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ASSEMBLY — 41ST SESSION

ECONOMIC COMMISSION

Agenda Item 39: Other issues to be considered by the Economic Commission

PROMOTING RURAL ECONOMIC DEVELOPMENT IN CHINA BY REMOTELY PILOTED AIRCRAFT SYSTEMS (RPAS) LOGISTICS

(Presented by China)

EXECUTIVE SUMMARY

Remotely Piloted Aircraft Systems (RPAS) logistics is conducive to rural economic development, livelihood services and rural revitalization strategies in less developed regions. In 2017, the China's civil aviation started to select some rural and underdeveloped areas nationwide as a pilot zone for RPAS logistics, so as to serve the transportation of local special agricultural products (especially fresh products) and create the two-way connection between agricultural products in rural areas and industrial products in urban areas. RPAS logistics is also contributive to the integrated development between the rural and urban areas, especially the development of the rural economy. In addition, RPAS logistics is significant in eliminating poverty and promoting regional development and interconnection between rural and urban areas.

<i>Strategic Objectives:</i>	This working paper relates to Strategic Objective — <i>Economic Development of Air Transport</i>
<i>Financial implications:</i>	None
<i>References:</i>	None

¹ English and Chinese provided by China

1. INTRODUCTION

1.1 Serving the production and life and other economic activities in rural areas, rural logistics is the end of the modern logistics system and the basic guarantee for the supply of agricultural production materials and the circulation of agricultural products and rural consumer goods. The development of rural logistics is significant in promoting the economic development of rural areas. At present, in China, logistics infrastructure is incomplete in rural areas (especially in the central and western China), with small logistics networks, small volume of parcels, long distribution routes, low concentration, high distribution costs and low efficiency. So the new smart logistics technology represented by RPAS has become a key tool to solve the problem of “the first kilometre” and “the last kilometre” in rural logistics. RPAS logistics is conducive to rural economic development, livelihood services and rural revitalization strategies in less developed regions. In 2017, the Civil Aviation Administration of China (CAAC) started to select some rural and underdeveloped areas nationwide as a pilot zone for RPAS logistics, so as to serve the transportation of local special agricultural products (especially fresh products) and create the two-way connection between agricultural products in rural areas and industrial products in urban areas. RPAS logistics is also contributive to the integrated development between the rural and the urban areas, especially the development of the rural economy. In addition, RPAS logistics is significant in eliminating poverty and promoting regional development and interconnection between the rural and the urban areas.

2. DISCUSSION

2.1 RPAS logistics can expand and extend the rural logistics network. Rural logistics is usually a three-layer network system, with municipal hubs responsible for transit, county hubs for distribution arrangements, and rural outlets for distribution. This layer-by-layer distribution system is slow and inefficient. In addition, rural areas are vast and sparsely populated, with scattered villages and inconvenient road traffic. Furthermore, the distance between villages is long, the population concentration is low, and the number of parcels is small. So most rural outlets cannot directly deliver parcels to consumers. Rural residents can't enjoy the convenient express delivery and pickup in urban areas at their homes, instead they have to pick up the parcels at the outlets. Some logistics enterprises in China use RPAS for logistics distribution in areas with inconvenient traffic, set up drone take-off and landing points in suitable areas, and build low-altitude RPAS logistics transportation networks. By the end of February 2022, a total of 288,800 movements were recorded for SF drones, involving 31,300 flight hours, 1,468,900 kilometers, and with 405,700 pieces of goods being transported in Ganzhou City.

2.2 RPAS logistics can effectively improve the logistics efficiency in rural areas. In 2017, the CAAC approved Jiangxi Fengyu Shuntu Technology Co., Ltd., a subsidiary of SF Express, to carry out pilot drone logistics and distribution applications in Nankang District, Ganzhou City, Jiangxi Province. In order to solve the problems of the “first kilometer” in agricultural products transportation and the problems of “last kilometer” in express delivery, SF Express has built drone logistics take-off and landing points in each village in Nankang District, and has set up nearly 100 routes to serve more than 30,000 local villagers, which has ensured the fast delivery between towns and villages. For the distance that needs one hour by traditional ground delivery, drone delivery only needs about 20 minutes, which is an increase of more than 50 per cent in efficiency.

2.3 RPAS logistics has increased the income of rural residents. Rural areas are rich in agricultural products, but due to the incomplete logistics infrastructure and inconvenient transportation in rural areas, many agricultural products do not have good sales channels. The immature upward channel and complicated intermediate links from agricultural production to consumers causes higher prices of agricultural products, but farmers' income doesn't increase. Compared with traditional logistics, RPAS

logistics has the advantages such as point-to-point, geographical convenience, and flexibility. It can solve the problems in the first kilometer of agricultural product logistics transportation, provide air channels for mountain goods and speed up the export of local characteristic agricultural products. In addition, drones have improved the coverage and depth of logistics services, helping more agricultural products develop sales channels. Furthermore, drone logistics has opened a fast channel between the origin of agricultural products and consumers, reduces the links in the circulation of agricultural products, improves the logistics and transportation efficiency of agricultural products and the quality of agricultural products. As a result, farmers' income increases. For example, SF Express used drones to transport matsutake in Yajiang, Sichuan, and invested more than 100 drones to solve the "first kilometer" transportation problem of matsutake in the deep mountains of Yajiang County. RPASs carrying fresh matsutake fly from the deep mountain camp to the RPAS bases. After the RPASs arrive at the bases, cold trucks will take the matsutake and sent it to the matsutake pre-treatment center for screening and pre-treatment. Then the matsutake is packaged and sent to the whole country. It only takes 24 hours for the matsutake to go to the table after it is picked. The transportation time is shortened from the 54 hours to 24 hours, and the efficiency is improved by 55 per cent. The whole process of cold chain transportation has increased the rate of good quality matsutake from 50 per cent to 80 per cent, and the direct income of local farmers has been up by more than 3 million yuan each year.

2.4 RPAS logistics drives the employment of residents in rural areas. Drone logistics has created new jobs, such as drone operators, drone maintenance personnel, and sorters. Enterprises in rural areas can provide local residents with professional technical guidance and training to gain these job opportunities and promote local residents' understanding of modern technology and its application to create a new employment model for farmers.

3. CONCLUSION

3.1 RPAS logistics' efficiency and convenience facilitate the "first kilometer" and the "last kilometer" of logistics transportation, create a two-way connection of "agricultural products" and "industrial products" between the rural areas and the urban areas. As a result, farmers' income has increased. Expresses gains accesses to rural areas, allowing industrial products to come to the countryside. Consumption in rural areas is also enhanced. RPAS logistics creates new momentum in the transformation of industry and consumption in rural areas and is conducive to rural economic development and the implementation of the rural revitalization strategy. At the same time, we should also realize that the development of drone logistics requires the joint efforts of all countries in the world in the formulation of drone logistics laws and regulations, the policy coordination and support in research and development, operation and supervision, and the innovation of management models to form a safe, efficient, smooth and sustainable drone logistics operation management service system.

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