BACKGROUND PAPER
KNOWLEDGE ECONOMY

DRAFT TERMS OF REFERENCE
Draft Terms of Reference: Islands in a Sea of Knowledge

Background
The World Bank is currently commissioning a number of background papers for a report on the long-term growth opportunities and challenges in small Pacific Island Countries (PICs)¹. Pacific Possible will take a long term view of the development challenges and opportunities faced by the PICs and will focus on those that could have a transformational impact on the countries in the region. From the identification of the areas that hold the highest potential to enhance living standards, Pacific Possible would then proceed to identifying the complementary policy and investment priorities, both at the national and at the regional level.

The background papers for this work are being commissioned under six thematic areas: Harnessing the Riches of the Pacific (seabed mining and fishing); Islands in a Sea of Knowledge (knowledge economy); Host to the world (tourism); Labor Mobility; Managing Increasing Stress on Pacific Livelihoods (climate change as well as non-communicable diseases), and Working Together (procurement/aviation/financial architecture). These TOR deals with the theme of Islands in a Sea of Knowledge.

What is a Knowledge Economy?
Knowledge has always been central to development. But with globalization and the increased pace of technological progress that has been spurred by advances in ICTs, knowledge has become the key driver of competitiveness and is reshaping the patterns of the world’s economic growth and activity. According to the OECD (1996) and the World Bank (2007), a knowledge economy (KE) is one in which knowledge is acquired, created, disseminated, and applied to enhance economic development.² Making the move to a KE involves more than developing high technology industries, investing in ICTs, or acquiring new technologies for use in a narrow fringe of the economy. Rather, it involves a more systemic change in the overall functioning of the economy, in which knowledge (both new and existing) and innovation (development and commercialization of products and processes that are new to the firm, the market, or to the world) penetrate all sectors of economic activity. In so doing, the economy generates new goods and services, increases productivity, gains efficiency in the delivery of services, and improves welfare.

For this to happen, a development strategy based on the KE approach needs to focus on four key policy “pillars” that include: education, the fundamental enabler of the KE; innovation, the source of continuous renewal of economies; ICTs, the key infrastructure of the digital age; and the broader economic and institutional framework, which determines the overall efficiency and impact of investments made in the other three areas. Transitioning to a KE ideally means taking a holistic approach, as well as effective action—reform, investment, and coordination—in all four of these policy areas.

Knowledge Economy: Not just for a few
Making the move to the KE is not just pertinent for advanced countries. All countries, regardless of their income level, are in a position to tap and use knowledge, to learn from and incorporate the experiences of other countries, and to put such knowledge to work within their own context to generate growth. And although small island nations across the world have significant differences in terms of size, population, social and economic conditions, infrastructure, and standards of living, many have taken proactive

¹ These are: Palau, Federated States of Micronesia, Marshall Islands, Kiribati, Solomon Islands, Vanuatu, Fiji, Tonga, Samoa, Tuvalu, and Papua New Guinea.
measures to make the transition to the KE. For example, Mauritius has recognized that the route to higher productivity lies through investments in knowledge, especially in science and technology. Vision 2020 sees these as essential to enabling traditional sectors (sugar, tourism, textiles and apparel, and financial services) to meet growing competitive challenges and for developing new capabilities in ICTs, renewable energy, biotechnology, exploitation of ocean resources, as well as in the development of creative industries. Jamaica’s National Development Plan Vision 2030 Jamaica has the national goal of developing prosperous economy, including developing a technology-enabled society, where investments in science, technology and innovation play a fundamental role in the creation of wealth and in the improvement of the quality of life, thereby laying the foundation for a long-term transition to a knowledge-based society and an innovation-based economy. In the Pacific, Fiji has a dedicated investment promotion agency, Investment Fiji, which actively promotes the country as a favorable location for businesses and offers various incentives for ICT related businesses.

PICs: Making the transition to the KE
Looking at the PIC economies through the lens of the four KE “pillars” is an interesting task as there are many interdependencies. For example, the ICT sector in a number of PICs has undergone significant liberalization and privatization over the last decade leading to a rapid increase in access to mobile voice and data networks. Additionally, international bandwidth has increased and prices of Internet are falling due to the deployment of undersea fiber optic cables and lower-latency satellites in several countries. Although broad access to ICTs—particularly broadband Internet—has the potential for major impacts across the Pacific, it will be how this infrastructure is utilized, and more generally, how existing knowledge can be applied or adapted, that will matter. Thus, ICT investments by themselves will not automatically transform these countries into vibrant knowledge economies. Complementary investments, especially in education and skills are needed, coupled with strengthening the innovation system, and putting in place a favorable economic and institutional regime.

