

Chapter 2



ROLE OF AIR FREIGHT IN INTERNATIONAL TRADE

To study the development of air cargo transportation , one must also study the growth or decline of external trade which also include importation and exportation similar to that when we study tourism , the growth of international passenger air travel must be also included .

From the advantage in climatic condition and the geography of Thailand which are suitable to agricultural productions , Thai agriculturist can produce enough products in this field to feed this country and also can export as external trade to another region which this is really the most important income to the country . Main commodities which are exported are rice , corn , soya-bean and rubber . These commodities are all treated to be able to last for a long time by the method of sun dry or oven dry which do not need the rapid transportation service , and by their low cost comparing with their weight , the transportation to most destinations is always by sea . However , there are still more products in this field certainly required by foreign consumers , they are known as perishable foodstuffs . Only a few years ago , air cargo transportation made the possibility of outward shipment of perishable foodstuffs and that was the beginning of growth in air freight . Today , perishable foodstuffs as air cargo are mostly sent to Hong Kong and Europe and seem to be most weighted goods from Thailand . Other important kinds of air freight from Thailand are live

animals , wild animals and live tropical fishes etc. . These cargo have been shipped out by sea before the day of air freight . Percentage of death or damage of these types of cargo is so much reduced when air freight has substituted mode of transportation from by sea . The reduction is obtained from the shortening in the period of transportation and the better service for these types of cargo because of high competitive nature of service .

The latest type of cargo which plays important role in the field of air freight is the product of light industry which is rapidly increasing in volume of exportation . It is known that labour costs in Thailand are cheaper than those of another countries and this is the reason why this type of industry is rapidly growing in Thailand .

Comparison of International Trade for Both Modes of Transportation

It is known that most value of external trade of Thailand each year is by marine transportation since this kind of cargo that are important in national economics such as rice , corn and kenaf as export and machinery instruments etc. as import are more suitable in economical reason to be transported by sea . But now , some commodities that are growing in their economical importance such as garments , perishable foodstuffs etc. which are exported from Thailand have been sent to their destinations by air . Faster and safer service seem to be the advantages of this mode of transportation that are widely popular now . Table 2.1 and Table 2.2 show the comparison of value of import and export by both

Table 2.1 Values of import by air and by sea of Thailand from some selected countries (1975-1976)

Country	Import by air (million Bht)		Import by ship (million Bht)	
	1975	1976	1975	1976
Hong Kong	51.71	58.97	583.15	665.76
Japan	224.59	298.37	20,810.33	22,992.61
Saudi Arabia	0.02	0.05	6,010.54	5,436.40
Denmark	7.55	8.71	284.35	206.00
France	57.08	98.85	1,568.93	851.96
Germany	107.83	123.05	3,332.67	3,261.89
Norway	0.77	0.90	136.81	264.02
Sweden	15.63	18.44	453.66	505.10
Argentina	0.14	0.43	23.93	78.77
Brazil	9.76	9.82	194.92	153.96
U.S.A.	1,726.99	2,269.02	7,758.26	7,300.67
Australia	99.51	88.33	1,433.17	1,438.20
New Zealand	0.82	1.88	234.27	336.44
Other	1,187.11	632.67	19,937.82	24,553.55
Total	3,489.51	3,609.49	62,762.81	68,045.33

Source ; Ministry of Commerce , Thailand

Table 2.2 Values of export by air and by sea of Thailand to some selected countries (1975-1976)

Country	Export by air (million Bht)		Export by sea (million Bht)	
	1975	1976	1975	1976
Hong Kong	3,684.34	445.21	2,411.02	2,539.22
Japan	491.08	547.58	11,842.88	15,334.07
Saudi Arabia	2.71	20.35	613.26	758.25
Denmark	11.53	28.47	126.79	288.59
France	19.09	26.75	305.23	722.37
Germany	169.86	318.76	864.65	1,574.09
Norway	7.69	11.28	156.60	84.12
Sweden	27.81	50.67	169.81	326.70
Argentina	0.01	0.01	0.44	78.38
Brazil	0.21	0.17	14.30	5.94
U.S.A.	487.71	584.30	4,242.32	5,255.56
Australia	64.40	94.88	338.39	499.99
New Zealand	1.25	1.69	29.55	26.79
Other	978.80	1,283.78	19,764.02	28,882.30
Total	5,946.49	3,413.90	40,879.26	56,376.37

