

Chapter 4

Social Accounting Matrix of the Royal Project Foundation

This chapter will introduce the Social Accounting Matrix (SAM) of the Royal Project Foundation (RPF) and explain how to construct it. The reference period of the data will be given and the data manipulation as well as the method to balance the SAM table will be described. Finally, the advantages and disadvantages of the SAM will be discussed.

4.1 History of the Royal Project Foundation

In 1969, His Majesty the King Bhumibol Adulyadej founded the Royal Project with the intention to improve the well being of hill tribe people, to cut down narcotic plant growing, and to restore forests and water catchments. In 1992, he carried out a registration as a juristic enterprise under the name “The Royal Project Foundation”, with HSH Prince Bhisadej Rajani as the president of the foundation, so as to continue the operations in accordance with the law. The foundation has constantly carried out the initiatives with a major aim to transfer knowledge obtained from researches to farmers; accordingly, they can apply such knowledge to produce their own consumption and generate household income. This has increased community strength, self-reliance, and contribution to natural resource restoration and conservation. Presently, there are 4 research stations and 38 royal project development centers, all of which are located on the highland of the Northern region, comprising 27 centers in Chiang Mai, 7 centers in Chiang Rai, 2 centers in Mae Hong Son, 1 center in Lamphun, and 1 center in Payao, and covering a total area of 1,553,629 rai. There are 36,460 households, accounting for 166,911 people, benefiting from the projects.

The main activities of these stations and centers are 1) research, 2) development, 3) marketing, 4) finance and accounting, and 5) administration. The performance for the fiscal year of 2010 can be summarized as follows:

1) Research: In 2010, the research department of the foundation provided funds for 101 projects, with a total budget of 27.30 million Baht. The emphasis of the funding was on research in the field of effectiveness improvement of plant and animal production, and on supporting technology. The foundation also paid significant attention to conservation and restoration of natural resources (soil, water, and forest) and to society and community, as well as to the management of a database system - an important tool for researchers and other concerned parties for effective and up-to-date data searching and retrieving. Some researches in the field of plants included vegetables, crops, fruits, coffee, flowering and ornamental plants, and herbs. For research on product value enhancement through product processing and development, the focus was mainly on livestock and fishery, such as Feta cheese and yogurt made from buffalo milk, processed rabbit, Rainbow trout and Sturgeon farming. In addition, the foundation was financially supported by external funding sources from both public and private sectors, namely: the National Research Council of Thailand, the Highland Research and Development Institute (Public Organization), and the Land Development Department, to carry out its operations.

2) Development operations: The development operations were divided into community improvement and product and service value enhancement.

2.1 Community improvement focused on development and transfer of technology, promotion of community strength, restoration and conservation of natural resources, and establishment of a royal project development center as learning centers for highland sustainable development through introduction of body of knowledge obtained from researches and from skills and experiences of the officials.

2.2 The development operation to add value to agricultural products and services was conducted through research so as to prevent and solve oversupply problem, to improve product prices, and to emphasize domestic and international standards of food safety with appropriate production costs. This was based on maximum utilization of resources in an environment-friendly way; therefore, farmers were able to produce their own food, and to generate their household income, resulting in improvement of their quality of life. The foundation also focused on community strength, and promotion of

restoration and conservation of natural resources through participation of communities, as well as development and maintenance of fundamental needs. Some examples of these development projects were organic fertilizer, hydroponics, dried flowering and ornamental plants, herbal products, food processing and recipe development to satisfy current demand of consumers.

3) Marketing: The marketing operation of the foundation was based on the standards of safety in products being sold to consumers. This began with effective management after harvesting by providing quality assurance with a focus on product safety. With consistent sale and promotional campaigns, the products were then distributed to consumers through various channels. As a result, all products gained positive feedback from consumers, thus generating a hefty amount of income to farmers.

4) Finance and Accounting: The main duties of the department were to carry out budget allocation, income-expense control, and documentation of accounting records in order to produce a financial report, including management of investment to meet maximum return. In 2010, the foundation was funded 380million Baht via the Ministry of Agriculture and Cooperatives. This budget was an important tool for financial planning to allocate a fund as necessary to each working unit; accordingly, the management could follow up work performance, and conduct cost control of each project.

