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applications development in the Caribbean
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**REPORT OF THE EXPERT GROUP MEETING ON REGIONAL
APPROACHES TO E-GOVERNMENT APPLICATIONS
DEVELOPMENT IN THE CARIBBEAN**

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A. SUMMARY OF RECOMMENDATIONS

1. The expert group meeting considered possible success factors and pitfalls associated with the implementation of e-government projects in Caribbean countries, especially within the context of regional initiatives.

2. The experts recognized that difficulties in coordination are a constraint to the effective implementation of e-government projects. This presents challenges at both national and regional levels. As a result, development efforts are disjointed and existing infrastructure is often underutilized. Thus, there is value in placing a single entity in charge of coordinating e-government initiatives, both at the national level and within regional organizations. Stronger coordination could facilitate the more effective use of existing information and communications technology (ICT) infrastructure, which is important because ongoing network infrastructure projects are consuming large proportions of e-government budgets. However, for coordination to be effective, consideration should be given to appropriate delegation of authority from governments and individual agencies to the entity in the coordinator role.

3. The experts agreed that, when considering the implementation of an e-government project on a regional level, it is essential that elements of the project be driven by the individual needs of the countries, rather than by the preferences of a donor or by pressure from vendors. Achieving buy-in at the national level was considered crucial to the success of projects, as was adequate consideration of sustainable means to maintain project outputs in the long-term, following the formal end of the regional initiative. To that end, it is important that project plans include adequate time during the post-implementation project support, to ensure that appropriate knowledge is transferred from regional consultants and private vendors to local ICT staff. There is also need to encourage the development of a broader network of experts that can support e-government systems across the region.

4. The experts noted several projects that could serve as potential models for the implementation of e-government systems on a regional level. These include the Automated System for Customs Data (ASYCUDA), in which the software is developed and supported by an intergovernmental agency, which then helps governments to install it at the national level. Another successful example of regional coordination is the computerization of the pharmaceutical drug purchasing platform in the Organization of Eastern Caribbean States (OECS), implemented as part of the Electronic Government for Regional Integration Project (EGRIP). Its success is due in part to its ability to build upon a pre-existing legal and organizational framework. Thus, other pre-existing areas of regional cooperation should be considered as candidates for further development through regionally-based e-government initiatives. The current system for processing applications for CARICOM Single Market Economy (CSME) Skills Certificates was cited as one such example.

B. ATTENDANCE AND ORGANIZATION OF WORK

1. Place and date of the meeting

5. The expert group meeting on regional approaches to e-government applications development in the Caribbean was held on 17 March 2015 at the Economic Commission for Latin America and the Caribbean (ECLAC) subregional headquarters for the Caribbean in Port of Spain, Trinidad and Tobago. Online participation was also utilized.

2. Attendance

6. The meeting was attended by representatives from the Ministry of Science and Technology of Trinidad and Tobago, the Caribbean Disaster Emergency Management Agency (CDEMA), the Caribbean Telecommunications Union (CTU), the World Bank, and a private consultant on Information and Communications Technologies for Development (ICT4D). The Electronic Government for Regional Integration Project (EGRIP) was also represented by the previous project manager. The meeting was hosted by the Caribbean Knowledge Management Centre (CKMC) of the ECLAC subregional headquarters for the Caribbean in Port of Spain. Representing the CKMC was the Chief of that Unit, as well as the unit's Associate Information Management Officer. Also represented was the ECLAC consultant who prepared the draft abstract of the study under review. A complete list of attendees is annexed to this report.

3. Agenda

7. The meeting discussed the following agenda:
1. Opening and introduction
 2. Regional precedent for intergovernmental cooperation
 3. E-government in the Caribbean
 4. Regional approaches to e-government development
 5. Conclusion

C. SUMMARY OF PROCEEDINGS

1. Opening and introduction

8. Opening remarks were made by the Chief of the CKMC of ECLAC subregional headquarters for the Caribbean. He welcomed the participants to the expert group meeting on regional approaches to e-government applications development in the Caribbean.

9. He explained that the genesis of this study on e-governance grew out of subject matter discussed at a meeting held in May 2014 that addressed "The importance of information communication technology and their impact on regional development". That meeting had been convened through the collaboration of the Caribbean Telecommunication Union (CTU), the Commonwealth Secretariat, the Organization of American States and the International Telecommunication Union.

