

Chapter 1

INTRODUCTION



Summary of the Origin

History of cargo transportation

The process of development has many components and none of them is sufficient in itself to bring about the improvement in living conditions that people and nations everywhere are strive to achieve . Transport is a necessary ingredient of nearly every aspect of economic and social development . It plays a key role in getting goods from places of production to consumer areas .

In the old days , when the development of technology was not so advance , transportation of goods was limited only by surfaces , notably land and water . By land , the ability to move was often limited by unfavorable native and topography . Transporters generally have to cope with a formidable combination of mountains , excessive heat , vast deserts , thick forests , untamed rivers , and too much rain or too little . By water , it was usually slow , unreliable and often face with bad weather . This gives rise to high cost , slow schedules and high damage pilferage .

At present , as technology has been developed , the difficulties or obstructions that have been faced by transporters are being eased .

Some unbelievable routes have come true . In the field of land transportation , the limitation caused by geological conditions have been reduced by the ability of present engineers and modern techniques of construction . Large number of rail-roads and highways are being constructed through mountainous zones , canyons and jungles . More accessibility are being made by new land transportation networks resulting in vast progress in cargo transportation . In marine transportation , today modern navigation instruments and knowledge about navigation together with modern technology help to develop a better way to transport cargo . On some modern ships , there are full of modernized facilities such as cold storage for the perishable goods and special cabins provided for the cargo that needs special attention .

However , both modern land and marine transportations are still not enough for today demand for cargo transportation business which require more attention , reliability and speed . Some types of goods need a short period to transport from the origin to the consumer which is by air . It is then quite rightly to say that the role of air cargo transportation at present is very important to the international trade and seems to be more in near future .

Role of air freight to present economy

It is a fact that air cargo transportation plays a very important role in the development of present world's economics especially in the field of international trades . Not only for developing countries

such as Thailand that needs this type of service to resolve socio-economic problems coincident with rapid advances in technology , but also other economic giants such as Japan and United States of America which rely very much on fast effective way to move their cargo . At present , air cargo business has advanced far from the beginning stage by the help of new technology and modern aircraft construction . Now , new cargo aircrafts make this business more profitable . As a result , the airlines are making large investments in this new technology both in the air and on the ground that will enable them to reduce the cost of handling the ever-increasing volume of air cargo . This leads to the improvement of services and also lower air freight rates . These developments are causing users to take a new look at air freight transportation .

When to use air cargo transportation is quite a doubtful decision . The service of air cargo transportation may be used according to the following heading :

1. Type of commodities

- (a) Perishable goods
- (b) Goods subject to obsolescence
- (c) Time limitation
- (d) Valuable goods relative to weight
- (e) Expensive of handling and storage

2. Emergencies

In case of an emergency such as breakdown of important machinery parts where the whole operation are depending on , then the manufacturer will only require air service . This is an example for the emergencies in the field of economics . Regardless to the problem of economics but far more important in terms of human life , the service of air freight is provided to the transportation of medicines , bottles of blood and hospital equipments to any immediately requiring region .

3. Inaccessible area

In an area where surface transportation networks are not well developed , air transport can be applied advantageously to more cargo to low cost transport media and also in direct carriage of perishable cargo .

At present , freight rates are obviously much higher for air transportation than for surface shipment , but there are many factors which may make it comparatively attractive in the final analysis . Such advantageous factors of air freight are as follow :

a. Interest on capital tied up in transit

Because air cargo is always so much faster than surface transportation , it can free capital which otherwise would be tied up in transit for a long time . Then , shippers are able to receive

payment much more quickly than that of the others .

b. Insurance

Insurance premiums are much lower for air cargo than for any other way of transportation because of more care in handling and fewer transshipments which reduce the risks of damage and pilferage.

c. Packing and packing materials

Air carriage requires simple packing . Solid seaworthy boxes protecting the goods against salt water , influence of weather and careful handling are not required . The shipper saves material for packing , creating , labour , space and interest on the invested capital .

d. Loading , re-loading and unloading

Using surface transportation , the shipper may have to pay extra for services which are not charged for by airlines .

e. Customs duties

Depending on the customs calculation basis the import duties may be advantageous when shipping by air . Duties paid on the gross weight are often an advantage for air cargo due to the lower gross weight (lighter package) as well as a reduced f.o.b. value (lower pre-transportation charges) . Even where the duties are higher for air freight , generally simpler documentation and faster clearance

offsets this to some extent .

f. Warehousing and inventories

The cost of warehousing is composed of the cost for storage administration , handling and maintenance , and the capital invested in the stored goods . Using air cargo , a business man requires less need for local warehousing and expensive stocks .

