



Sustainable development for maintaining
Hong Kong International Airport's status
as a leading air cargo hub in the world

By: Vanessa Ma Ka Wing

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Since 2010, Hong Kong International Airport has maintained its title as the busiest cargo airport in the world, having handled over 4 million tonnes of cargo in 2012 alone. Home to one of DHL's central hubs, the Hong Kong Air Cargo Terminal Limited's *SuperTerminal 1*, and connected to 170 destinations worldwide, Hong Kong is undoubtedly the world's leading air cargo hub. That said, Hong Kong is currently facing a growing demand for its services as one of the world's leaders in air cargo, and our two runways are at the brink of exhausting its capacity of 420,000 flight movements per annum. It is projected that by 2030, Hong Kong International Airport will be handling 8.9 million tonnes of cargo per year, far exceeding its current capacity.

In light of the current situation, the Hong Kong International Airport (HKIA) must take a comprehensive approach when blueprinting its development plans. The core of the development plan should be based on sustainability, meaning that the ability to meet the needs of the future are not forsaken to meet our present needs. Therefore, to maintain its status as a leader in the air cargo industry whilst developing sustainably, it is critical that Hong Kong puts its focus on three strategies - to put together a plan for sustainable development in the long-term, to enhance the safety of its developments, and to strengthen its competitiveness in the region.

Maintaining the airport's sustainability – a long-term development plan

As mentioned in the introduction, the current handling capacity of the HKIA is on the verge of exhaustion, and it is predicted that this will happen sometime between 2015 and 2020. In response to this problem, the Airport Authority has proposed two options – to increase the current air movement capacity through enhancing the current dual-runway system or to construct a third runway through reclamation of land. While the Hong Kong government has conditionally accepted the option of a third runway, one thing to question is whether or not a third runway will fully solve the root of the problem. Is building the third runway the only thing to do in order to secure a long-term development plan?

In fact, in his article for the South China Morning Post titled “Hong Kong must exhaust all options before building a third runway” Albert Cheng mentioned that the airspace congestion problem is not caused by a “traffic bottleneck” but a “limited airspace”. At present, the Pearl River Delta air region is congested with 5 different airport hubs. Furthermore, airspace

congestion towards the north of Chek Lap Kok is aggravated by the strict controls on allocation of airspace imposed by the Chinese military. In its *Master Plan 2030's* technical report, the Airport Authority recognized that in order to 'fully realize the potential capacity gain of a third runway', the Pearl River Delta airspace will need to be 'redesigned' However, it seems that the current civil aviation chief has rejected plans to reach a consensus with national aviation services on how to manage the airspace to the north.

It is crucial that development in the long-term for the HKIA includes discussions with Beijing on how to efficiently organize airspace in order to maximize the number of flight movements. Building the third runway is the most likely option that will eventually be carried out, and even if this option is implemented, this cannot ensure that Hong Kong will be able to sustain its needs in the long run. Even if the third runway was built, current growth estimates that its capacity will be exhausted before long. To avoid the need for constant structural extensions of the airport, such as a 4th or 5th runway when the third one is exhausted, the need for an agreement with the Mainland in northern airspace management is absolutely crucial.

It is evident that the current plans for development have not taken into full account what the problem is and its potential impacts in the long-run. Solely relying on airport expansion is simply not sustainable for the development of the Hong Kong as a leading air cargo hub. The root of the problem lies within the congested airspace towards the north, and if the Airport Authority refuses to negotiate with Beijing about the organization of national airspace, then the construction of the third runway would not do much to satisfy the growing demand for air movements. Thus, it is of great urgency that the HKIA reviews its long-term development plan and realizes the scope of the current problems before putting their plans into action.

Maintaining the airport's sustainability – safety in development

Regardless of the HKIA's final decision on its long-term vision, there is one important aspect it should always keep in mind, that is, to ensure safety by minimizing the adverse impacts of its development on the environment and society. Its development may do a lot to boost Hong Kong's economic development, but if it comes at the expense of environmental and social development, then it would not be classified as "sustainable".

Minimizing the environmental impacts

In the aspect of the environment, there are two areas in which the HKIA, the airline companies and logistic companies involved can work on to minimize the negative impact of air cargo.

The first area is to infuse the concept of “green logistics” into the supply chain. As mentioned previously, innovative technology should be adopted to boost the efficiency in handling cargo, and it is crucial that one criteria of “innovative” is ecological friendliness. One such example of a cargo airline integrating ecological friendliness into their everyday work is Nippon Cargo Airlines (NCA), which has certainly fulfilled its responsibility as a corporation by developing technologies which are eco-friendly, such as a maintenance hangar for its freighters adopting an efficient ventilation system and using rainwater to clean fuselages. NCA reported that these measures are expected to reduce CO2 emissions by 30%. In order to minimize the amount of energy used and pollutants emitted by handling cargo, the HKIA should draw support from the HKSAR government and provide incentives such as honorary titles, cash awards and subsidies to encourage local cargo companies to invest in environmentally friendly technology.

The second area would be to minimize the negative impacts of the future external expansions to the local biodiversity. In particular, if the third runway is to be constructed, both the government and the HKIA should take measures to ensure that the biodiversity of the 650 hectares to be reclaimed is not put in danger, namely, the habitat of the Chinese White Dolphins. If land is taken away from the Chinese White Dolphins for reclamation, then steps should be taken to ensure that protected zones are set up for them and that they are safely assimilated into new surroundings. Very importantly, the priority of the government and the HKIA is to ensure that the safety and well-being of these prized creatures are not sacrificed at the expense of the development plan.