Scope of the Work
The objective of this background note will be to examine the kinds of opportunities that could enable the PICs to make the transition to the KE by 2040. If these countries invested in the four “pillars” of the KE, that is, invested in good quality education, boosted innovation, strengthened ICTs, and developed an enabling and conducive economic and institutional environment, what would be the types of opportunities that could emerge? The background paper will look at the following issues:

- **What opportunities does the KE bring to the PICs in terms of developing new products and services?** High transport costs preclude most manufacturing-based export activities in the PICs. Improved connectivity through fiber-optic cables opens up new opportunities, including for local development of knowledge services as well as exports of knowledge services, ranging from relatively low to mid-skill activities, such as business process outsourcing (as for example, data entry, call centers, software and mobile apps programming, etc.) to skill intensive activities such as design and research. The paper would identify the main opportunities and assess the potential of such opportunities for each of the 11 countries.4

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3 According to a recent study (Economic and Social Impact Impact of ICTs in the South Pacific, PRIF, 2015, www.theprif.org), increased access to ICTs may lead, through various mechanisms, to social and economic benefits: labor force productivity, entrepreneurship, financial intermediation, innovation, reduced transaction cost, and improved service delivery.

4 See the recently completed ICT for Jobs technical assistance activity that has identified and quantified the opportunities and impact of developing the global outsourcing industry in 3 PICs (Fiji, Samoa, and Tonga).
- **What opportunities does the KE bring for enhanced public and private sector activities?** Aside from opening up new activities, the KE also has the potential to qualitatively enhance ongoing activities. For example, improved connectivity can significantly enhance the attractiveness of a tourist destination or e-governance can contribute to significantly enhanced public sector performance. There is also the potential for enhancing the performance of existing businesses, such as through the development of e-commerce. The paper would try to identify the main opportunities for product and service enhancements and assess the potential importance of such enhancements for each of the 11 countries.

- **What opportunities does the KE bring to enhancing public and private sector productivity?** A hallmark of moving to the KE is that it enhances total factor productivity for both private and public sector activities. The growth experience of most of the PICs suggests that increases in factor productivity have been modest. Using ICTs, for example, can help to improve competitiveness across industries, such as finance, trade, and logistics by reducing transaction costs and speeding up processing times. International experience has also demonstrated that e-governance can contribute to significantly enhanced public sector performance by improving efficiency, transparency etc., measured in terms of lower costs and faster delivery time of selected services, as well as by improving the quality of healthcare, education management, as well as improvements in marketable skills. The paper would identify the main areas of productivity increases and assess the potential scale of such productivity gains for the 11 countries.

- **What are the required investments for capturing opportunities by the KE?** Based on the identification of opportunities arising from the KE in each country, the report would assess the required investments that will be needed to realize the identified opportunities. In particular, the report would assess the required trajectory for enhancing educational attainment, boosting innovation, investing in mass adoption of ICTs, as well as making improvements in the overall economic incentive and institutional policy framework that would allow for the realization of such KE-based opportunities.

- **What are some of the strategic thrusts that can inspire policymakers to facilitate KE-based development?** International experience that shows the need for a gradual but ambitious approach, building on focused initiatives, while at the same time, investing in key KE infrastructures. Promoting active cooperation among the PICs themselves, as well as making good use of bilateral and multilateral cooperation, notably from surrounding developed economies (Australia, New Zealand, Japan, US) and from large emerging countries (China, India, and Indonesia, for example) will also be important.

In carrying out the assessment, the paper would draw on the experiences of other countries that could be relevant for the PICs (for example, the Caribbean islands, Mauritius, Seychelles, and other small countries, such as Singapore). Seeking to quantify the potential of the KE to contribute to GDP and employment is very challenging; the paper would illustrate this, based on the experience of other countries.

**Deliverables:**
The team will work with staff from the Education, Transport and ICT, and the Trade and Competitiveness GPs as well as recruit consultants in FY15-16 to develop a set of three background notes that deal with the situation in the PICs, learning from other country experiences, and exploring the potential of ICTs. These notes will feed into the first draft of the overall background paper (to be developed by September 2015). This paper could be further refined, as needed.