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Economic Commission for Latin America and the Caribbean
Subregional Headquarters for the Caribbean

Expert group meeting to consider a demand model for
maritime passenger transportation in the Caribbean
21 May 2015
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**REPORT OF THE EXPERT GROUP MEETING TO
CONSIDER A DEMAND MODEL FOR MARITIME
PASSENGER TRANSPORTATION IN THE CARIBBEAN**

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A. SUMMARY OF RECOMMENDATIONS

- Other variables should be considered in the study. These are: purpose of travel, seasonality, weather conditions and the maritime substitute (air) fares, scheduling and demand.
- Other model types, such as multinomial logistic regression, could be utilized as aggregate data is not strong; this type of model could also be used to gauge demand where no ferry service currently exists. It was suggested that since population density was used for normalisation, then gross domestic product (GDP) per capita should be used instead of nominal GDP, as GDP per capita indicates ability of persons to pay/afford services whereas nominal GDP speaks more to trade flows.
- While data collection is a challenge every effort should be made to secure the most appropriate data for the analysis.
- Further studies and/or discussion should consider whether ferry services are commercially viable, especially taking into account the fact that fares in some countries are heavily subsidized.
- Supply-side factors should also be considered. These include maritime safety and comfort, port efficiency, investor attraction and the use of more feasible technology for ferry operations in the region. Consideration should also be given to the state of regulatory infrastructure in place to address issues.
- Cargo should/may be considered alongside passenger transport as many passengers use ferry services in order to conduct business and transport cargo.

B. ATTENDANCE AND ORGANIZATION OF WORK

1. Place and date

1. The Economic Commission for Latin America and the Caribbean (ECLAC) subregional headquarters for the Caribbean convened a one-day meeting of experts in Port of Spain on 21 May 2015.

2. Attendance

2. Representatives of five intergovernmental organizations attended the expert group meeting: Caribbean Development Bank (CDB), Caribbean Community (CARICOM), the Organization of Eastern Caribbean States (OECS), the International Maritime Organization (IMO), and the Association of Caribbean States (ACS). Representatives of air and seaports of the Caribbean were also in attendance, including the Anguilla Air and Seaports Authority, the Monserrat Port Authority, and the Trinidad and Tobago Inter-island Transportation Company. The meeting was also attended by a representative from the University of Trinidad and Tobago (UTT).

3. Agenda

3. The agenda adopted by the meeting is attached as annex II.

C. SUMMARY OF PROCEEDINGS

1. Opening of meeting

4. The Economics Affairs Officer of ECLAC welcomed participants and introduced the Officer-in-Charge of ECLAC who gave opening remarks on behalf of the Director. He noted that the demand for

regional passenger transport warranted this kind of enquiry, since it offered significant prospects for strengthening the integration of regional economies. The Economic Affairs Officer then welcomed the Coordinator of the Sustainable Development and Disasters Unit (SDDU) to offer a few words. The Coordinator recognized the issue needed ventilation and this study was a preliminary into this area. He welcomed the participation of experts and looked forward to their contributions to the discussions. He also promised that the SDDU would consider their contributions and continue to work on this body of work in the following months.

2. Adoption of the agenda

5. The meeting agenda was adopted without amendment.

3. Presentation of the study on maritime passenger transportation in the Caribbean

6. The ECLAC Environmental and Integrated Resource Management Assistant presented the findings of study to the meeting participants. She explained that within the Caribbean context, connectivity was important for regional trade and general mobility among countries in order to undertake business, work and leisure.

7. The study assessed the existing inter-island transportation arrangements, by considering some of the key variables affecting the provision of such services. Among the variables identified were travel time, distance between destination points, alternative modes of transport, fares for the service, and income of the various travel markets. The analysis applied a gravity model approach with limited data for seven country pairs over a period of 14 years.

8. The Environmental and Integrated Resource Management Assistant explained the nature of the markets studied and pointed out that most were domestic routes with one operator or in some instances where there was more than one operator; they were heavily regulated thus rendering the fares fairly similar. The gravity model was first estimated as a pooled ordinary least squares, and showed the fares variables to be significant. Subsequently, a fixed effect model estimation was done which showed only fares to be significant, while a random effects model showed all variables to be significant. Some of the estimation challenges highlighted included the lack of reference material and the absence of data for an appropriate substitute. Additionally, private operators were not willing to share the data they had available. The data for the study comprised a short panel with 162 observations.

4. Discussions

9. Participants congratulated ECLAC for this initiative in starting a discussion on maritime passenger transportation in the subregion. The experts also commended the effort to collect data, which is typically difficult to obtain or not available. In this regard, and considering that the subsector had not received enough attention, the meeting suggested that the study could incorporate recommendations on the type of data to be collected by countries and companies in order to strengthen the information available.