Apart from these mentioned items , the actual main advantages of air cargo transportation lies in the area of speed transportation , safety and frequent flight availability .

Historic background of air transport in Thailand

Thailand was one of the countries that played a role in the international civil aviation in the early state . It had been a member state of the Convention on Regulations for Air Navigation signed in Paris on October 13th , 1919 . This means that the age of air transport in Thailand is about sixty years up to the present . There were many incidents about the development of this activity along the past period .

On June 23rd , 1920 , a test flight of three airplanes carrying mail-bags was flown to Nakorn Ratchasima with the flight time of 1.25 hours . This was the first successful mail flight in Thailand which led to an opening of a new way of communication to some inferior ground transport areas .

In June 1922 , the air transport service was first began in the northeastern provinces of Thailand by the Air Corps , Royal Thai Army between Nakorn Ratchasima , Roi Ed and Ubol Ratchathani , covering a flight distance of 363 km. . The air-route was extended to 825 km. in 1930 .

In August 1939 , the Airways Company Ltd. was established and operated flights , under the commercial air navigation monopoly given by the government , firstly in the southeastern area and eventually extended the air-routes over all Thailand regions .

In June 1939 , the Airways Company Ltd. had been changed the name to be the Transport Company Ltd. and managed on domestic flights continuously up to Vientiane .

On December 5th , 1946 , the air-routes , Don Muang to Chiang Mai in the northern region and to Sonkhla in the southern region were opened by the airplanes left from the Second World War which Thai Government had purchased and handed over to the Royal Thai Air Force that played the role as the operator for this commercial aviation . In early of 1947 , Thai Government approved the establishment of two Thai Airways Companies , namely , Thai Airways Company Ltd. in inaugurating its flight on March 1st , 1947 by taking over the business in this field by the Royal Thai Air Force , and Pacific Overseas (Siam) Airways Ltd. starting its international flights by April 1st , 1947 .

Concerning with the international aviation , series of incidental record were :

In 1924 , an airplane belonging to K.L.M. Royal Dutch Airlines , a foreign airline operating in Europe , which was being flown to Java , requested to stop over at Don Muang . This event was regarded as the first foreign airline flew into Thailand . Finally , in 1929 this airline decided to fly a new commercial air-route to the Far East choosing Don Muang aerodrome as a terminal and for maintenance work . The air-route being flown was Amsterdam- Bangkok-Djakarta .

On December 8th , 1941 , the day the East Asia War broke out , commercial aviation activities came absolutely to a stand still .

In 1947 , after the Second World War had come to an end , there were nine commercial airlines operating their flights from Bangkok . They were namely ;

Thai Airways Company Ltd. (Thai) ;
 Pacific Overseas (Siam) Company Ltd. (Thai) ;
 Trans-Asiatic Airline Company Ltd. (Thai) ;
 Pan American World Airways Inc. (American) ;
 Royal Dutch Airline (K.L.M.) (Dutch) ;
 British Overseas Airways Corporation (British) ;
 Philippine Airlines Inc. (Philippines) ;
 Central Air Transport Corporation (Chinese) ;
 Cathay Pacific Airways (Hong Kong)

On May 4th, 1947, Thailand joined with the International Civil Aviation Organization (I.C.A.O.), Headquarters situated in Montreal, Canada .

For the airport, the history is as such :

In 1913, as the early stage of civil aviation in Thailand, a special aerodrome was built at Sra Pratum district on an area which, at present, is the location of the Royal Bangkok Sport Club. This was so-called Sra Pratum Aerodrome which was the first aerodrome in Thailand .

After that, it was moved to Don Muang due to growing activities and limited a space. The first landing at Don Muang was done on March 8th 1914, the date which declared officially open the second aerodrome in Thailand .

At the first stage the activities at Don Muang were limited to only small and light weight airplanes, smooth cut grass area could be used for landing and taking-off. The only navigational aid were the wind " T " cone, green and red signal flags, and pistol pyrotechnics (used for night flying). The improvements were made by the laying of asphaltic surface on the runway, new apron and taxiway were constructed plus hangars for parking .

Don Muang Air Terminal was situated within the Royal Thai Air Force Headquarters Building until 1952, then it was moved to a new site

nearby at the north of the old one . Further improvement by laying concrete were made on the west runway , taxiway & aprons . These improvements were based on the criteria of constructions drawn up by the International Civil Aviation Organization . The airport officially opened on March 27th, 1952 and at present it is the site of Bangkok International Airport .