5) Administration and management: The department coordinated with all levels of working units so as to facilitate the operations, these being: communication, facilities, transportation for officials, volunteers, and coordinators to carry out works, including procurement of material and supply quality inspection prior to delivery to each station or center. In 2010, students from 29 educational institutes attended a training session at the office of the foundation, as well as at the areas of operation of the royal project development centers.

The development operation of the foundation in 2010 was conducted with the main focuses on development and transfer of technology in order to improve quality of all products to meet international standards of food safety. As a result, it

could successfully add value to farmers' production and generated a total household income of over 600 million Baht, resulting in their better standard of living.

4.2 Overview of the SAM

Suriya (2011) explains that the SAM collects most of economic transactions in an economy or a geographical area in a period of time, actually a year. It displays income and expenditure of economic sectors as well as households.

This study is based on the SAM from the National Economic and Social Development Board (NESDB) in 2010, which is the latest one. It extracts the transactions of the Royal Project Foundation into a separate sector. It combines the construction sector with the sector of other activities to make the domestic sales of this combined sector big enough for the subsequent CGE analysis. Therefore, the SAM includes 16 sectors in total.

The structure of the SAM includes four major parts. First, it contains 16 production sectors (s-sector). Second, it includes 10 importing sectors (m-sector) according to the Armingtonian assumption. Third, it displays the transaction of 10 household deciles (HH-sector). Last, it illustrates the institution (ENT) corresponding to non-profit institutions and the savings of non-profit organizations; government sector (GOV); margin sector which deals with trading and transportation costs, tax, international capital flows (CapAcct) and transactions with external markets or rest-of-the-world (ROW).

It should be noted that the meaning of a cell can be interpreted in two ways: it can be interpreted as income or expenditure when reading, respectively, by row or by column.

4.3 Advantages and disadvantages of SAM

There are several advantages and disadvantages of SAM. Suriya (2011) discussed them as follows:

The advantages of SAM are listed below:

- It contains data of almost all economic transactions in a period of time;
- It shows the linkages among all economic sectors in the village;
- It reveals the distribution of income from economic sectors to households;
- It can be used as the database for computable general equilibrium (CGE) model.

The disadvantages of SAM are described as follows:

- Data manipulation cannot be avoided because the SAM table cannot be automatically balanced;
- The balancing method can be controversial because it may disturb the whole data dramatically;
- SAM and CGE are not necessary when partial equilibrium analysis can completely answer the research questions.

4.4 Reference Period (RP)

The reference period (RP) is the period for which the SAM contains data. It is actually one year. However, it may not be a calendar year. The RP in this study is from January 1st, 2010 to December 31st, 2010. This RP is set by the National Economic and Social Development Board (NESDB).

4.5 Balancing the SAM

According to Suriya (2011), there are two methods to balance the SAM model. First, the calculation technique, e.g., (RAR), is widely used for data with unstable structures. Second, balancing with residuals is used for data with quite stable structures such that economic ratios can be relied on. RAR has an advantage of sharing residuals into all cells without discrimination. However, it disturbs the whole dataset. When a researcher wants to keep most of the data unchanged, this method does not work. Moreover, it yields doubtful results in some cases. For example, in a

case of unbalanced export and import while the rest of data are already balanced, RAR will yield a perfect equality of export and import values, which may be unreasonable.

The method of balancing by residuals has the advantage of handling the case with a few unbalanced points in the table, e.g., the unbalanced values of import and export. On the negative side, it requires a subjective selection of what should be considered a residual, i.e., import or export. In this case, the cost of production is actually more rigid than the revenue. Thus import should be kept constant and export should be treated as residual. However, the residual might blow up the export value to exceed a reasonable level. The researcher must compare the numbers before and after the adjustment. If the adjustment is not too large, it may be acceptable.

4.6 Results: SAM of the Royal Project Foundation

The total income of the Royal Project Foundation reached THB1,240 million in 2010. The major sources of her income were Government funding (THB380 million), Trading sector (THB360 million), Service sector (THB120 million) and the richest household decile (THB110 million).

The major expenditures of the Royal Project Foundation were distributed to labor costs in the 5th to 8th household decile which are the middle class of the society (THB480 million), labor cost in the 1st to 4th household decile which are the poorer class of the society (THB190 million), agricultural sector (THB120 million) and Food processing sector (THB90 million).

