
Ability to Increase Values on Agricultural Sector: Mittraphap Road in Northeastern Region of Thailand

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Jeeranun Khermkhan, Sumeth Keanmanee (2017). Ability to Increase Values on Agricultural Sector: Mittraphap Road in Northeastern Region of Thailand. International Journal of Agricultural Technology 13(7.2): 1905-1912.

The purpose was to study the ability to increase the value in agricultural sector of 4 provinces (Nakhon Ratchasima, Khon Kaen, Udon Thani, and Nong Khai) on the Mittraphap Road which is regarded as a crucial route for goods transportation to Laos and Vietnam. The research result revealed that the agricultural production sector which could increase values the most included Livestocks, Vegetables and fruits, respectively. However, when comparing the proportion of the agricultural products in such areas, it was found that the production which has been produced is still insufficient and unable to respond the local people's needs. This is because the high values of production did not derive from agricultural sector but the Building Construction, Public Works, other Constructions, and other Food, respectively. The local industries are unable to produce these kinds of products so they are mostly imported from external locality. Hence, this information identified the low level of values on agricultural sector, including bad income distribution from this sector. Therefore, the agricultural sector should be stimulated to improve the agricultural products for increasing their values as well as building good quality of lives to the agriculturalists.

Keywords: Agricultural Sector, Mittraphap Road, Input output Table

Introduction

If look through the past, it can be seen that the agriculturalists have been encountering numerous problems, such as lower price and lower quality of agricultural products. These problems have caused insufficient incomes through their livelihood. Some agriculturalists had to borrow money from banks or informal debts to invest their work. Nevertheless, their cultivations are still insufficient to pay the debts. This makes the consequences of several problems and disadvantages toward the national economy.

In 2017, the government tries to raise the agriculturalists' livelihood by promoting the policy of Thailand 4.0 in order to change the traditional agriculture to become the new era of agriculture through the innovation for

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creating the agricultural products which are able to increase both quality and value. To improve successfully, it should be managed through each region since it has the unique of its agriculture, especially the Northeastern Region is considered as the region which is outstanding in terms of agriculture and has several main routes to be connected with the Northeastern Region to other neighboring countries. The crucial route which connects the Northeastern Region is Mittraphap Road. There are 4 provinces in the Northeastern Region connected to the Mittraphap Road, namely Nakhon Ratchasima, Khon Kaen, Udon Thani, and Nong Khai. These provinces are regarded as having economic values increasing every year) Office of the National Economics and Social Development Board, 2015. This is because there are numerous products transported through these provinces in order to export to the foreign countries and it affects the growth towards all these 4 provinces every year.

The products transported from the provinces in this Mittraphap Road are currently the products produced from other places but they are brought to sell in the area or they are passed for the export purpose only (Kaenmanee *et al.*, 2017) However, the products which their values are high are not agricultural products but from automotive or electronic industry sector which cannot be produced within the area. In order to let such area get benefits from being the geographical advantageous source for exporting and increasing the values through locally potential agricultures to the neighboring countries, therefore each province and group should acknowledge about their own economic structure of agriculture in the present time, as well as the needs of neighboring countries for bringing the results to be the promotional information to the locally agricultural products, or to develop the agricultural products to become the agricultural industry for export. These will increase income through agriculturalists and local economy. Hence, this research will study about the economic structures of agricultural sector through the crucial provinces on the Mittraphap Road, Northeastern Region, which are, Nakhon Ratchasima, Khon Kaen, Udon Thani, and Nong Khai, in order to lead to the policies orientation and guidelines of development plan through agricultural sectors in an appropriate way and get benefits to the agriculturalists directly.

Objectives: To study the ability to increase the values on agricultural sector on the Mittraphap Road in Nakhon Ratchasima, Khon Kaen, Udon Thani, and Nong Khai

Materials and methods

The analysis of forward and backward economic linkage of the production sectors is regarded as bring the information from production and products factors of the country in 2010 for 58 production sectors. The data of

Gross Domestic Products (GDP) and Gross Provincial Products (GPP) studied in 2014 for 58 production sectors. Such information was process through advanced mathematics in order to get the Table of production and products factors in the studied areas, as well as getting the Coefficient Matrix of production and products factors of the studied area by analyzing the Coefficient Matrix of the production and products factors from forward and backward linkage and the multiplier got from the Table of production and products factors in the studied areas.

