



# Project Information Document/ Integrated Safeguards Data Sheet (PID/ISDS)

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Concept Stage | Date Prepared/Updated: 11-Mar-2017 | Report No: PIDISDSC17911



**BASIC INFORMATION**

**A. Basic Project Data**

Country Tuvalu	Project ID P159395	Parent Project ID (if any)	Project Name Tuvalu: Telecommunications and ICT Development Project (P159395)
Region EAST ASIA AND PACIFIC	Estimated Appraisal Date Oct 09, 2017	Estimated Board Date Dec 15, 2017	Practice Area (Lead) Transport & ICT
Financing Instrument Investment Project Financing	Borrower(s) Ministry of Finance and Economic Development	Implementing Agency Ministry of Communications and Transport	

**Proposed Development Objective(s)**

The Project Development Objective is to facilitate improved access to telecommunications and ICT services in Tuvalu.

**Financing (in USD Million)**

Financing Source	Amount
IDA Grant	10.00
<b>Total Project Cost</b>	<b>10.00</b>

Environmental Assessment Category B-Partial Assessment	Concept Review Decision Track II-The review did authorize the preparation to continue
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Other Decision (as needed)



## B. Introduction and Context

### Country Context

- 1. Introduction.** Tuvalu is one of the least connected countries in the Pacific region today. Information and Communication Technologies (ICT) services are costly, of limited variety and variable quality. Services are particularly limited outside the main island of Funafuti. This situation impacts communications between households, in particular with overseas relatives, and also the cost of doing business and delivery of services. Beyond the personal level, the lack of ICT services constrains business development, tourism, and management of natural disasters. It is particularly a constraint on social services such as education, and healthcare; the lack of air transport to any of the outer islands makes first action medical care and advice from remote specialists very important but presently unavailable. In this context, this Project proposes to support Tuvalu in developing the enabling environment for improved telecommunications/ICT services provision, restructuring the market, and implementing a sustainable solution for international/regional connectivity.
- 2. Country overview.** Tuvalu consists of nine inhabited low lying island atolls in the South Pacific; the nearest neighbouring states (more than 1,000 km away) are Kiribati to the North and Fiji to the South. The total population is 10,640 (2012 census) of whom 57 percent live on the main island of Funafuti. Tuvalu is vulnerable to natural disasters, the most recent being Cyclone Pam in 2015.
- 3.** Tuvalu's principal revenues are derived from the sale of fishing rights of its waters, and remittances from expatriate workers, many of whom are merchant sailors. It is also heavily dependent on foreign aid. The Government of Tuvalu (GoTV) also has leased the Internet domain "dot TV" to Verizon and that lease has returned between US\$4 and 5 million per year (about 10- 12 percent of GDP).
- 4.** The present generation faces multiple challenges: fresh water is increasingly difficult to obtain, most formal employment is in the public sector; outside of the public sector the working population are still engaged in subsistence farming. Diversification of sources of growth and increased private sector-led employment and income-generation are therefore important medium-term development goals. Lack of, or inadequate, basic infrastructure remains a major barrier to economic development and service delivery, particularly on the Outer Islands.
- 5.** The Government of Tuvalu appreciates the need for ICT services extension and its third National Development Plan (NDP) for the period 2016 – 2020 is now in place. This plan, the National Strategy for Sustainable Development 2016 to 2020 – also referred to as TK III - notes the key role of ICT services as an underpinning enabler for development in other areas of GoTV priority such as education, health, and disaster management. Without the widespread availability of these presumed ICT services at workable prices, these other areas of Government priority cannot proceed.
- 6.** Implementation of these wide-ranging reforms and improvements are necessarily tied to and dependent on the availability of high capability telecommunications across the whole country at prices affordable to the population. These societal and telecom sector reforms are aimed at: (a) promoting socio-economic development of Tuvalu, in particular, to make available the widest possible range of efficient, reliable and affordable telecommunications and information services to all of the islands of Tuvalu; and (b) creating a modern enabling environment (encouraging innovation and investment, creating jobs, retaining skills and reducing transaction costs) making Tuvalu more efficient and more attractive to investment. This is to be achieved through increasing opportunities for private participation and investment in the ICT sector, the competitive provision of services where workable and ensuring credible, effective and transparent regulatory oversight of a sustainable sector. Successful reforms in this sector will likely contribute to the overall economic reform process in Tuvalu. A sound and efficient telecom and ICT sector is recognized as a necessary



precursor to any sustainable and effective national development and prospective international interest in investment in the Tuvalu economy. Accordingly ICT services expansion and widespread availability are key priorities for GoTV.

7. **Economic context and recent developments.** GDP per capita is currently US\$3,827 (2016). GDP growth picked up to 2.6 percent in 2015, and is estimated to rise to around 4.0 percent in 2016 partly on account of recovery spending following Cyclone Pam. The main challenges facing Tuvalu’s development are insufficient employment opportunities, and a very limited private sector. The public sector plays a major role in the economy, accounting for the majority of formal employment. Tuvalu’s economy is highly vulnerable to challenges stemming from its very small size and geographic isolation, structural economic conditions, and relies heavily on grants and buffer assets to absorb shocks. With no monetary independence, a high level of import dependence and a minimal financial infrastructure, fiscal policy is the main tool available to the GoT to manage the economy. Yet, Tuvalu’s fiscal position is extremely tight with regular fiscal deficits providing limited space for government investments or operations, particularly in times of crisis. In addition, natural disasters such as cyclones, king-tides, and droughts are relatively frequent and devastating occurrences in Tuvalu. Given the small size of the economy in nominal terms, these exogenous shocks could significantly alter fiscal outcomes.