10. The representative from the OECS pointed out some issues that could strengthen the study. The first recommendation was to incorporate variables to represent seasonality (tourism and hurricane season), since the flow of passengers can change depending on the number of tourist arrivals, and rough seas could also affect the operation of passenger ferry services. It was noted however that the available data were annual, and no information was available which reelected the seasonal nature of the business, except perhaps the passage of major hurricanes affecting the region. Participants also indicated that the maritime technologies currently available which allow passenger vessels to cope with rough seas.

It was noted that weather and seasonality will determine the adequate type of vessels, but it could also have effects on fares and other characteristics of the service. In response ECLAC shared that tourism and the implications of inter-island transportation were considered in the study, but scheduling, linkages with air travel and weather were not, even though they were important aspects to consider. The limitation of data was advanced as a reason for this possible deficiency.

11. The OECS representative also pointed to the different types of passengers that use the ferry services, with special emphasis on tourists, expatriates and captive consumers, such as employees commuting daily between islands.

12. The Economic Affairs Officer of the Natural Resources and Infrastructure Division of ECLAC headquarters drew attention to the role of cargo vessels, considering that it could represent an alternative to increasing the viability of transportation between islands. Participants agreed with the alternative, but raised issues such as unregulated practices, safety concerns and other practical aspects, such as customs inspection of cargoes, which could be inconvenient for passengers travelling on cargo vessels. He suggested that in order to consider this alternative, it is necessary to establish measures to ensure compatibility between cargo and passenger services, customs differentiated facilities, safety and health. On the other hand, the representative from the Trinidad and Tobago Inter-Island Transportation Company pointed out that the prime advantage of ships over airlines is cargo. Consequently, it was suggested that interregional cargo should be considered in the study.

13. The representative from the CDB noted that the study focuses on inter island transportation. He however explained that there was great potential for ferry services to be used as a substitute to supplement intra-island road transport.

14. The issue of safety was raised by multiple participants. They agreed that given the application of strict safety standards globally, it was necessary to also implement such standards in the region. The representative from the IMO mentioned that safety is crucial in international travel of passengers and cited the concern of the Government of France that vessels in the subregion were not meeting safety regulations and other standards. In this regard, it was suggested that the study of passenger demand should also give consideration to the issues of maritime passenger safety as a condition for the provision of passenger ferry service in the Caribbean.

15. The meeting also suggested studying linkages between maritime transportation and other types of transportation, such as air travel. Related to this, participants raised issues such as conflicting or complementary schedules, substitution between sea and air travel, and availability of air options to cover the same routes. However, the representative from the UTT highlighted a serious concern, namely how to deal with competition between air and sea transportation, considering the strength and subsidies that the air transportation subsector already enjoys in the subregion.

16. The matter of government regulation of maritime passenger services was also discussed in the meeting. Although participants did not expect governments to wholly finance the maritime passenger transportation subsector, they agreed that governments should lay out the framework that will foster maritime transportation and attract investments. Government regulation was identified as critical since the promotion of the maritime transport subsector would imply a variety of elements such as: fares, safety, immigration procedures, differing jurisdictions, subsidies, dedicated port infrastructures, passenger terminals and facilities, customs, trade facilities, and other complementary regulations to comply with national and international laws. In this sense, the representative from the Anguilla Air and Sea Ports Authority suggested that linkages between sea and air transportation should be strengthened, since the relation between airports and ports could unveil the strengths and weaknesses of each subsector. It was evident that data was a major challenge and strong efforts were necessary in order to fill existing data

gaps. It was noted that more robust data might be available from regulators, who could supplement the currently utilized data for the study.

17. The Director of Transport and Disaster Risk Reduction of the ACS in commending ECLAC for the work, noted that other similar studies were done in the past but unfortunately were not shared with the region. He cited such studies to include the CARICOM model, Windward Island ferry service. He proposed that calculating transportation demand utilizing the derived demand partitioned by season could be useful although its computation may be cumbersome. In his opinion, by using the pairs system within the same jurisdiction, the model generated would not be viable in explaining an inter-island service. Further, he suggested that if a regulatory framework was absent it would not be represented in the model. He however emphasized the need to include price, distance, and travel as essential variables. Additionally, he suggested that including nominal GDP or GDP per capita would determine whether passengers could afford to travel. He believed that a different approach was necessary if the study was seeking to assess potential demand where no ferry service currently existed. He also felt that the discussions on maritime passenger services in the subregion also needed to take place within the political arena.