Source ; Ministry of Commerce , Thailand

modes of transportation in Thailand according to some selected countries for the years of 1975 and 1976 . From tabulated data , it shows that great consumers who have imported goods by air cargo from Thailand amount for more than 100 million baht each year are Hong Kong , Japan , Germany and U.S.A. . Hong Kong seems to be the most important market for air cargo from Thailand , commodities such as vegetables , fruits and other foodstuffs have been shipped at Bangkok International Airport for flights to Hong Kong accounted for many tons each day . For import to Thailand , the main origins are Japan , Germany and U.S.A. which are known to be the great important world industry , such commodities required by Thailand belonging to productive of these states are manufactured goods and spare parts .

From the comparison of both modes of transportation of Thailand , it shows that total value of both import and export of Thailand by air is about 9% of that by ship in 1975 and 6% in 1976 . These proportions seem to be very little , but it is quite important to national economics of this country . With new and modern types of commercial aircraft having more capability for loading and longer range of flights and also better services with more improved facilities at this international airport in the future , more value of cargo will be transported through it that means exactly more satisfied income to Thailand .

Specific Examples of Main Commodities Carried by Air

Density of specific commodities

The physical characteristics of air freight shipments influence not only the economics of air freight carriage (handling cost and density) , but also have a bearing on the marketing of air cargo services. The two most important characteristics from this standpoint are the weight distribution of shipments and their average density . Other characteristics such as perishability and the need for special handling (for example , live animals or radioactive materials) are also important but are more limited in their impact on air cargo marketing .

Although the average density used by I.A.T.A. for ratemaking purposes is 142 kilograms per cubic metre (8.9 lbs/cu.ft.) , there has been a study referred to previous estimation that the average shipping density of cargo in international services is closer to about 195 kilograms per cubic metre (12.1 lbs/cu.ft.) . The loaded density of a number of commodities commonly shipped by air is as shown in Table 2.3

Some important exported air cargo from Bangkok

The following are some types of exported air cargo worth mentioned .

1. Live tropical fishes

Good looking fishes having their productive place in Thailand such as Gold Fish , Chinese Fish and Thai Fighting Fish are

Table 2.3 Loaded density of selected commodities

Commodity Description	Loaded Density	
	lb./cu.ft.	kg./cu.m.
1. Office machines and computers	30	481
2. Scientific , medical , optical , measuring and controlling instruments	30	481
3. Watches and clocks , including parts	27	432
4. Jet and gas turbines	21	336
5. Electric apparatus for medical purpose	21	336
6. Cherry	17	272
7. Fresh fish	16	256
8. Strawberries	15	240
9. Telecommunication apparatus , radio	15	240
10. Fresh fruits and vegetables	14	224
11. Print matter	13	208
12. Drugs	12	192
13. First class mail	10	160
14. Machine parts	10	160
15. Mail and express	10	160
16. Mail (mixed)	9	144
17. Electrical parts	8	128
18. Air mail	8	128
19. Auto parts	7	112
20. Aircraft parts	7	112
21. Display material	7	112
22. Live animals (except zoo and domestic)	6	96
23. Furniture	6	96
24. Wearing apparel	6	96
25. Flowers	6	96
26. Live birds	5	80
27. Toys	4	64

Source ; The Boeing Company , " Air Cargo Density " , March 1971

one kind of more popular air cargo from Thailand . The important destination for these fishes is U.S.A. . Great demand will occur in winter for this period people spend most of their time at home due to bad weather and keeping beautiful fishes is one of their hobbies .

2. Vegetables , fruits and some other foodstuffs

These kinds of commodity or so-called perishable foodstuffs have their biggest market in Hong Kong . This state has paid a large sum of money to Thailand each year for these types of commodity due to limited production land .

3. Orchids and other cut flowers

Destinations for this air cargo are in Europe (Amsterdam , Frankfurt etc.) and Japan (Tokyo) . It is a fact that if there have been no service for air cargo , these commodities would have no chance to be exported .

4. Live animals (snakes , birds and reptiles etc.)

Live animals including wild animals , birds of all varieties and reptiles have been shipped out by air from Bangkok to Hong-Kong , U.S.A. and some states in Europe . But wild life conservation measures with more annual quotas and stricter enforcement are discouraging some exporters . Panthers are on the forbidden list , but somehow a Thai panther finds himself in Laos or Cambodia where his export papers can easily be processed . Then he is simply flown to Bangkok as cargo

in transit and trans-shipped to its final destination .

