 percent. Following by age between 21 to 25 years old, 119 people account for 29.8 percent and at least, the age lower than 20 years old, 16 people account for 4.0 percent.

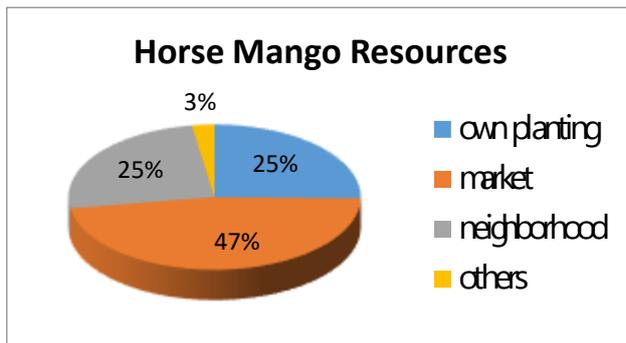
Education level The respondents were mostly in under undergraduate, 239 people as represent as 58.8.3 percent. Following by undergraduate, 141 people account for 35.3 percent and at least, postgraduate, 20 people account for 5.0 percent.

Current Occupation The respondent were agriculturist, 108 people account for 27.0 percent. Following by trading/private business, 106 people as equal as 26.5 percent and at least, state enterprise/private, 5 people account for 1.3 percent.

Average monthly income The majority of respondent have average monthly income 5,001 to 10,000 baht, 132 people account for 33.0 percent. Following by average monthly income less than 5,000 baht, 109 people as equal as 27.3 percent and at least, average monthly income 10,001-15,000 baht, 62 people account for 15.5 percent.

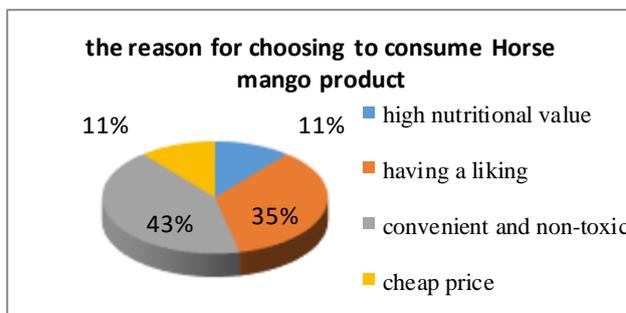
Part 2 The result of information analysis on community context, attitudes, consumption behavior of fruit products in community for the respondents who lived in Nakhon Sri Tammarat province and nearby areas

Chart 1 Percentage of Horse Mango Resources



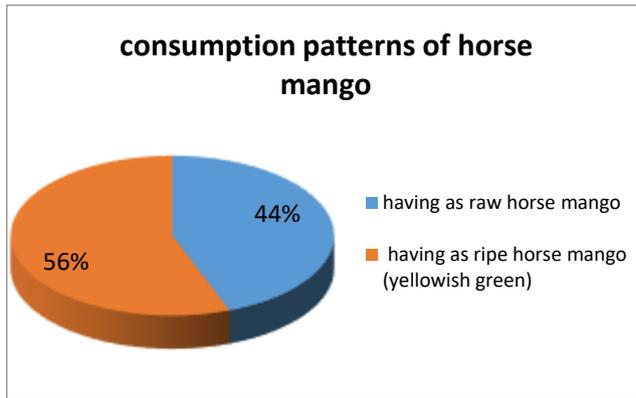
From chart 1 indicated that the respondents mostly purchase horse mango from the market, 47.3 percent. Following by growing horse mango by themselves and at least, buying horse mango from others, 2.5 percent. The total of respondents were 400 people.

Chart 2 Analysis the percentage of the reason for choosing to consume Horse mango product



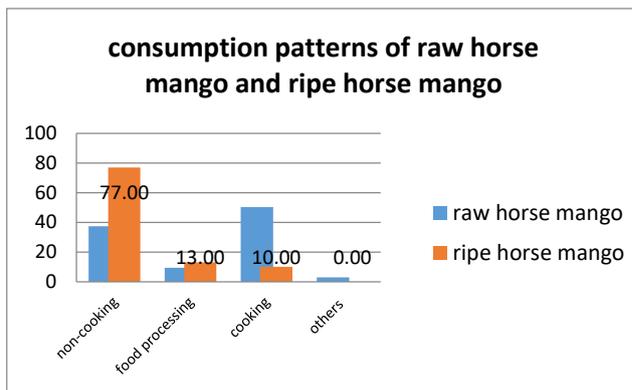
From chart 2 presented the majority of respondent was choosing horse mango product because convenient and non-toxic, 42.5 percent. Following by they like the horse mango product, 35.5 percent and at least, they were concerning on high nutritional value and cheap price, 11.0 percent. The total of respondents were 400 people.

Chart 3 Analysis the percentage of consumption patterns of horse mango



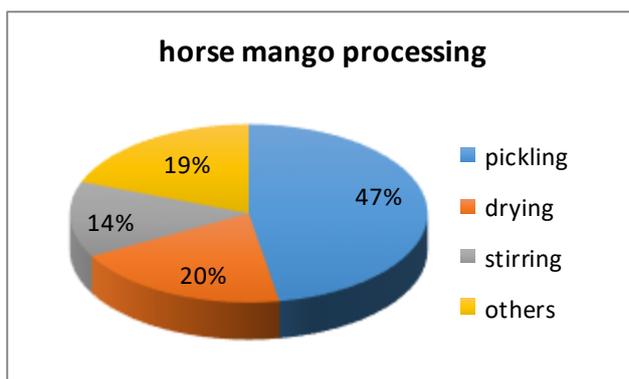
From chart 3 described that the majority of respondent was choosing to consume as ripe horse mango (greenish yellow color), 55.8 percent. Following by they were consumed as raw horse mango, 44.3 percent. The total of respondents were 400 people.