Imports of the RPF in 2010 were not so significant. The value was around THB7.3 million. Major import items were seeds of vegetables, cooking oils, agricultural machines and food processing machines.

The foundation is exempted from paying income tax due to the Thai law. A major contribution of the RPF to the tax payment is the value-added tax which accounts for 7% of all the sales to final consumers. Total tax paid by the RPF in 2010 was around THB15 million.

There were two sources of donation to the RPF. Donation from abroad was around THB70 million. Donation from domestic donors was included in the revenue

from households. It should be noted that this transaction was not separated from the household consumption in this SAM table.

The RPF suffered a financial loss of around THB 20 million in 2010. It was financed by the money in saving account of the RPF. It can be seen that the RPF will suffer a severe loss unless the government provides consistent funding to the foundation every year. The funding was around THB380 million in 2010. Without this funding, the loss would rise to around THB400 million.

Table 4.1: Social Accounting Matrix of Thailand in 2010 (Production sectors buy from Production sectors) Unit: Billion Baht

	sec1	sec2	sec3	sec4	sec5	sec6	sec7	sec8	sec9	sec10	sec11	sec12+16	sec13	sec14	sec15	Sec17 RPF
sector1	104.15	0.10	1,333.93	12.22	10.28	1.93	94.48	0.98	0.10	6.27	0.00	9.74	0.01	0.98	100.38	0.12
sector2	0.14	5.86	2.64	0.24	0.00	0.87	93.40	33.52	15.44	1.91	134.13	35.40	0.00	0.13	0.03	0.00
sector3	230.72	0.00	439.28	1.46	0.02	2.85	7.61	0.58	0.04	21.64	0.00	11.31	5.76	5.76	391.06	0.09
sector4	2.13	0.02	1.22	882.76	0.60	0.52	28.77	1.11	6.18	31.73	0.22	6.26	14.81	6.99	19.56	0.00
sector5	2.24	0.09	0.61	0.59	38.50	0.14	1.85	0.70	10.47	5.70	0.01	20.76	5.92	0.67	2.86	0.02
sector6	0.77	0.19	22.43	13.43	2.36	218.32	14.03	5.62	16.70	10.32	1.12	4.26	20.64	9.07	82.15	0.00
sector7	163.91	29.89	52.63	220.02	15.10	36.65	562.87	43.20	208.55	81.21	46.48	69.96	52.77	205.80	86.26	0.01
sector8	0.78	0.02	7.08	0.22	0.60	0.04	1.91	22.39	27.51	10.80	0.08	194.90	1.82	0.05	3.42	0.00
sector9	34.01	13.77	51.93	12.05	4.62	2.79	15.07	7.36	8,821.18	60.16	10.85	137.93	21.76	286.60	56.33	0.06
sector10	0.51	0.64	1.25	25.46	1.20	0.33	3.14	0.44	11.77	294.37	0.52	8.98	14.17	3.02	22.21	0.02
sector11	2.77	2.65	26.17	69.48	4.33	4.83	71.56	24.54	68.38	9.17	131.70	2.59	32.87	16.16	95.51	0.04
sector12+16	6.83	0.49	11.82	7.33	0.28	1.12	3.10	0.92	6.23	1.71	1.58	7.69	128.94	13.33	16.92	0.02
sector13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
sector14	3.33	7.60	7.87	6.42	0.96	0.80	10.65	2.16	28.52	11.75	2.25	103.55	52.43	148.45	51.01	0.06
sector15	20.58	35.90	34.49	39.10	4.64	4.62	36.89	10.02	59.72	25.36	23.91	32.06	93.02	71.07	206.09	0.05
sector17	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.36	0.00	0.12	0.00

Table 4.2: Social Accounting Matrix of Thailand in 2010 (Import sectors buy from Production sectors) Unit: Billion Baht

	m-sec1	m-sec2	m-sec3	m-sec4	m-sec5	m-sec6	m-sec7	m-sec8	m-sec9	m-sec10	m-sec11	m-sec14	m-sec15	m-sec16
sec1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
sec2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
sec3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
sec4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
sec5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
sec6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
sec7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
sec8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
sec9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
sec10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
sec11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
sec12+16	0	0	0	0	0	0	0	0	0	0	0	0	0	0
sec13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
sec14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
sec15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
sec17	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 4.3: Social Accounting Matrix of Thailand in 2010 (Household sectors buy from Production sectors) Unit:Billion Baht