5. Garments

For years , Hong Kong , Japan and Korea have hogged the export market for ready-made garments out from the Far East to small exclusive fashion salons . But this is changing . Already Thailand has made some significant air shipments of garments , which are dispatched on hangers and protected by plastic so as to arrive in an uncrushed condition ready for immediate display at their final destinations . Of a seasonal nature and subject to the ever-changing fads of fashion , for ready-mades there is only one way to go --- by air .

6. Electronic instruments and parts there of

In the electronics field , many factories tend to produce such instruments and parts there of have been widely spreaded today in Thailand . According to low cost labour supply in this country , the investment pattern of industrial development has shown a steady movement from areas of high income to areas of low income . With the spiralling cost of living in Japan , labour became too expensive and industries moved to the cheaper climates of Korea , Hong Kong and Taiwan . After four to five years , the rising labour costs turned investors' eyes towards Thailand , Malaysia and Singapore .

Main commodities carried by air and some selected states concerning with Thailand in the field of air freight

As air cargo from Thailand have been widely spreaded all over the world , and in return more and more quantity of air freight came from many origins to Bangkok International Airport , it is an interesting study to examine how dense of air cargo flow to and from some important states . This summary may be the guidance for importation and exportation of air cargo through this international airport . Table 2.4 - Table 2.10 provided the shipments of air cargo as import and export from Thailand to Hong Kong , Japan , France , Germany , Brazil , U.S.A. and Australia vice versa , respectively . The tabulated data is based on 1976 while the others for 1975 and 1976 will be found in Appendix A-1 and Appendix A-2 .

Table 2.4 Selected commodities as import and export by air from Thailand to Hong Kong and vice versa (at Bangkok International Airport , 1976)

Commodity	Import		Export	
	Million Bht	% of total ⁽¹⁾	Million Bht	% of total
1. Fruits & Vegetables	0.021	18.2	75.683	83.0
2. Live Fish / Animal	0.211	0.6	12.484	37.2
3. Flowers / Plants	-	-	0.278	0.3
4. Textiles & Textile Article	3.321	12.7	9.423	2.5
5. Machinery & Mechanical Appliances ; Electrical Equipments , Parts there of	6.619	0.6	185.293	18.9
6. Pharmaceuticals / Toiletries / Cosmetics	0.369	0.3	1.123	21.2
7. Pearls , Precious & Semi-Precious Stones , Precious & Ralled Precious Metal & Article there of Imitation Jewelly Coin	1.581	2.3	48.368	8.7
8. Foodstuffs ; Meat , Fish , Chicken etc.	0.114	1.2	11.271	88.3

(1) as percentage of total value of each commodity according to all states

Table 2.5 Selected commodities as import and export by air from Thailand to Japan and vice versa (at Bangkok International Airport , 1976)

Commodity	Import		Export	
	Million Bht	% of total	Million Bht	% of total
1. Fruits & Vegetables	0.001	9.1	0.096	0.1
2. Live Fish / Animal	9.651	26.4	2.531	7.5
3. Flowers / Plants	0.040	44.9	11.099	10.6
4. Textiles & Textile Article	6.092	23.3	7.622	2.0
5. Machinery & Mechanical Appliances ; Electrical Equipments , Parts there of	140.408	13.6	8.558	0.9
6. Pharmaceuticals / Toiletries / Cosmetics	4.169	3.5	0.009	0.2
7. Pearls , Precious & Semi-Precious Stones , Precious & Ralled Precious Metal & Article there of Imitation Jewelly Coin	0.830	1.2	178.618	32.2
8. Foodstuffs ; Meat , Fish , Chicken etc.	4.280	47.1	0.109	0.9

Table 2.6 Selected commodities as import and export by air from Thailand to France and vice versa (at Bangkok International Airport , 1976)