Chart 4 Graph of comparison of consumption patterns of raw horse mango and ripe horse mango



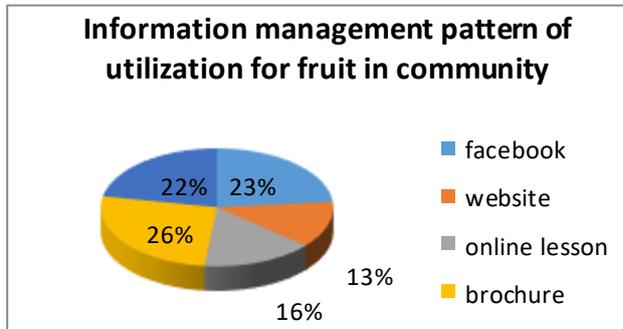
From chart 4 indicated that the most of respondent was consumed raw horse mango for cooking account for 50.3 percent. Following by they were consumed as non-cooking of raw horse mango account for 37.3 percent and at least, they were consumed raw horse mango as other consumption pattern account for 3.0 percent. In contrary, the most of respondent was consumed ripe horse mango, 77.0 percent. Following by processing horse mango, 13 percent and at least, they use horse mango as cooking raw materials, 10 percent. The total of respondents were 400 people.

Chart 5 Analysis the percentage of horse mango processing



From chart 5 indicated that the most of respondent was processes horse mango as pickled horse mango, 47.3 percent. Following by they were processed horse mango as dried horse mango, 19.8 percent and at least, they were processed horse mango as horse mango stirring, 13.8 percent.

Chart 6 Analysis the percentage of Information management pattern of utilization for fruit in community



From chart 6 presented that the majority of respondent was selected information management pattern of utilization for fruit in community in term of brochure, 26 percent. Following by Facebook account for 23 percent and at least on website account for 13 percent.

Part 3 the result of purchasing behavior of fruit in community analysis for the respondents who lived in Nakhon Sri Tammarat province and nearby areas

Table 2 Mean and standard deviation of the level of emphasis on consumer attitudes towards the horse mango products purchasing from various aspect

List of aspect	\bar{X}	S.D.	meaning
Price	3.38	0.94	moderate
Distribution channel	3.08	1.13	moderate
Marketing promotion	3.01	1.18	moderate
Product	3.64	0.82	high
Overall mean	3.28	1.02	moderate

From Table 2, it was found that the truth of the respondents about the attitude consumer attitude towards the purchasing of horse mango products in the overall level indicated as moderate level, mean account for 3.28 and standard deviation as 1.02. Consideration on each factors found that the most of respondents have significantly concerning on product aspect as high level, mean account for 3.64 and standard deviation as 0.82. Following by price aspect provided as moderate level, mean account for 3.08 and standard deviation as 1.13 and at least, marketing promotion aspect as moderate level, mean account for 3.01 and standard deviation as 1.18.

Research Discussion

Part 1 General characteristics of personal fundamental factor of the respondents who lived in Nakhon Si Tammarat province and nearby areas

The most of the respondents were female, 245 people, account for 61.2 percent, aged more than 40 years old, 125 people, account for 31.3 percent. They were 239 undergraduates with a bachelor's degree, 58.8 percent. They were 108 agriculturists, representing as 27.0 percent, with average monthly

income of 5,000 - 10,000 baht, 132 people account for 33.0 percent (consistent with the research of Jantira Phuma et. al, (2015) [6])

Part 2 The result of information analysis on community context, attitudes, consumption behavior of fruit products in community for the respondents who lived in Nakhon Sri Tammarat province and nearby areas

The results of the study indicated that the most of respondent purchased horse mango from market, 189 people (consistent with the research of Supaporn Chairat .et.al (2015). [10]) account for 47.3 percent. Growing and processing horse mango; Buffalo leg breed, 231 people, account for 57.8 percent. Consuming per a month of horse mango, 260 people, as represent as 65.0 percent. Consumption horse mango products because it was convenience and non-toxic, 170 people account for 42.5 percent. Having as ripe horse mango (greenish yellow color), 233 people as represent as 55.8 percent. Having raw horse mango as cooking raw materials, 201 people account for 50.3 percent. Having fresh and ripe horse mango, 308 people, account for 77.0 percent. Processing of horse mango as pickle horse mango, 189 people, as represent as 47.3 percent. The processed horse mango product can store more than 1 month, 163 people.

From analysis of percentage of information management pattern of utilization for fruit in community found that the most of respondent were selected in term of brochure, 26 percent. Following by Facebook account for 23 percent and at least on website account for 13 percent

Part 3 Analysis of information on sensory evaluation of consumer towards horse mango product consumption

Analysis criteria and information interpretation as follows:

The average score of 4.50 – 5.00 determined to be in the criteria as the most satisfied

The average score of 3.50 – 4.49 determined to be in the criteria as very satisfied

The average score of 2.50 – 3.49 determined to be in the criteria as moderate satisfied

The average score of 1.50 – 2.49 determined to be in the criteria as few satisfied

The average score of 1.00 – 1.49 determined to be in the criteria as the least satisfied

The mean and standard deviation of the level of emphasis to consumer attitudes towards the purchasing horse mango products from various aspects

It was found that the truth of the respondents regarding the attitude of consumers towards the purchasing horse mango product as overall level was moderate, mean account for 3.28 and with a standard deviation as represent as 1.02. When considering each factor, it was found that the respondents have significantly concerning on product aspect.

IX. ACKNOWLEDGMENTS

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