	HH1	HH2	HH3	HH4	HH5	HH6	HH7	HH8	HH9	HH10	ENT	GOV	Margin	Tax	Cap Acc	ROW	Total
sec1	7.91	13.07	17.07	19.92	23.49	26.14	29.62	33.88	40.04	53.13	0.00	3.88	0.00	0	2.17	71.25	2,017.24
sec2	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	2.47	28.25	354.46
sec3	14.25	24.42	30.13	37.81	44.29	51.84	60.72	73.55	90.46	126.04	0.00	4.01	0.00	0	69.86	1,173.16	2,918.74
sec4	7.22	11.99	13.99	17.37	20.17	22.28	27.18	35.57	52.24	111.98	0.00	1.14	0.00	0	16.92	718.41	2,059.32
sec5	2.55	0.29	0.93	1.22	1.62	2.24	2.21	3.78	7.49	15.00	0.00	0.17	0.00	0	34.87	108.31	271.77
sec6	0.07	0.12	0.29	0.40	0.65	1.10	1.94	3.85	7.38	18.29	0.00	47.26	0.00	0	11.38	97.79	611.92
sec7	5.40	6.92	9.70	11.44	14.24	16.26	18.92	26.11	37.73	74.16	0.00	38.78	0.00	0	73.38	309.26	2,517.60
sec8	0.37	0.04	0.13	0.17	0.22	0.31	0.30	0.51	0.99	1.94	0.00	0.58	0.00	0	37.87	84.94	399.99
sec9	2.22	4.00	6.40	8.85	11.23	14.32	16.94	24.55	31.96	93.45	0.00	19.87	0.00	0	499.27	2,598.04	12,867.57
sec10	4.75	8.98	9.76	11.76	12.85	14.79	16.08	19.19	29.46	48.95	0.00	19.52	0.00	0	103.84	741.38	1,429.34
sec11	1.38	2.19	3.10	4.19	5.48	6.84	9.14	12.22	15.50	27.02	0.00	27.63	0.00	0	0.34	25.01	702.77
sec12+16	0.15	0.31	0.31	0.41	0.68	0.61	0.79	1.07	1.47	2.75	0.00	5.55	0.00	0	822.30	23.45	1,068.15
sec13	5.14	9.24	13.86	18.20	22.76	33.37	44.30	66.50	92.79	122.26	0.00	0.00	201.09	0	0.00	0.01	629.53
sec14	2.48	4.22	6.26	8.20	10.22	14.97	20.01	30.52	42.95	76.22	0.00	21.21	84.18	0	0.00	620.74	1,379.98
sec15	6.77	11.76	16.49	20.79	28.05	38.61	56.01	86.25	144.16	509.75	0.00	937.62	0.00	0	2.23	341.56	2,897.56
sec17	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.02	0.06	0.11	0.02	0.38	0.00	0	0.00	0.07	1.24

Table 4.4: Social Accounting Matrix of Thailand in 2010 (Production sectors buy from Import sectors) Unit: Billion Baht

	Sec1	Sec2	Sec3	Sec4	Sec5	Sec6	Sec7	Sec8	Sec9	Sec10	Sec11	Sec12+16	Sec13	Sec14	Sec15	Sec17 RPF
m-sect1	7.72	0.00	86.13	63.27	0.00	5.46	54.65	0.07	0.00	0.13	0.00	0.69	0.00	0.00	6.41	0.01
m-sect2	0.00	6.06	0.00	0.07	0.00	0.00	34.31	0.32	27.62	1.41	2.99	2.13	0.00	0.00	0.02	0.00
m-sect3	0.00	0.00	150.77	0.00	0.00	15.70	2.10	0.00	0.00	0.00	0.00	0.03	0.00	0.00	37.92	0.00
m-sect4	0.06	0.00	0.33	155.19	0.11	2.12	0.00	8.81	0.76	15.08	0.00	0.01	1.06	0.01	0.54	0.00
m-sect5	0.00	0.00	0.00	0.00	0.00	0.00	31.82	0.00	0.45	0.74	0.00	10.48	0.00	0.00	0.00	0.00
m-sect6	0.00	0.00	1.28	2.25	0.00	0.00	109.81	0.00	0.32	0.34	0.00	0.23	1.66	0.00	10.82	0.00
m-sect7	82.39	2.85	46.08	39.19	8.03	25.37	402.50	133.55	112.89	29.14	6.40	44.63	14.40	60.48	83.53	0.00
m-sect8	0.00	0.00	0.04	0.21	0.20	0.00	0.81	0.00	15.07	7.53	0.00	11.56	0.00	0.00	0.65	0.00
m-sect9	1.71	0.30	65.14	4.57	94.45	3.18	10.13	3.21	2,386.22	304.31	1.31	130.16	0.66	14.50	13.03	0.00
m-sect10	0.00	0.00	0.00	4.60	0.23	22.53	0.54	0.00	5.66	185.29	0.00	3.32	0.00	0.02	8.44	0.00
m-sect11	0.00	0.00	0.00	0.00	0.00	0.00	7.96	0.00	0.00	0.00	10.12	0.00	0.00	0.00	0.00	0.00
m-sect14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	4.23	0.00	0.00
m-sect15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.79	0.00	0.00	0.00	0.00
m-sect16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.15	0.00	0.00	0.00	0.00