Location Description

Present status of Bangkok International Airport

Bangkok International Airport , Don Muang , is located 22 km. north of Bangkok in the Chao Phraya plain as shown in Figure 1.1 . The airport is a joint civil/military operation , with the civil apron and terminal facilities located on the west side of the airport . The airport layout consists of north-south oriented paralld runways seperated by approximately 700 metres centre to centre . The area between the runways has been developed into an 18-hole golf course . The Royal Thai Air Force maintains facilities on both the east and west sides of the runways and exercises full control over all operations at the airport . The portion lying at the east side of the runways is occupied entirely by military facilities .

The terrain in the vicinity of the airport is almost flat and lies at an elevation of about four metres above mean sea level . Drainage of the airport area is controlled by perimeter dikes and

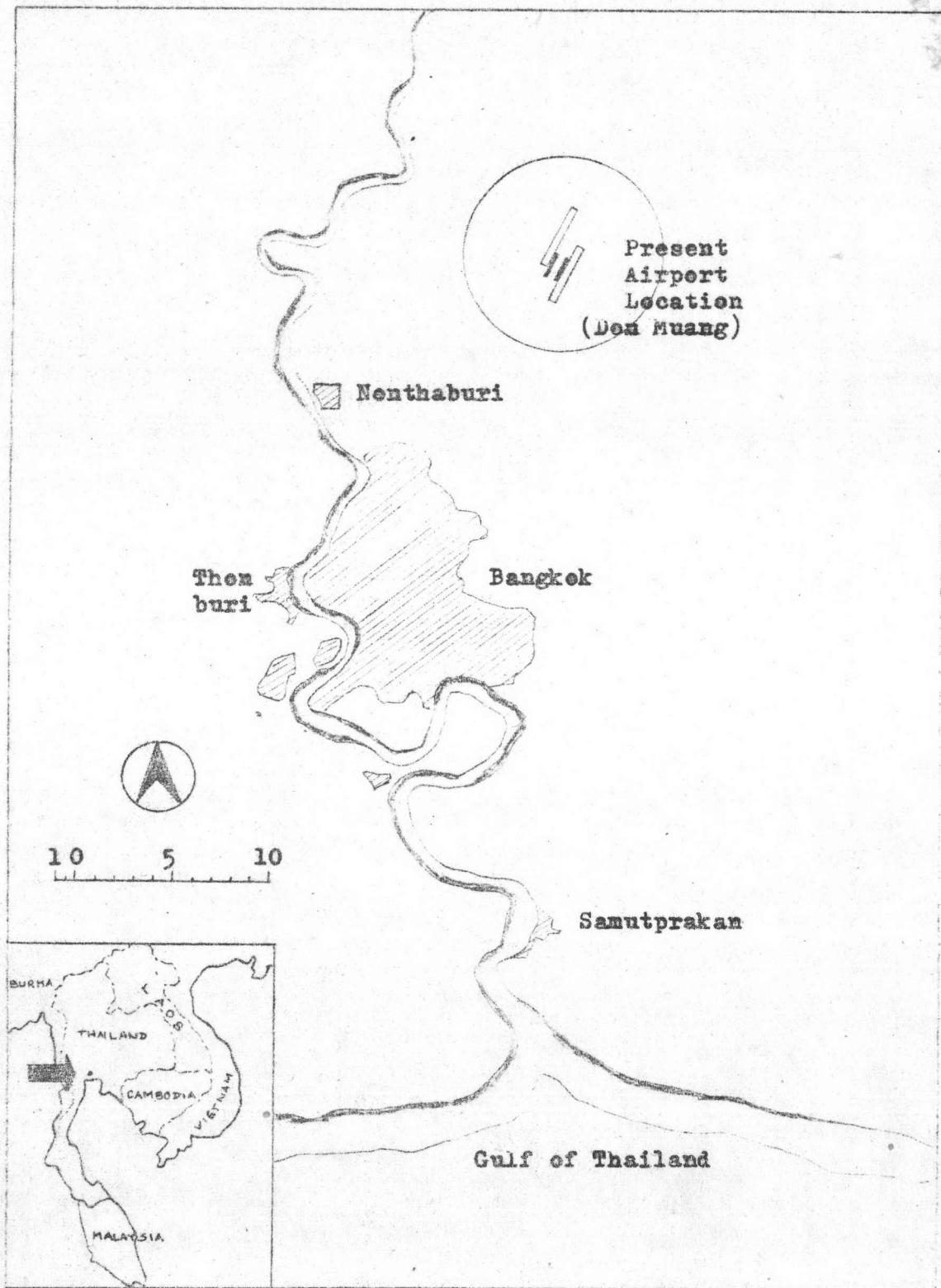


Figure 1.1 Vicinity Map of Bangkok International Airport

drainage ditches . The ditches are elevated as required by high volume low head drainage pumps .