Minimizing the Impact on Society

In the aspect of society, the potential impacts of expanding the airport vary. First of all, the construction of the third runway would cause a disturbance to the fisheries in the area. Secondly, the increased air movements as a result of meeting the growing demands would

further aggravate the noise pollution and air pollution problem and affect the residents living in Tung Chung. If the third runway is approved, the least the government should do to minimize the impacts on the local fishing industry is to closely work with local green groups to draw up measures to protect the local marine ecosystem and protect the interests of the local fishermen. In regard to the deterrence caused to the local residents, the government can minimize the negative impacts on quality of life and health by enhancing the noise barriers in the area and providing the citizens there with the option of relocating their home or otherwise offering them regular health checkups to ensure that the impact on them is at minimum.

Strengthening HKIA's Competitiveness to Maintain Sustainable Development

With the mainland adopting more liberal laws on foreign air traffic, and other hubs in the region strengthening their productivity, Hong Kong faces keen competition from other powerful hubs in the region, such as Shanghai's Pudong International Airport, and South Korea's Incheon International Airport, both of which are airports that have made it to the top 10 best performing cargo airports in 2012, according to AirportWorld. It is evident that in order for Hong Kong to maintain its status as the leading air cargo hub not only in the Asia-Pacific region but also the world, it must strengthen its competitiveness and ask itself one question – what can be done to set Hong Kong apart from its competitors in the region? In this connection, Hong Kong should capitalize on its competitive advantages, which are, namely, its strategic location, its flexibility and innovation.

Hong Kong's geographical advantage – its proximity to the Pearl River Delta and being within a 5-hour flight from half the world's population gives it the upper hand in offering flexible logistical services to its potential clients. In fact, the HKIA has already taken advantage of Hong Kong's proximity to the sea to offer multi-modal transport services to clients with the opening of a Marine Cargo Terminal in the early 2000s. This win-win alliance between sea and air has done much to boost the air cargo industry itself, as it has attracted clients who wish for more choice in transportation modes.

Multi-Modal Transport Hub to Maintain Sustainable Development

To further promote a flexible service to their clients, the next step for the Hong Kong International Airport is to offer tailor-made services to clients with different demands. The current services that the HKIA offers are already attracting clients with time-sensitive cargo, and in fact, one main reason why Hong Kong has been able to claim top place in air cargo services is its top-speed services. On top of this, the HKIA can create even closer collaboration with cargo terminal operators and freight forwarders, and importantly, utilize its location as a multi-modal transport hub and act as a cargo transfer hub to transfer goods sent from one mode of transport to another, and these services can be offered at a lower cost. For example, cargo can first be transported to Hong Kong by air, and then forwarded by sea. Coupled with appropriate logistics, the costs of this method of transportation can be substantially lower than directly transporting it by air the entire route.

One success story is DHL, which has implemented this strategy of transporting goods from Asia to a connecting hub in the Middle East by ocean, then transferring its cargo to destinations in Europe or Latin America by air, saving up to 50% of the cost versus standard air flight and also saving 50% of the time when compared to standard ocean freight. In order to minimize the potential time-costs of this strategy, local freight forwarders can play a role in ensuring that the transfer of goods from one mode of transport to another runs smoothly, and another wonderful thing is that this can translate into many more job opportunities for our local logistics companies. Furthermore, this type of service sees that different types of clients can be attracted – particularly clients whose main priority is cost, and not time, and would like to seek methods to transport their goods at a lower cost.

Enhancing efficiency throughout the supply chain

Furthermore, another way that the HKIA can bolster its competitiveness is to boost its efficiency in all levels of the supply chain. This includes both on a production and managerial level. Efficiency is key in producing quality services and minimizing mistakes in the handling of cargo. On a production level, efficiency can be strengthened by optimizing the quality of staff. By providing the staff with regular training, cargo terminal operators can ensure that all members

of staff are familiar with the same safety procedures and that quality inspection remains consistent and at a high level.

On a managerial level, the HKIA can benefit from innovative ideas on how to increase efficiency in operations management. In particular, freight forwarders can heighten their efficiency by adopting new technologies which facilitate the planning of routes and the cooperation with third parties such as airlines and customers. One possible way for the HKIA to embrace innovative opportunities is to create an ongoing forum for discussion and invite creative talents locally and from around the world to share their ideas. By expanding the scope for people to share ideas, the HKIA can seek more opportunities to integrate innovative technologies and creative ideas in their management system.

The above proposed moves can help our airport enhance its world image as a flexible, innovative, and efficient airport, attracting more logistic companies to pick Hong Kong as a central Asian hub for their cargo services.

Ensuring a multi-dimensional development plan for Hong Kong's air cargo industry

In this essay, it has been made clear that in order for Hong Kong to meet growing demand for its services, there will be certain drawbacks in other aspects such as environmental damage and negative impacts to society. However, in order for Hong Kong to achieve sustainable development whilst maintaining its status as a leading air cargo hub, it is crucial that development is multifaceted.

Not only does the Hong Kong International Airport have the responsibility of boosting Hong Kong's image as a world-class air cargo hub by turning to unique innovations and a favorable long-term development plan, it also has to assume the role of cooperating with the Hong Kong government to make sure that the drawbacks are minimized, such as the potential hazards to the local biodiversity and health of the citizens. It is too idealistic to assume that Hong Kong can maintain its global status with zero side-effects, but it does not mean that development should be carried out recklessly at the expense of socio-environmental consequences.

My conclusion is this - the HKIA is surely able to maintain its status as a world-class air cargo hub so long as it takes full consideration of all real and potential impacts of its development plans and addresses them proactively to safeguard sustainable development in all respects, ranging for example from macro infrastructural add-ons like the third runway to incorporating additional green technology and measures when operating and monitoring the internal supply chain.