Sample

The information of GPP from the provinces which were on the Mittraphap Road in the Northeastern Region, which included Nakhon Ratchasima, Khon Kaen, Udon Thani, and Nong Khai were studied.

Data Collection

To collect the data of this study, the procedures are as follows:

1. Prepared the data of Gross Provincial Product (GPP) for 4 provinces in the Year 2557, which included, Nakhon Ratchasima, Khon Kaen, Udon Thani, and Nong Khai. The details were 58 production sectors;
2. Prepared the data of production and products factors (Input and Output Table) of the country in 2010 to get the 58 production sectors and to be the producer's prices;
3. Brought the data of production and products factors of the country to do the Coefficient Matrix of the production factors of the country as the Coefficient Matrix of the production factors of the basic East West Economic Corridor) EWEC);
4. Brought the Coefficient Matrix of the production factors of the basic studied areas in the item)3 (and the data of GPP for each activity of the studied areas to do the Table of primary production and products factors of the year 2014 in each province of 3 studied provinces.

Analysis

1. Analyzed from the Table of production and products factors in the studied areas by using the information from the Table of production and products factors in the item) 4 (as well as the secondary data in 2014 both in the level of studied area and national level such as domestic expenses, private sectors investment, public sectors expenses both in terms of investing budgets and non-investing budgets.

2. Adjusted the balance of the Table of production and products factors by using the RAS Method to get the values of products in each production activity which is measured by the production cost) vertical totality (and the income from the products distribution) horizontal totality (which had the equal values.

3. Calculated the Coefficient Matrix for the analysis of backward linkage and calculated to find the Coefficient Matrix of Products factors for the analysis of forward linkage.

Results

The Sectors of ability on production in the area

The sectors of ability on production show in GDP of sectors (in Table 1)

Table 1. The sectors of ability on production in the area

No	Code	Sectors	Amount
1	056	Public Services	107,607
2	049	Trade	64,695
3	021	Beverages	37,449
4	053	Banking and Insurance	33,594
5	001	Paddy	27,220
6	019	Other Foods	27,205
7	039	Electrical Machinery and Apparatus	24,474
8	018	Sugar Refineries	21,756
9	054	Real Estate	18,603
10	048	Public Works and Other Construction	14,360
11	051	Transportation	14,334
12	006	Sugarcane	14,069
13	005	Vegetables and Fruits	13,313
14	009	Livestock	13,071
15	047	Building Construction	12,748
16	045	Electricity and Gas	10,833
17	003	Cassava	10,758
18	017	Rice and Other Grain Milling	8,136
19	012	Crude Oil and Coal	7,218
20	057	Other Services	7,151
21	050	Restaurants and Hotels	6,529
22	038	Industrial Machinery	5,708
23	023	Spinning, Weaving and Bleaching	5,624
24	007	Rubber (Latex)	5,187
25	031	Rubber Products	4,446
26	008	Other Crops	4,303

No	Code	Sectors	Amount
27	016	Processing and Preserving of Foods	3,965
28	052	Communication	3,787
29	024	Textile Products	3,487
30	032	Plastic Wares	3,324
31	029	Other Chemical Products	3,134
32	043	Saw Mills and Wood Products	3,002
33	025	Paper and Paper Products	2,841
34	011	Fishery	2,820
35	034	Other Non-metallic Products	2,752
36	014	Non-Metal Ore	2,740
37	055	Business Services	2,690
38	015	Slaughtering	2,647
39	002	Maize	2,376
40	046	Water Works and Supply	1,932
41	020	Animal Food	1,814
42	037	Fabricated Metal Products	1,450
43	042	Leather Products	1,381
44	033	Cement and Concrete Products	954
45	040	Motor Vehicles and Repairing	940
46	035	Iron and Steel	895
47	010	Forestry	307
48	004	Beans and Nut	286
49	026	Printing and Publishing	178
50	036	Non-ferrous Metal	128
51	027	Basic Chemical Products	100
52	022	Tobacco Processing and Products	92
53	044	Other Manufacturing Products	33
54	041	Other Transportation Equipment	28
55	013	Metal Ore	-
56	028	Fertilizer and Pesticides	-
57	030	Petroleum Refineries	-
58	058	Unclassified	-