Land use around the airport was used to be agricultural . At present , commercial and residential development can be found around the perimeter of the airport . The RTAF has barracks and housing areas located in its support area on the east side of the airport . Access to the airport , provided by a four-lane divided highway connecting with the Bangkok street network .

Bangkok International Airport is the first airport of Thailand that has been used since the first time of civil aviation in Thailand . The improvement of the airport is always recognized to make this international airport remain the air traffic centre of this region . From the latest improvement in 1970 , it was seen that the improvement was only for rapid growth of the number of the passenger . The problem of facilities for air cargo was left behind without thinking that air cargo would be more significant in the future as that is occurring now .

Where is the Air Traffic Centre for South East Asia ?

It is accepted that air transport is now a very necessary and important way of transportation and seems to grow more and more significance in this fact . Any countries with modern and enough facilities for the rapid growth of international air traffic will have more expansion in the field of international trade and investment. The investor must think of where and how to sell his product before paying

the money and this means that the country with more efficient facilities of cargo transportation will have better chance . In South East Asian countries , there are now rapid industrialisation and will be more and more and this will affect air cargo traffic so much .

Considering the present distribution network of air cargo traffic in the Far East , for economic reasons , the distribution pattern is based upon air trunk carrying full bulk loads into the same central distribution points . From these centres , flights are distributed outward within a radius of two and a half to three hours . Flying inward are ofcourse in reverse . In the study , we will start at Tokyo . The cities which are in the said distribution network are Seoul and Taipei and every towns in Japan . Tokyo is the junction point of Europe and Pacific flights , that is the answer of why Tokyo is the biggest and the most significant centre for the Far East today and certainly in the future . As the centre is moved to Taipei , the network from this point covers Hong Kong and Manila . Taipei and Manila are expanding in industry and agriculture where as Hong Kong nearly reach the optimum . Moving down to Hong Kong , the circle covers Taipei , Manila , Saigon and Bangkok . Hong Kong , Taipei and Manila have been known while Saigon is closed . The rest is Bangkok where the future of industrial investment is promising . Thus , it can be seen that Hong Kong is one more significant centre . However , when it is compared to Singapore which the network covers Djakarta , Kuala Lumpur , the areas where more investments for industrial and agriculture are rapidly expanding . Also , Bangkok ,

Penang , Rangoon and Saigon are covered in this network . So Singapore appears to provide the best alternative ; but Bangkok offers the greatest potential , within this economic circle covering Penang , Kuala Lumpur , Singapore , Saigon , Hong Kong , Rangoon and Culcutta as shown in Figure 1.2 , not forgetting the rapid progress which is taken place in Manila , Djakarta and Kathmandu which , although located outside the circle , should be included considering the enormous potential which Bangkok offers .

Thus , it could be seen that there are two important centres for the Far East Asian countries for air cargo traffic , they are Tokyo and Bangkok . There are no problem about Tokyo where its international airport is quite modern and the capability to serve the growing rate of air cargo traffic is sufficient . Also , the facilities at this airport are said to be the standard service which tend to make Tokyo to remain the most important centre for the Far East Asia . For Bangkok , its international airport seems to be less developed than the nearby international airports such as in Singapore and Hong Kong especially in the field of air cargo transportation . To keep Bangkok International Airport as the centre of air traffic in South East Asia , it is vital to upgrade its standard and work can be considered as urgent priority , if not it is for sure that the air traffic centre will move to elsewhere .