10. He recalled that one of the revelations at that meeting was that over 80 per cent of the Caribbean countries have yet to develop specific e-governance strategies, and that inadequate use of e-government applications was considered a constraint to the region's overall social and economic development. He recounted that discussions at that meeting inspired ECLAC's exploration of the possibility of regional cooperation as a framework for procurement, implementation and maintenance of e-government systems. It was hypothesized that a collaborative approach to e-government on the part of Caribbean countries would have positive impact on costs, application quality, the minimisation of redundancy, and the development of regional standards.

2. Regional precedent for intergovernmental cooperation

11. The consultant, who had prepared the draft abstract of the study under review, gave an overview of current mechanisms for regional collaboration in the Caribbean. This included a description of CARICOM's work toward the development of a Single Caribbean ICT Space, which it is hoped, will become a vehicle for improved harmonization of telecommunications policy in the region. Also noted in this context was the CTU, a CARICOM institution known to represent the region at international meetings on ICT issues as well as to facilitate knowledge sharing, and provide consultant services.

12. The OECS was identified as playing a role similar to that of CARICOM, but on a smaller scale, and with more effective facilitation of intergovernmental coordination. The OECS has achieved a deeper alignment and collaboration among its member States, as evidenced by the establishment of a central bank, a common currency, and a high degree of integration and cohesion in regulatory initiatives.

13. As an example of intergovernmental cooperation, the study highlighted the OECS experience in facilitating the bulk procurement of pharmaceutical drugs and medical equipment by various health ministries. This arrangement has been in place for about 20 years and in that time has realized significant cost savings for its participants. According to a 2001/2002 survey for a select basket of drugs, there was as much as a 40 per cent reduction in cost that had been recognized through cooperative purchasing, as compared to individual country procurement of these identical items. It was noted that this experience may have potential for consideration as a model for cooperative procurement among small countries in the region.

3. E-government in the Caribbean

14. In order to present a general picture of the current state of e-government in the region, the consultant highlighted initiatives from the four countries under specific review as part of the study: Barbados, Jamaica, Saint Vincent and the Grenadines, and Trinidad and Tobago, underscoring both the challenges and the opportunities that exist.

15. Of these countries, Barbados was identified as having adopted a strategic plan dedicated to e-government. Of specific note was the effective use of an e-government application for the financial planning process in that country, using a software package called SmartStream. The use of this system has contributed to relatively effective budgeting and payroll management processes.

16. In the case of Jamaica, it was noted that, while e-government was not subject to a dedicated strategic plan, the topic was incorporated into the larger ICT plan for the country. One noted characteristic of e-government in Jamaica is that efforts are not overseen by a single entity within the government. Instead, a large number of functions are distributed across various ministries, departments and agencies. This has increased the possibility of efforts being disjointed, redundant or contradictory. The consultant reported that efforts are underway to appoint a national Chief Information Officer to give leadership to e-government initiatives, and so to ensure the desired consultation and consolidation of efforts.

17. Saint Vincent and the Grenadines was also identified as having an ICT strategy that includes e-government. Furthermore, many recent initiatives in e-government in this country have been undertaken as a part of regional processes, including EGRIP and the Caribbean Communications Infrastructure Program (CARCIP). As the smallest of the countries under study, Saint Vincent and the Grenadines was identified as perhaps the most constrained in terms of the size of its budget and the local availability of human capacity. This was suggested a plausible reason that Saint Vincent and the Grenadines had given such attention to making use of regional initiatives. This country was also noted for its use of open source technology, such as its health information system.

18. The consultant noted that Trinidad and Tobago also has a general strategic plan in the area of ICT, with subsidiary consideration of e-government. Effective network infrastructure has been established at the national level. A government services portal provides a medium through which users can access various services, such as work permits, company cooperation and forms for various concessions. However, use of this system is uneven across government agencies.

19. The meeting was informed about one common programme implemented by all states, called ASYCUDA, which is an application provided by the United Nations Conference on Trade and Development, and which has been implemented worldwide to support the collection of customs data. It was suggested that the ASYCUDA project was deserving of further examination as a successful model that has deployed a standardized e-government application to many countries, in the Caribbean and beyond.

20. The widespread implementation of ASYCUDA also seemed to suggest that the most mature information systems were often established in support of revenue producing activities. For example, systems facilitating tax and tariff collection had reached a higher level of maturity than systems to support the provision of social services. The Associate Information Management Officer from ECLAC suggested that the pattern of emphasis on revenue-focused applications may imply a corresponding lack of priority given to other types of e-government projects. These non-revenue producing applications should be considered as potential projects for regional cooperation, since individual countries may have difficulty finding funding for them on their own.