According to the Table 1, it was found that the activity which had the ability of production in the area the most was about the Public Services, with the values of 107,607 million baht, secondly was Trade, with the values of 64,695 million baht, and Beverages, with the values of 37,449 million baht, respectively. And the sectors which there were no production in the area included Petroleum Refineries, Fertilizer, and Pesticides and Metal Ore. For agricultural sector which had the potentials in the area was Paddy, with the values of 27,220 million baht, secondly was Sugarcane, with the values of 14,069 million baht, and Vegetables and Fruits, with the values of 13,313 million baht, respectively.

Table 2. Production sectors which can increase the values the most

No.	Code	Sector	FW
1	047	Building Construction	4.773
2	048	Public Works and Other Construction	3.860
3	019	Other Foods	3.834
4	039	Electrical Machinery and Apparatus	3.712
5	031	Rubber Products	3.210
6	017	Rice and Other Grain Milling	2.811
7	056	Public Services	2.607
8	009	Livestock	2.576
9	034	Other Non-metallic Products	2.564
10	050	Restaurants and Hotels	2.334

Note: FW = Forward linkage

According to the Table 2, it was found that the sectors which could increase the values the most when investing for 1 baht was 047, and could link to the forward at 4.773 baht, secondly was 048, which linked to the forward at 3.861, and 019 linked to the forward at 3.835. This can be seen that the sectors which could create the values added did not depend on the agricultural sectors, including the areas which produced a little) See Table 1

Table 3. Agricultural Sectors which could increase the values the most

No.	Code	Sector	FW
1	009	Livestock	2.577
2	005	Vegetables and Fruits	1.412
3	011	Fishery	1.364
4	006	Sugarcane	1.318
5	003	Cassava	1.211
6	001	Paddy	1.204
7	004	Beans and Nuts	1.189
8	008	Other Crops	1.104
9	007	Rubber (Latex)	1.089
10	002	Maize	1.064
11	010	Forestry	1.030

Note: FW = Forward linkage

Regarding the Table 3, it was found that the agricultural sector which created the highest values when investing 1 baht was Livestock by having the forward linkage at 2.577 baht, secondly was Vegetables and fruits, which had

the forward linkage at 1.412 baht, and Fishery, which had the forward linkage at 1.412. In addition, agricultural sectors which created the values added the least was Forestry, which had the forward linkage at 1.031.

Conclusion

The productions which can increase the high values of the provinces on the Mittraphap Road in the Northeastern Region are mostly the production produced from the areas outside, which include, Building Construction and Public Works, and other Construction. This is in accordance with the research of Sim, B., F. Secretario and Suane, which was found that the sectors affecting the economy the most are the sectors which could not be produced in the areas and have to import from the areas outside. For the agricultural products which could increase the values the most was Livestock only, and for other agricultural products in the studied areas are still in the low level. This is in accordance with the research of Kaenmanee *et al.* (2017), this study reflects that the productions occurred are not respond the needs of the people within the country sufficiently because the productions which had high values did not derive from agricultural sector but from the sectors of Building Construction, Public Works and other Construction, other food, respectively. These industries in the area could not be produces and they are mostly imported from the external areas. From this information, it indicates that the agricultural sector had created the values added at the low level, including the income distribution of the agricultural sector which was done badly, hence it should be stimulated to develop the agricultural products more, as well as creating the good quality of life to the agriculturalists increasingly.

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(Received 22 October 2017 ; accepted 25 November 2017)