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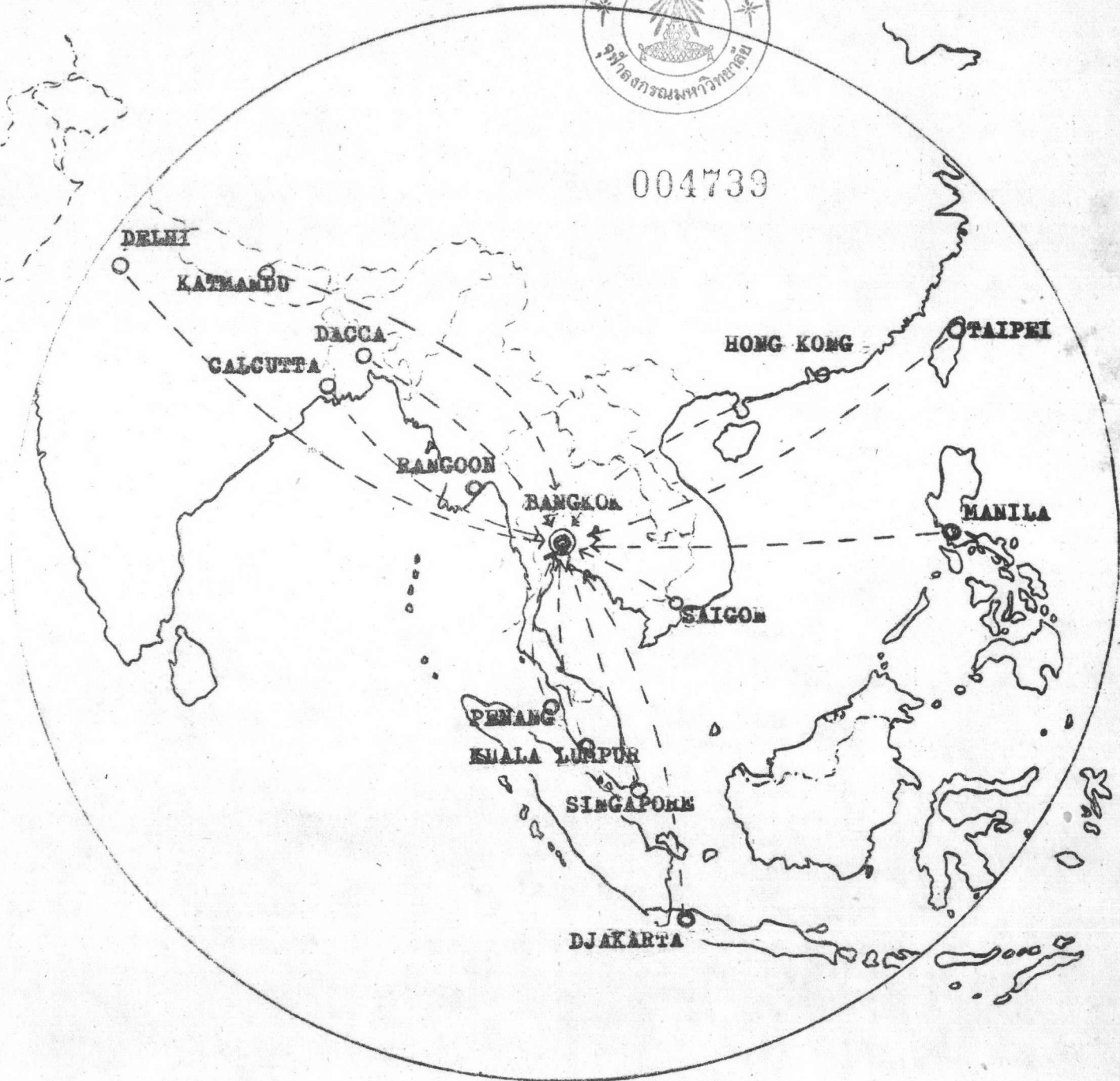


Figure 1.2 Bangkok , the centre of South East Asia within two hours of flying time

Purpose and Scope of the Study

The purpose and scope of this study are to investigate into the development of air cargo transportation at Bangkok International Airport, the main purpose is to define the importance of this business to present socio-economic of Thailand. The income of the country from exported air cargo and the expense for import by air are to be evaluated. The future forecasts of air traffic and air freight at Bangkok International Airport are also considered in order to provide the information for the development of the facilities at this airport.

The study concerned with the development of international air freight services at this international airport and between this country and other parts of the world. Also, it deals with air mail services that still play important role in the field of this business. It must be known that it does not deal with the technical problems of air navigation, but rather with questions of organization, administration, economics, finance and facilitation.

It must also be mentioned that in general, over all limitation has been imposed on the scope of this study by time, resources and data available. The study accordingly is intended to be no more than a general review of the problems and growth of international air cargo transportation at Bangkok International Airport.

Sources and Limitation of Data

To obtain the data for this work , there is no better way to get them from the records of the persons who involve in this field . At first , there appeared to be many sources of data available for this study , but in fact it has been found that after the contacts with the expected sources , there seemed to be many red tapes involved .