Table 4.5: Social Accounting Matrix of Thailand in 2010 (Import sectors buy from Import sectors) Unit: Billion Baht

	m-sect1	m-sect2	m-sect3	m-sect4	m-sect5	m-sect6	m-sect7	m-sect8	m-sect9	m-sect10	m-sect11	m-sect14	m-sect15	m-sect16
m-sect1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
m-sect2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
m-sect3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
m-sect4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
m-sect5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
m-sect6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
m-sect7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
m-sect8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
m-sect9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
m-sect10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
m-sect11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
m-sect14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
m-sect15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
m-sect6	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 4.6: Social Accounting Matrix of Thailand in 2010 (Household sectors and other sectors buy from Import sectors) Unit:Billion Baht

	HH1	HH2	HH3	HH4	HH5	HH6	HH7	HH8	HH9	HH10	ENT	GOV	Margin	Tax	Cap Acct	ROW	Total
m-sect1	0.42	0.66	0.85	0.95	1.14	1.28	1.49	1.83	2.31	3.46	0.00	0.00	0.00	0.00	0.23	0.00	239.15
m-sec2	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	75.09
m-sect3	3.83	5.99	7.41	9.50	11.16	13.59	16.22	19.76	25.13	34.68	0.00	0.00	0.00	0.00	0.00	0.00	353.78
m-sect4	1.95	3.03	3.51	4.19	4.91	5.10	5.86	7.64	10.75	22.03	0.00	0.00	0.00	0.00	1.02	0.00	254.08
m-sect5	0.10	0.01	0.03	0.04	0.06	0.08	0.08	0.13	0.26	0.52	0.00	0.00	0.00	0.00	0.37	0.00	45.19
m-sect6	0.07	0.12	0.30	0.41	0.66	1.11	1.96	3.88	7.44	18.39	0.00	0.00	0.00	0.00	0.00	0.00	161.06
m-sect7	2.46	3.19	4.22	4.99	6.05	6.72	7.83	10.64	14.87	27.01	0.00	0.00	0.00	0.00	2.16	0.00	1,181.62
m-sect8	0.43	0.04	0.14	0.18	0.23	0.32	0.31	0.52	1.01	1.97	0.00	0.00	0.00	0.00	8.95	0.00	50.19
m-sect9	1.63	2.39	3.89	5.12	7.03	8.26	9.74	13.30	17.27	46.62	0.00	0.14	0.00	0.00	841.14	0.00	3,989.42
m-sec10	3.47	6.30	6.20	7.78	7.99	8.97	10.13	10.85	16.08	24.91	0.00	0.87	0.00	0.00	89.15	0.00	423.33
m-sec11	0.07	0.11	0.15	0.21	0.27	0.35	0.47	0.64	0.82	1.53	0.00	0.00	0.00	0.00	0.00	0.00	22.70
m-sec14	1.26	2.00	2.89	3.82	4.76	7.07	9.70	15.55	22.47	51.81	0.00	0.00	0.00	0.00	0.00	0.00	125.57
m-sec15	3.40	5.87	7.25	8.70	11.66	13.45	18.27	26.08	40.99	92.41	0.00	0.00	0.00	0.00	0.00	0.00	231.88
m-sect6	0.74	1.91	1.37	1.93	3.19	2.97	3.42	5.11	7.28	15.88	0.00	0.00	0.00	0.00	0.00	0.00	48.95