21. The meeting also considered that many e-government projects focussed on the deployment of networks and computing infrastructure, which consumed an unduly large proportion of national ICT budgets. The consultant on ICT4D noted that this situation may reflect an inherent problem in the process of implementation design. He suggest that there may be cases where resources are expended unnecessarily as agencies build entirely new infrastructure because they are unaware of, or lack access to systems that are already in place. The fibre optic infrastructure in Kingston installed for use by government agencies was cited an example in this regard. Described as extensive but underutilized, much redundancy and difficulty in obtaining access to the various networks was identified.

22. The former project manager of EGRIP agreed that appropriate use of infrastructure was critical, noting that a significant amount of networks in the Caribbean telecommunications industry were generally underutilized. She said that strengthening institutional capacity was essential and a major constraint was the lack of coordination among different agencies. A best practice, she suggested, was to establish a policy for ICT or e-government, followed by a strategy, legal framework and implementation plan. To that end, she noted that the OECS Commission had recommended that an e-government specialist be put in place to coordinate initiatives within the OECS; there was a need for a dedicated e-government desk to push the agenda.

4. Regional approaches to e-government development

23. The consultant presented the section of the study's draft abstract that reviewed specific initiatives, past and present to distil some commonalities and to determine lessons learned. She summarized the goals of the EGRIP, CARCIP, and the "Harmonization of ICT policies and legislation across the Caribbean" projects. She also reviewed potential challenges in implementing regional projects, critical success factors, and potential models for regional e-government applications development.

24. Among the potential implementation challenges she discussed was the possibility that national plans for each country may not fit neatly into a regional project, as each country would focus on their national priorities. Moreover, the donor community often shaped its own agenda, which did not

necessarily coincide with national priorities, and it was a common occurrence in such cases that a country's problems were left unresolved. At the regional level, there were potential benefits to be gained from economies of scale, but commonality of purpose was necessary for this accomplishment. Furthermore, national priorities were often not congruent with regionally-defined goals.

25. The former project manager of EGRIP provided further information on that project, as well as some lessons learned from the experience. She said that special care must be taken during the design phase of the project, in order to understand the problem to be addressed and ascertain the real demand for a solution. This would help to ensure effective utilisation of resources and establish the long-term sustainability of implemented systems. She suggested that the project design and the financial allocation should be flexible enough that it accommodated competing policies and considered the political landscape as these were real threats to project success. Implementing regional ICT solutions therefore would require political commitment at a national level.

26. She articulated the importance of obtaining stakeholder buy-in, and emphasized the importance of achieving quick wins as a means of demonstrating the value of the project at the national level. The Associate Information Management Officer of ECLAC expressed reservation with respect to the structural incentives for development projects to focus on quick wins, at the expense of addressing deeper, more systemic problems for which achieving success is significantly more difficult. In response, the former project manager of EGRIP explained that quick wins were limited to one or two important activities and used to secure stakeholder buy-in or to facilitate the consensus needed to push the project forward.

27. The representative from the Ministry of Science and Technology of Trinidad and Tobago said that emphasis should be placed on strengthening institutional capacity and ensuring that the necessary support systems are implemented. He mentioned that one of the key lessons for consideration was securing stakeholder buy-in through effective partnerships. However, there is also a significant danger of vendor lock-in. This is a concern that government ICT purchasers face when, having committed to a vendor's product line and technology, they are later not able to switch easily to the product of another vendor. Thus limited in their ability to shop around, governments experiencing vendor lock-in are forced to pay out large amounts of money for long-term licensing and maintenance contracts. They are also pressured to follow a vendor in making technology decisions. He cited the ICT industry's push toward cloud technology as an example of vendor-driven changes that may not be suitable to a given organization.

28. In consideration of vendor-related difficulties, and noting the success that Barbados had seen implementing the SmartStream application as a means of managing national finances, the Associate Information Management Officer of ECLAC pointed out that the EGRIP project had also made an attempt at setting up a SmartStream-based system for four countries in the OECS. However, as the former project manager of EGRIP explained, when the SmartStream vendor was asked to provide a quote for licenses for the software, the quoted cost was on the order of US\$ 2.5 million, which was far higher than the US\$ 300,000 that had been initially budgeted. Thus, the plan to implement public finance support systems had to be dropped from the EGRIP project.

29. The representative from CDEMA noted that the company that developed SmartStream had been acquired by another company, and at that time of acquisition the cost of software licences had increased significantly. This was recognized as an example of the aforementioned vendor lock-in problem.