Sources of data expected to be useful for this study are as follow

1. Airlines and air cargo agents

These sources almost absolutely denied to give the recorded data of their business . It may be according to the keeping of secret for their business . One more cause of unavailability to gain data from these sources is that their records are not ready to be provided for this study . More work have to be done for re-collection of data required which such work can only be carried out by their staff . This is very difficult to do since this type of business is running as day by day basis and there is not enough time for them to be available for such work .

2. Customs house at Bangkok International Airport

This working place seems to be more busy than those of airlines and air cargo agents at the airport , however some data required can be collected from the records of this source . Though some available data can be collected , some more work have to be done for

the display of such data required . It was found that statistical work done here was sub standard and it required further re-organizing to be useful .

3. Directorate of Civil Aviation , RTAF

Here , all airlines have to record the data of each flight in the manifest books of the airport and this is a source of data for this study .

4. Ministry of Commerce

Data required from this source is about the value and quantity of external trade of this country . To collect total value of external trade is easy to find here , but to obtain some selected commodities or their destinations which play important role in air cargo of Thailand seem to be a hard work to be done . This work has been carried out by selecting from available computer tapes during the limited time available .

Besides the mentioned sources of data , some more interviews and field studies are also undertaken to widen the informations . It may be noted that if ~~this~~ study is done by the government , scope of the study and limit of data may be widen more than this .

Expected Usefulness of the Research

To conduct this research it is hoped that the following general headings may be contributed to the overcoming of some of the obstacles to further development of air cargo transportation at Bangkok International Airport :

a. Improvement of cargo handling facilities and services

From the latest improvement of Bangkok International Airport in 1970 , it was only for the passenger services and nothing has been done to improve the cargo handling facilities and services . Deficiencies existing now seem to make this international airport to lose its benefit to the others in this region more and more each year . The improvements are required not only for handling equipments side , but also the cargo terminal buildings and trained personnel to deal with more rapid increasing cargo quantity .

b. Provision of adequate customs services at the airport

Smooth , fast customs clearance is one of the most requirement in this business . It is said that Don Muang customs procedures are only adequate compared to other big international airport .

c. Planning and promotion programme for the market of air cargo

It is essential for the government , airport authorities , airlines and air cargo agents to get together and formulate detailed plans and promotions to provide the optimum development of air freight services . Also , to seek remedies to such problems as peak traffic , imbalance between export and import demands , shortage of cargo agents and forwarder and shortage of trained personnel .

d. Reduction of air cargo costs

To reduce air cargo costs means to attract more users for air cargo service , but this is to counteract the effects of inflation in the labour costs , equipments , fuel and other materials . The objectives have to be set for :

1. the reduction of directional imbalances in cargo traffic by means of careful promotion and special cargo rates ,
2. the improvement of cargo handling which should reduce unit handling costs and aircraft turn around time ,
3. bulk shipments which means the lowering of the costs for air cargo , and
4. the coordination between airlines and airport authorities by such means as pricing and other consultations .

Literature Review

BREWER (1966) , wrote about the developments in the air cargo business and focused on future aspects for this segment of the air transportation industry that the air freight transportation was a new dimension in shipping and held promise of bringing about another revolution in physical distribution . There was some danger , however , that this industry might be held back by failure to resolve socio-economic problems coincident with rapid advance in technology .

SCHARY (1964) , wrote whether why there was continued investment in this seemingly unprofitable industry . It was said that at the beginning age of this business the all-cargo airline , the scheduled freight operation became a means of cushioning otherwise very erratic revenue fluctuations . For the passenger carriers air freight might be considered a long term investment where the future market position might produce potential rewards exceeding the present costs .

THEANDER (1974) , made some suggestion about Thailand and the business of air cargo transportation . He had indicated that Bangkok International Airport was on such an advantageous situation which seems to be better than another international airports in South East Asia . Also , service and facilities at this airport were said to be under developed as compared with the growth of the business here .

SOMCHAI (1976) , made such criticism about this business of Thailand that this nation only just beginning to realize its air cargo potential and that freight companies could be expected to play an increasingly important role in the development of the economy . It was indicated that the excellent position of this international airport made this country virtually unlimited potential for this business . Also , smaller storage fees and without heavy transit charges plus busy air traffic in and out of Bangkok International Airport gave this country a highly competitive edge . However , some disadvantages existed such as inadequate cargo terminals , handling machines and trained personels .