



ICAO

International Civil Aviation Organization

**Thirty-Third Meeting of the Asia/Pacific Air Navigation
Planning and Implementation Regional Group
(APANPIRG/33)**

Bali, Indonesia, Hybrid Meeting, 22 to 24 November 2022

**Agenda Item 3: Performance Framework for Regional Air Navigation Planning and
Implementation**

3.0: Regional and National Performance Framework

**NATIONAL AIRSPACE AND AIR NAVIGATION MASTER PLAN
DEVELOPMENT IN THAILAND**

(Presented by Thailand)

SUMMARY

This paper presents an experience and lesson learned from Thailand on the development of the national airspace and air navigation master plan.

1. INTRODUCTION

1.1 Airspace is recognized as a finite resource in aviation. It is therefore organized efficiently for all users (both civil and military). To enhance the flexibility, efficiency, and capacity of the airspace, the flexible use of airspace (FUA) concept is used as a foundation of airspace management.

1.2 It is well known that aviation is a major contributor to economic growth. With the rapid growth of air traffic in the last decade, Thailand is facing the challenge of managing limited airspace to support both civil and military requirements.

1.3 To support the sustainable growth of air traffic in the future, the national airspace policy was drafted in 2017 by the Ministry of Transport (MOT) with representatives from the air force, regulator, and air navigation service provider.

1.4 On 13 March 2018, the Cabinet officially approved the national airspace policy, which the airspace management was based on the FUA concept for enhancing the capacity and efficiency of the airspace in the Bangkok FIR.

1.5 To achieve the national airspace policy's objectives, the National Airspace and Air Navigation Master Plan was developed to be the national framework for all stakeholders in order to improve the capabilities of the national airspace and air navigation infrastructure to support the air traffic growth and ensure safety, efficiency and harmonization with the global and regional plans.

1.6 Since the development of airspace and navigation infrastructure is very complex and will involve various civil and military stakeholders, the multi-level management structure (policy, strategic, and technical level) was proposed for better communication and effective implementation.

1.7 For the policy level, the Civil Aviation Board (CAB) consists of the Minister of Transport (MOT), Commander in Chief of the Royal Thai Air Force (RTAF), Director General of the Civil Aviation Authority of Thailand (CAAT), and other eight committees (appointed by Minister of Transport), is the high-level policy maker and has a responsibility to direct all policies and national plans related to the airspace management based on FUA concept.

1.8 For the strategic level, the Airspace Management Subcommittees consist of all high executives from all stakeholders (both civil and military stakeholders), are responsible for developing and implementing the national plans related to the national airspace policy and also provide advice to the Civil Aviation Board (CAB).

1.9 In addition, the joint civil/military airspace management cell (AMC) consists of representatives from the RTAF, the CAAT, and the Aeronautical Radio of Thailand (AEROTHAI), was established for day-to-day management, temporally allocation of airspace or routes, and notification to all airspace users in the efficient manners based on the FUA concept.

1.10 For the technical level, the technical working groups of key development areas consisting of technical experts from all stakeholders (both civil and military), were established to develop the strategic implementation plan and monitor their progress.

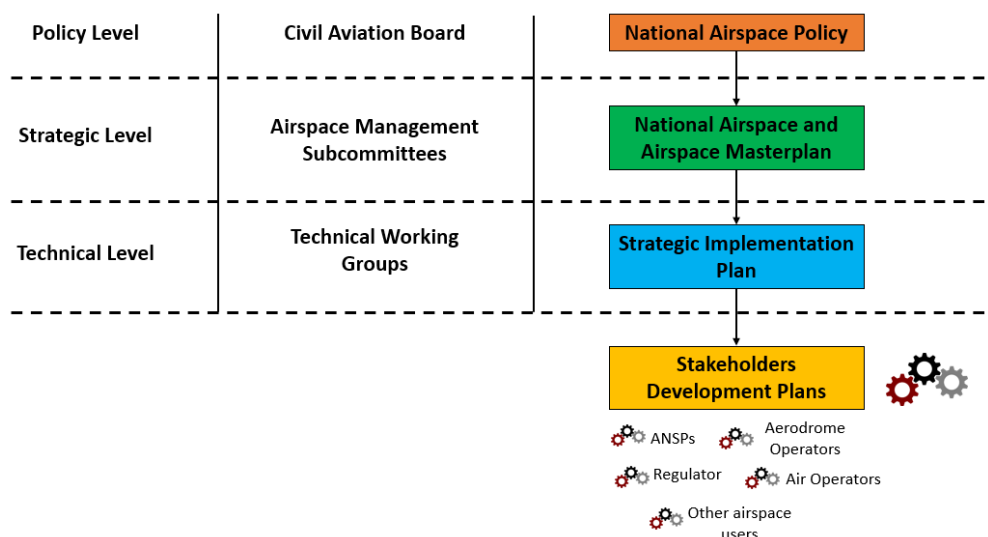


Figure 1. Multi-level management structure of airspace and air navigation development in Thailand

2. DISCUSSION

2.1 In 2019, the Air Navigation Plan (ANP) - Asia and Pacific Regions, Volume II requires that States shall establish and maintain a National Air Navigation Plan (NANP) that supports the implementation of the Global Air Navigation Plan and regional air navigation planning.