30. The former project manager of EGRIP reported that, given the high cost of SmartStream software licensing, some countries – Saint Vincent and the Grenadines in particular – had considered open source alternatives to the SmartStream product. The Associate Information Management Officer of ECLAC noted that the absence of standardization of application usage between countries could affect the viability

of support for these systems, because there would be a lack of the critical mass needed to enable the emergence of regional expertise in this technology. Thus, support for non-standardized systems would have to be obtained outside the region, with greater difficulty, at higher cost, and to the detriment of efforts to support the growth of the ICT services industry in the Caribbean region.

31. The representative from CDEMA said that he was not against the use of open source software, but felt that it only saved money if adequate resources were dedicated to maintaining the application. He cited by way of example, the case of disaster management agencies in the region, many of which were understaffed and lacking ICT experts on hand. These agencies could not be counted on to maintain open source software. In Jamaica and Trinidad and Tobago, such institutional capacity was higher. CDEMA therefore perceived a need to arrange regional sharing of existing expertise among member States.

32. A particular success of EGRIP, the former project manager noted, was the automation of the OECS pharmaceuticals purchasing program, which entailed the implementation of an online system to manage the coordination of these purchases. She said the success of this portion of the project was advanced by a solid design, an existing demand, legislation already in place, and a need to increase revenue and savings. The Associate Information Management Officer of ECLAC noted the long-standing establishment of a successful and cooperative pharmaceutical purchasing program in the OECS, and suggested that an additional success factor was the pre-existing administrative structure and tradition of regional cooperation in an area of common interest. Thus, there was an advantage in building an e-government project on top of an existing organizational and legal infrastructure.

33. An example of one such potential system was brought up by the representative from CDEMA. He noted difficulties surrounding the CSME Skills Certificate, used by skilled CARICOM nationals who wish to work in other CARICOM countries. He asked why every country handled the process separately, when this function could be centrally managed through a common e-government application.

34. It was considered that knowledge transfer, and the development of local or regional expertise in a technology, was important to the long term sustainability of an ICT project. The former project manager of EGRIP said that it was important for projects to have countries commit to sustainability component that is built in to the project, to ensure that long-term funding was available for its maintenance. In the case of EGRIP, this requirement was funded through registration fees paid by businesses using the system.

35. The former project manager of EGRIP also said that an important element of ensuring sustainability is the need to build time into the project to enable a suitable hand-over period after the software goes live. She noted that an element of success in the pharmaceutical purchasing element of the project was based on the ability of project staff to offer a high level of support to users for over a year after the software had been launched. However, another system implemented by EGRIP was not deployed until late in the project cycle, and thus, it was not possible to give users enough of the transitional support that was needed for the handover. Therefore, she recommended that all projects have a suitable post-implementation period included as part of the initial planning.

36. When asked how procurement could be handled in a regional project, the former project manager of EGRIP emphasized that the delegation of authority was very important to a project's success. Thus, at the beginning of the project, procurement authority was delegated to the project managers. When asked how these processes affected the ability of local or regional companies to compete for contracts, the former project manager noted that a point value was given, as part of the bid scoring process, for the presence of a locally-based member of the implementation team.

37. The meeting considered lessons learned from the CARCIP project. The representative from the CTU reported that the project has had limited success, having been adopted by only three countries of the region so far. It had not been initially designed as a regionally-managed project, but CTU was called in to coordinate the participation of three countries when challenges arose. Some of these problems included the pursuit of individual interest, differing policy directions, and financial limitations. In general, the project did not fit national priorities and there are plans to have it restructured as part of the upcoming mid-term review.

38. The consultant on ICT4D shared that he had been given the responsibility of evaluating CARCIP on behalf of the Caribbean Knowledge and Learning Network, when it was offered to that organization for oversight. At that time, he recommended rejection of the project, citing a view that the overall budget was unreasonable, the loan funding was challenging, and the project design was not flexible enough to accommodate the telecommunication community. He believed that these shortcomings were a result of the exclusion of national input and its failure to reflect national objectives. He suggested that countries should not be reticent in refusing projects that did not effectively serve the region. He also emphasized the importance of negotiating fair and acceptable loans at the regional level.

5. Conclusion

39. At the close of the meeting, the Chief of ECLAC Caribbean Knowledge Management Centre thanked all of the participants for their valuable contributions and noted that these inputs would be factored into the next draft of the report. ECLAC would therefore undertake to convene a second expert group meeting to review the outcome of the revised document.

Annex I**List of participants**

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