Table4.7: Social Accounting Matrix of Thailand in 2010 (Production sectors buy from Household sectors) Unit: Billion Baht

	Sec1	Sec2	Sec3	Sec4	Sec5	Sec6	Sec7	Sec8	Sec9	Sec10	Sec11	Sec12+16	Sec13	Sec14	Sec15	Sec17 RPF
HH1	6.25	1.42	3.21	3.58	0.61	0.78	3.16	0.65	5.96	2.15	3.30	1.42	3.06	4.11	18.00	0.05
HH2	19.26	2.78	6.08	6.14	1.11	3.86	6.61	1.33	11.80	4.00	3.56	2.59	1.52	6.85	16.70	0.05
HH3	22.83	3.36	7.36	7.46	1.34	4.52	7.95	1.61	14.24	4.84	4.48	3.13	2.11	8.34	21.29	0.05
HH4	27.05	4.25	9.36	9.67	1.72	5.10	9.95	2.02	17.99	6.18	6.43	4.02	3.84	10.87	31.81	0.05
HH5	31.67	5.16	11.39	11.88	2.10	5.81	12.01	2.43	21.81	7.53	8.28	4.91	5.40	13.39	41.65	0.12
HH6	35.70	6.19	13.73	14.54	2.54	6.21	14.27	2.90	26.12	9.11	10.89	5.95	7.94	16.45	56.04	0.12
HH7	48.26	8.13	18.01	18.94	3.32	8.61	18.83	3.82	34.35	11.93	13.75	7.78	9.58	21.39	70.09	0.12
HH8	62.66	10.88	24.16	25.59	4.47	10.88	25.09	5.09	45.95	16.03	19.20	10.47	14.05	28.96	98.94	0.12
HH9	83.58	15.82	35.37	38.17	6.59	13.32	36.06	7.34	66.72	23.55	31.08	15.45	25.27	43.43	164.00	0.01
HH10	117.53	33.87	77.62	89.50	14.85	8.11	73.67	15.11	142.06	52.38	92.21	34.86	93.55	103.70	515.05	0.01
ENT	808.80	104.15	224.76	218.36	40.30	173.65	252.15	50.76	442.39	146.65	96.30	94.14	0.12	240.64	388.38	0.00
GOV	12.85	1.65	3.57	3.47	0.64	2.76	4.01	0.81	7.03	2.33	1.53	1.50	0.00	3.82	6.17	0.00
Margin	22.83	4.01	16.53	17.41	1.24	3.12	101.14	1.49	112.55	4.72	0.16	0.00	0.00	0.00	0.00	0.06
Tax	1.10	39.65	109.89	20.42	1.85	3.82	336.51	1.87	60.35	12.46	31.72	18.31	0.01	15.21	149.17	0.02
Cap Acct	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ROW	52.10	6.71	14.48	14.07	2.60	11.19	16.24	3.27	28.50	9.45	6.20	6.06	0.01	15.50	25.02	0.00
Total	2,017.24	354.46	2,918.74	2,059.32	271.77	611.92	2,517.60	399.99	12,867.57	1,429.34	702.77	1,068.15	629.53	1,379.98	2,897.56	1.24

Table 4.8: Social Accounting Matrix of Thailand in 2010 (Import sectors buy from Household sectors and other sectors) Unit: Billion Baht

	m-sec1	m-sec2	m-sec3	m-sec4	m-sec5	m-sec6	m-sec7	m-sec8	m-sec9	m-sec10	m-sec11	m-sec14	m-sec15	m-sec16
HH1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HH2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HH3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HH4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HH5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HH6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HH7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HH8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HH9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HH10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ENT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GOV	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Margin	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tax	7.40	38.24	47.00	12.97	2.81	11.39	89.72	4.19	275.64	18.99	0.70	0.00	0.00	0.41
Cap Acct	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ROW	231.75	36.84	306.79	241.11	42.38	149.67	1,091.90	46.00	3,713.78	404.33	22.00	125.57	231.88	48.53
Total	239.15	75.09	353.78	254.08	45.19	161.06	1,181.62	50.19	3,989.42	423.33	22.70	125.57	231.88	48.95

