'Unless we maintain clearly adequate air power in being, no matter at what sacrifice of goods and treasure, all else may well be futile.'

Major General Fairchild, Commanding General, US Air University, 1948

In 1925, Brigadier General William Mitchell defined air power as the ability to do something in the air. Mitchell added, 'It consists of transporting all sorts of things by aircraft from one place to another, and as air covers the whole world there is no place that is immune from influence by aircraft.' From this very broad definition, has grown a large number of definitions with the Air Force defining air power as, 'The ability of a nation to assert its will by projecting military power in, through and from the air domain.' This is a nuanced and explicit definition, more suited to the explanation of a highly sophisticated, complex and technology-enabled capability as air power, resident in the military forces.

At the strategic level of national security considerations, air power itself becomes a national power element. Accordingly, the definition of air power broadens into, 'National air power is the total ability of a nation to achieve its objectives through the air domain and encompasses all elements of civil and military aviation.' The fundamentals of air power are derived from a clear understanding of national air power. Ever since the end of World War II, air power has been a force for change not only in the employment of military forces, but also in the political, economic and social structure of the world. The characteristics of air power have demolished the historic politico-geographic system based on the existence of 'national boundaries'; some natural, some artificial. The air domain has become an unrestricted space—for war or peace, for destruction or development.

It was understood and articulated by a number of strategists in the early 1950s that unless sufficient air power is maintained, all other efforts at securing the nation would be futile. In other words, barely fifty years after its debut as a dual-use capability, air power had become an acknowledged critical element in the national security equation. Therefore, the first fundamental consideration of air power, as explained by General H. H. ‘Hap’ Arnold, is that, ‘air power is not composed alone of the war-making components of aviation, [instead] it is the total aviation activity, civilian and military, commercial and private, potential as well as existing.’ Air power is the total ability of a nation to employ its flying assets.

The second fundamental aspect emanates from the first. That is, air power is indivisible. Both military and civil air power is supported by the same national infrastructure: the runways, technically trained airmen, design and manufacture facilities, material for production, and research and developmental capabilities. As long as these basic elements are available within the nation, its capability to create national air power is not impaired. It will only take a bit of recalibration for civil aviation support to be converted to military aviation facilities. The third fundamental feature is the ability and the capacity of a nation to fly. The capacity to fly is determined by the current available national air power and the infrastructure necessary to create a potential
for a further future increase in the capacity, if necessary. A nation's air power capacity requirement is a combination of its needs vis-à-vis commercial air transport capabilities and that of the military establishment, which needs to ensure the sovereignty of the nation from any possible aggression.

While the three fundamentals explained above are vital to the current national air power, the long-term potential of a nation to possess adequate air power is underpinned by a few factors that may, at first glance, appear unconnected to air power. However, these are essential to the continued existence of a viable national air power capability. These five factors are: geography, demography, resources, industrial development and political conditions.

Geography includes global location, climate and weather and also the physical conformity of the nation. If the national territory of the nation is in one single mass, it becomes easier to develop the infrastructure that would be able to support national air power. A large national land mass is conducive to increased flying activities and the creation of potential air power. Demography and resources are interconnected. Resources encompass both economic and natural resources necessary for the construction, operation and maintenance of aircraft and support infrastructure associated with aviation. A nation that is fully reliant on imports for manufactured aircraft, and the spare parts required for their efficient operation, can be considered critically deficient in potential air power. History has shown that nations can be held to ransom in an emergency. The other aspect of resources is the raw material and fuel reserves required to establish a self-sufficient aviation industry and the capacity to operate air power assets at the nation’s will. Both have a direct impact on the efficacy of national air power.

Building a stand-alone capability also requires people with the right qualifications. The demographics of a nation affects the present and, to a greater degree, the future of national air power. Essentially, the profession of aviation, the bedrock of national air power, needs to have a pool of young men and women. In the operation of highly sophisticated airborne platforms and in their manufacture, youth is a major factor. The ability of the nation to have a sufficiently large pool from which to select aviation specialists is an unavoidable requirement. Further, the educational level of the group from which selections are done is also an important factor. Aviation and related activities are an industry that requires higher overall technical and technological skill levels as compared to other industries. The demographic requirements need a fine balancing act within the nation, especially if the population pool is numerically small.

An indigenous aeronautical industry is the other factor that can make or undo a nation’s air power potential. In the contemporary globalised commercial and industrial environment, the aviation industry has become concentrated in the hands of few nations. This is a drawback to national air power of middle and small powers. However, in the current international economic situation, the nations without sufficient aviation industrial capabilities will have to be dependent on the larger nations to fulfil their needs. This is where the political dimension enters the equation. Of the factors that affect the long-term development of national air power, domestic and international political status of the nation is the most important. The international relations of a nation plays an important role in assuring the availability of adequate air power, especially when the industry is concentrated in the hands of a few nations. The future development of national air power assumes a vexed position for the nations that have no capacity to develop and deploy air assets on their own. However, in the 21st century that is the bitter truth of the matter.

National air power is today the most dynamic element in a nation's strength. The fact remains that air power will continue to be a critically necessary element of national power, if the nation is to be assured of being able to protect its sovereignty. Today, without the means to control its sovereign air space, a nation remains open to aggression. A nation has to maintain the capacity to fly, there is no other option.

**KeyPoints**

- At the strategic level of national security considerations, air power is a national power element.
- National air power is not composed only of the war-making components of aviation, but is the total aviation activity, civilian and military, commercial and private, potential as well as existing, within the nation.
- Five factors influence the development of adequate national air power: geography, demography, resources, industrial development and political conditions.