2.2 Figure 2 shows the development concept of Thailand’s NANP. The ICAO Global Air Navigation Plan (GANP) and regional plans such as Asia/Pacific Seamless ANS Plan and ASEAN ANS Masterplan were considered to ensure harmonization with the global and regional expectations. In addition, the commitments in the declaration of the Asia Pacific Ministerial Conference on Civil Aviation (Beijing Declaration) were also considered in the master plan. The areas of the master plan covered the following key development areas,

- Airspace Organization and Management (AOM);
- Air Traffic Management (ATM);
- Communication, Navigation, and Surveillance (CNS);
- Information Management (IM);
- Aerodrome;
- Aeronautical Meteorological Services (MET).

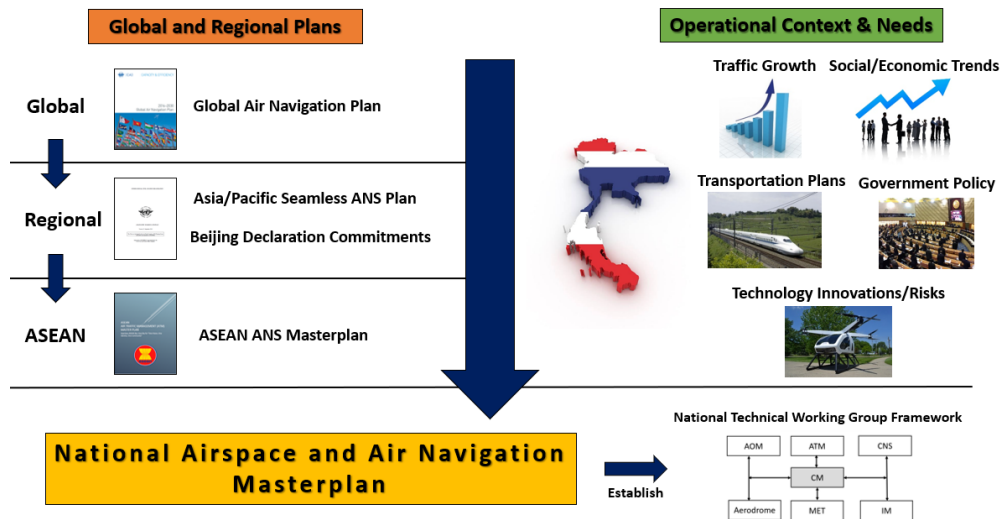


Figure 2. Development Concept of the National Airspace and Air Navigation Master Plan

2.3 The first edition of the National Airspace and Air Navigation Master Plan was officially approved by the Civil Aviation Board on 28 August 2019. The national technical working groups in these key development areas were established to develop the strategic implementation plan and monitor their progress.

2.4 In addition, the coordination and monitoring (CM) working group was also established to ensure harmonization of these strategic implementation plans and facilitate the working arrangement of technical working groups. The web portal (<https://caat.or.th/nanp/index.php>) was developed for public communication and document sharing.

2.5 Since the COVID-19 pandemic caused a significant impact on the traffic demand volume and financial status of the aviation industry, the master plan was recently revised, which focused on maintaining the capabilities of airspace and air navigation infrastructure during the traffic recovery period and also preparing for the traffic return after the situation back to normal. The draft of the second edition masterplan was principally approved by the Civil Aviation Board on 27 July 2022 and waiting for the endorsement process.

2.6 The lesson learned from the development of this masterplan can be summarized in the following;

- the involvement of stakeholders during the beginning drafting of the master plan is very important, especially the involvement of military stakeholders;
- the multi-level management structure mechanism can be utilized for better communication and facilitating the approval process, especially for high-level executives who do not have a technical background;

- the coordination of the technical working groups is very important, so there should be a dedicated team/working group to ensure harmonization and facilitate the working arrangement;
- the website or social media is a good tool for communication and document sharing with public and technical experts;
- there should be a dedicated team/working group to handle KPI matters (e.g. coordination, collecting & analyzing data, and report publication);
- technical workshop or seminar should be organized sometimes to assist stakeholders/technical working groups to understand the master plan and have the same goals. Also, it is a good opportunity to get some feedback for revising the master plan in the future;

3. ACTION BY THE MEETING

3.1 The Meeting is invited to:

- a) note the information contained in this paper; and
- b) discuss any relevant matter as appropriate.

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