Table 4.9: Social Accounting Matrix of Thailand in 2010 (Household sectors buy from Household sectors) Unit: Billion Baht

	HH1	HH2	HH3	HH4	HH5	HH6	HH7	HH8	HH9	HH10
HH1	0.74	1.91	1.37	1.93	3.19	2.97	3.42	5.11	7.28	15.88
HH2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HH3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HH4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HH5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HH6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HH7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HH8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HH9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HH10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ENT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GOV	0.00	0.15	0.23	0.35	0.48	0.68	0.91	1.30	1.92	4.76
Margin	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tax	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CapAcct	0.30	0.18	0.51	0.47	1.99	1.81	2.92	6.01	17.94	81.41
ROW	0.00	0.00	0.00	0.00	0.00	0.75	14.35	15.06	43.11	346.75
Total	80.83	129.53	167.41	209.38	257.55	316.23	407.89	555.90	824.36	2,055.21

Table 4.10: Social Accounting Matrix of Thailand in 2010 (Other sectors buy from household sectors) Unit:Billion Baht

	ENT	GOV	Margin	Tax	CapAcct	ROW	Total
HH1	15.80	4.21	0.00	0.00	0.00	3.15	80.83
HH2	24.15	7.87	0.00	0.00	0.00	3.26	129.53
HH3	31.60	13.35	0.00	0.00	0.00	7.57	167.41
HH4	39.27	12.96	0.00	0.00	0.00	6.82	209.38
HH5	48.78	15.11	0.00	0.00	0.00	8.13	257.55
HH6	60.45	17.20	0.00	0.00	0.00	9.88	316.23
HH7	78.73	21.08	0.00	0.00	0.00	11.16	407.89
HH8	108.29	28.79	0.00	0.00	0.00	16.25	555.90
HH9	161.29	35.91	0.00	0.00	0.00	21.40	824.36
HH10	476.61	60.11	0.00	0.00	0.00	54.42	2,055.21
ENT	0.00	153.16	0.00	0.00	0.00	0.00	3,445.48
GOV	107.10	0.00	0.00	3,718.68	0.00	0.00	3,877.92
Margin	0.00	0.00	0.00	0.00	0.00	0.00	285.27
Tax	2,293.29	0.00	0.00	0.00	0.00	0.00	3,718.66
CapAcct	0.11	2,200.23	0.00	0.00	0.00	0.00	2,620.36
ROW	0.00	179.33	0.00	-0.02	0.42	0.00	7,083.66
Total	3,445.48	3,877.92	285.27	3,718.66	2,620.36	7,083.66	

4.7 Conclusion

This chapter constructed the Social Accounting Matrix (SAM) for the Royal Project Foundation (RPF). It used the SAM from the National Economic and Social Development Board (NESDB) in 2010, which is the latest one to be the base. The transaction of the Royal Project Foundation was extracted into a separate sector. The construction sector was combined with the sector of other activities to make the domestic sales of this combined sector big enough for the CGE analysis to be carried out later. Therefore, the SAM includes 16 sectors in total.

The structure of the SAM includes four major parts. First, it contains 16 production sectors (s-sector). Second, it includes 10 importing sectors (m-sector) according to the Armingtonian assumption. Third, it displays the transaction of 10 household deciles (HH-sector). Last, it illustrates the institution (ENT) which presents non-profit institutions and the savings of non-profit organizations; government sector (GOV); margin sector which deals with trading and transportation costs, tax, international capital flows (CapAcct) and transactions with external markets or rest-of-the-world (ROW).

The SAM reveals that the RPF is a big foundation with a revenue of THB1,240 million. However, its expenditures exceeds the revenue so that the RPF suffers a loss of around THB400 million. The government is a major source of the revenue and also the compensator for the loss. The RPF, therefore, relies heavily on the support from the government.

The triggering effect of the benefits from the RPF goes to as many as 10 production sectors, especially agriculture and food manufacturing. The RPF trades heavily with domestic suppliers. The imports are insignificant. The foundation also benefits all deciles of households, especially the middle and poorer classes. Its contribution to tax payment is small due to the exemption from income tax. However, the RPF pays tax through the channel of value-added tax of its sales to final consumers.