Commodity	Import		Export	
	Million Bht	% of total	Million Bht	% of total
1. Fruits & Vegetables	-	-	0.412	0.4
2. Live Fish / Animal	0.385	1.1	0.123	0.4
3. Flowers / Plants	-	-	0.242	0.2
4. Textiles & Textile Article	0.627	2.4	6.979	1.9
5. Machinery & Mechanical Appliances ; Electrical Equipments , Parts there of	12.501	3.1	0.001	-
6. Pharmaceuticals / Toiletries / Cosmetics	3.734	3.1	0.001	-
7. Pearls , Precious & Semi-Precious Stones , Precious & Ralled Precious Metal & Article there of Imitation Jewelly Coin	0.064	0.1	4.243	0.8
8. Foodstuffs ; Meat , Fish , Chicken etc.	-	-	0.538	4.2

Table 2.7 Selected commodities as import and export by air from Thailand to Germany and vice versa (at Bangkok International Airport , 1976)

Commodity	Import		Export	
	Million Bht	% of total	Million Bht	% of total
1. Fruits & Vegetables	0.003	2.7	0.006	-
2. Live Fish / Animal	0.683	1.9	1.426	4.3
3. Flowers / Plants	-	-	52.261	52.9
4. Textiles & Textile Article	0.490	1.9	62.368	16.6
5. Machinery & Mechanical Appliances ; Electrical Equipments , Parts there of	36.426	3.5	35.438	3.6
6. Pharmaceuticals / Toiletries / Cosmetics	7.141	6.0	0.006	0.1
7. Pearls , Precious & Semi-Precious Stones , Precious & Ralled Precious Metal & Article there of Imitation Jewelly Coin	1.647	2.4	52.571	9.5
8. Foodstuffs ; Meat , Fish , Chicken etc.	0.008	0.1	0.005	-

Table 2.8 Selected commodities as import and export by air from Thailand to Brazil and vice versa (at Bangkok International Airport , 1976)

Commodity	Import		Export	
	Million Bht	% of total	Million Bht	% of total
1. Fruits & Vegetables	-	-	-	-
2. Live Fish / Animal	-	-	-	-
3. Flowers / Plants	-	-	-	-
4. Textiles & Textile Article	0.026	0.1	0.029	-
5. Machinery & Mechanical Appliances ; Electrical Equipments , Parts there of	2.056	0.2	-	-
6. Pharmaceuticals / Toiletries / Cosmetics	0.030	-	-	-
7. Pearls , Precious & Semi-Precious Stones , Precious & Ralled Precious Metal & Article there of Imitation Jewelly Coin	2.687	3.9	-	-
8. Foodstuffs ; Meat , Fish , Chicken etc.	-	-	-	-

Table 2.9 Selected commodities as import and export by air from Thailand to U.S.A. and vice versa (at Bangkok International Airport , 1976)

Commodity	Import		Export	
	Million Bht	% of total	Million Bht	% of total
1. Fruits & Vegetables	-	-	-	-
2. Live Fish / Animal	12.527	34.3	5.962	6.5
3. Flowers / Plants	0.006	6.8	0.060	-
4. Textiles & Textile Article	1.676	6.4	66.960	17.9
5. Machinery & Mechanical Appliance ; Electrical Equipments , Parts there of	688.087	66.6	252.404	25.8
6. Pharmaceuticals / Toiletries / Cosmetics	31.514	26.4	0.007	0.1
7. Pearls , Precious & Semi-Precious Stones , Precious & Ralled Precious Metal & Article there of Imitation Jewelly Coin	8.528	12.5	50.641	9.1
8. Foodstuffs ; Meat , Fish , Chicken etc.	0.037	0.4	0.064	0.5

Table 2.10 Selected commodity as import and export
by air from Thailand to Australia and vice versa (at Bangkok Inter-
national Airport , 1976)

Commodity	Import		Export	
	Million Bt	% of total	Million Bt	% of total
1. Fruits & Vegetables	-	-	-	-
2. Live Fish / Animal	0.100	0.3	0.026	0.1
3. Flowers / Plants	-	-	0.306	0.3
4. Textiles & Textile Article	0.723	2.8	13.217	3.5
5. Machinery & Mechanical Ap- pliances ; Electrical Equ- ipments , Parts there of	9.700	0.9	3.659	0.4
6. Pharmaceuticals / Toilet- ries / Cosmetics	6.222	5.2	-	-
7. Pearls , Precious & Semi- Precious Stones , Precio- us & Ralled Precious Met- al & Artical there of Im- itation Jewelly Coin	42.757	62.6	18.872	3.4
8. Foodstuffs ; Meat , Fish , Chicken etc.	0.384	4.2	0.002	-