18. The meeting agreed with the representative from the ACS when he underscored the importance of moving the technical discussions to the political arena to allow moving forward and creating an environment (infrastructure, customs and national security) in the region to facilitate maritime transportation of passengers. National and/or subregional policies were deemed to be necessary in order to take maritime transportation of passengers forward, stimulate integration through regional transportation and provide a framework to define how the public sector can get involved to guarantee connectivity and safety in travel between and within islands.

19. Participants also referenced their own country's experience with passenger ferry services in commenting on the study. It was noted for instance that ferry service between Anguilla and Tortola was mainly driven partly by the passengers that use the service for work and school. There was a large expatriate community that worked in Tortola or sent their children to international school that traversed between the islands. There was also an efficient ferry service between the British Virgin Islands and the United States Virgin Islands as a result of their strong business link. Moreover, participants indicated that efficient maritime passenger services also impacted local destinations by making some airports more economically viable, while reducing the economic viability of others.

20. One participant queried the commercial viability of the transportation service between and among countries. He enquired of the possibility of joining cargo and passenger transportation to increase the viability of such a service between the islands. In response one of the participants noted that the unpredictability of the weather could be managed by the use of catamarans. The head of SDDU noted that ECLAC would take into account some of the suggestions made to compute a rough estimate. The development of substitutes would also be considered after ECLAC reviewed actions taken by countries. He shared ECLAC's desire to delve further into this sectoral research.

21. Additional discussions focussed on whether the private sector should play a larger role in defining the services in this sector. The meeting participants expressed their reservations regarding the combination of cargo and passengers and emphasized that these should be kept separate. Indeed, some participants were reluctant to embrace combining the services primarily because of the safety concerns. The Environmental and Integrated Resource Management Assistant mentioned that preference was given to passenger travel throughout the course of the study.

22. The meeting then extended the discussion on the type of travel to consider other transportation challenges such as rural transport and how maritime transportation might offer a solution. The representative from CARICOM mentioned the need to look at these challenges from a policy formulation aspect. She welcomed the timing of the meeting noting that CARICOM was working on the maritime component of the regional transportation policy. She believed that the findings of the study would inform such a policy. Making further reference to the policy implications of maritime travel, CARICOM stated that owners of luxury vessels should be regulated through stipulations that state such vessels cannot be used to provide a public service except a change of use was issued. She went further to assure all participants that CARICOM would take into account all the considerations raised for inclusion in the maritime aspect of the regional transportation policy.

23. The meeting participants also raised the issue of market fragmentation where both the public ferries and private vessels were used to provide the interisland service.

24. The ECLAC research team recognized that maritime passenger ferry service was an emerging area of enquiry which raised more questions than answers. Nevertheless, it provided a good starting point for public policy analysis, as well as to strengthen data deficiencies. Moreover, it was noted that although regional models may not be applicable European ones may provide some guidance.

25. The ACS representative shared that their mandate was transportation and connectivity and assessing the viability of these in the region. He reiterated that political conversations were paramount but must be backed by the technical work. He was convinced that a binomial profit logic could illustrate the demand were no service existed. He questioned whether the region made adequate investment in maritime transport.

26. The Economic Affairs Officer of the Natural Resources and Infrastructure Division of ECLAC pointed out that Buenos Aires and Montevideo maritime transport provided solid competition for air travel. He suggested that in the case of the region, a complete review of available technology was needed as there were viable options to support the peculiarities of the regional market.

27. One meeting participant proposed that sea travel should be afforded similar support as air travel in an effort to further develop this aspect of the transportation sector, while another suggested that cruise line terminal facilities could be utilized for the public maritime transport. The meeting however agreed that the cruise ship community would not be amenable to sharing facilities with the regular travelling public in the subregion. It was felt that ultimately, governments must be proactive and invest in the sector.

28. The Senior Lecturer, Maritime Economics of UTT suggested that improved vessel technology and general infrastructure were needed for the region. For instance, he cited a new Catamaran design which provided safe and reliable service in spite of weather conditions. He pondered on the possibility of true regional exchange among Caribbean people which would allow ease of movement with their vehicles. He noted that government should take the lead in developing a comprehensive system for maritime passenger services in the subregion.

5. Conclusions and recommendations

29. All representatives commended ECLAC on the research that was undertaken, stating that discussion on the maritime passenger transport sector and better usage of maritime resources was indeed overdue.

6. Closure of meeting

30. In closing, the Coordinator of the Sustainable Development and Disaster Unit thanked participants for their contributions to the meeting. He noted that every effort would be made to strengthen the analysis in order to obtain the best insights for informing future development policy for the maritime passenger transport sector in the Caribbean.

Annex I**LIST OF PARTICIPANTS**

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Annex II

AGENDA

1. Opening of the meeting
2. Adoption of the agenda
3. Presentation of the study on maritime passenger transportation in the Caribbean
4. Discussions
5. Conclusions and recommendations
6. Closure of meeting