Sectoral and Institutional Context

8. **ICT Sector Overview.** Tuvalu’s ICT sector is characterized by limited business, marketing and services delivery competencies, low international and national access capacity, very small size and at the retail end affordability and quality of service issues.

9. All Outer Islands (except Niulakita – pop 30) are served with bureau-based services (i.e. the customer must go to a location to use the service). Fixed voice services to individual premises (Residential and Government offices) are limited to two of the nine islands - Funafuti and Vaitupu. 3G mobile voice services are limited to Funafuti. Four islands had 2G service of intermittent operation and low quality but this was recently shut down pending future replacement by 3G. WiFi Internet access is available at four locations on Funafuti and one location at each of the Outer Islands (except Niulakita).

Table 1. Access to ICT services, 2016 (% of population)

Service	Fixed Lines	Mobile (2G) (active)	Mobile 3G) (active)	Fixed (ADSL) Internet	Mobile Internet (SIM s using data)
% pop (Penetration)	13	0	30.0	3.0	30
Number of Active Subscribers	1383	0	3200	321	3200

Note: The 2G Network of Tuvalu was shut down in September 2016.

10. The government-owned service provider, Tuvalu Telecoms Corporation (TTC), has a monopoly over all services including telephony and Internet service provision as well as marketing satellite based Sky TV, and has operated at a loss for the last five years. In late 2014 it required a government ‘bailout’ equivalent to about eight months of revenues.

11. The scale and circumstances of TTC’s operations pose particular challenges for its future. Its size means that suppliers are reticent about dealing with it (market volume, cost of support, possibility of default) and this limits its access to competitively supplied and priced products and services, including international services terminations. Its limited workforce means that the breadth of skills required is not available or only minimally so. As a monopoly it tends not to market its services and has been reliant on the considerable unmet demand – as evidenced by the success of the Funafuti 3G service and migration from the 2G network. The distances and lack of efficient physical transport compel a high costs regime – e.g. price of a small mobile tower ex-factory is about \$4,000; however transport to and installation



on an outer island adds a further \$65,000 to the cost of an installed operating tower. All these factors have contributed to limited services available and quality, and low revenues.

12. TTC has in recent times attempted to expand on services by contracting a 3G equipment provider to establish and provide 3G mobile facilities on Funafuti as a service (which is on- sold) rather than as its own infrastructure. Additionally it has contracted for new low cost satellite connectivity for all islands (via Kacific satellite and Asia Broadcast Satellite). Existing high cost satellite services contracts will expire at the end of 2016. Despite these particular prospective gains, ICT services for Tuvalu through TTC remain constrained.

13. For its backbone network TTC negotiated satellite capacity on the C band Asian Broadcasting Satellite (ABS) at around US\$830Mbps/ month for an initial level of 10 Mbps in late 2015. TTC has since expanded capacity from ABS to accommodate services to Vaitupu Island – 4Mbps being dedicated to Vaitupu. This ABS capacity is used to support the 3G service which is managed through a core switch in Pohnpei (Federated States of Micronesia) which also provides the data gateway for the 3G Internet services. On the basis of expanded use of this satellite after expiry of the current (high cost) Datacast service, TTC anticipates that ABS C band geostationary prices will improve to around US\$700/Mbps/Month.

14. TTC has also contracted with another satellite service provider, Kacific, for Ka band satellite services from late 2016. This will be for the deployment of a specially shaped beam (North –South oval) for Tuvalu that will include all the islands. Price for initial service is US\$ 40 / Mbps/month for an initial capacity of 80Mbps.

15. Total international connectivity is now 34Mbps (3.4 kbps/ pop). For comparison, Fiji, a near neighbor, has international connectivity of about 20 kbps/ pop. Regional, indeed global, experience, suggest that demand for Internet services will grow more rapidly, particularly for institutional users, including government and businesses. Recent analysis projects demand for bandwidth to grow, based on conservative assumptions, to at least 250 Mbps by 2026 (corresponding to 25 kbps/per capita but by which time Fiji is expected to have about 60 kbps/per capita). This will require further investments in either satellite or optical fibre submarine cable infrastructure.

16. An initial international connectivity options analysis has been undertaken (World Bank, New Zealand). Options investigated were as follows, each presenting potential benefits and issues. More detailed financial and economic analysis is provided below, together with a summary analysis of strengths and weaknesses.

- A repeatered cable to Fiji (1200 Km) to serve Tuvalu’s main island of Funafuti
- A repeatered cable to Wallis (730 Km) to serve Funafuti
- An ABS satellite connection (geostationary satellite) –leased transponder capacity
- An O3b Networks satellite connection: dedicated beam to cover the Tuvalu archipelago
- A Kacific satellite service using High Throughput Satellite to cover the Tuvalu archipelago

17. **ICT Sector Reform and Development.** The current market structure and institutional/enabling environment for ICT is unable to support or sustain such investments. The proposed approach is therefore to restructure TTC to allow for private (including international) participation, develop a private-public-partnership based approach to build and operate international connectivity infrastructure for the long term, and create the enabling environment to do so.

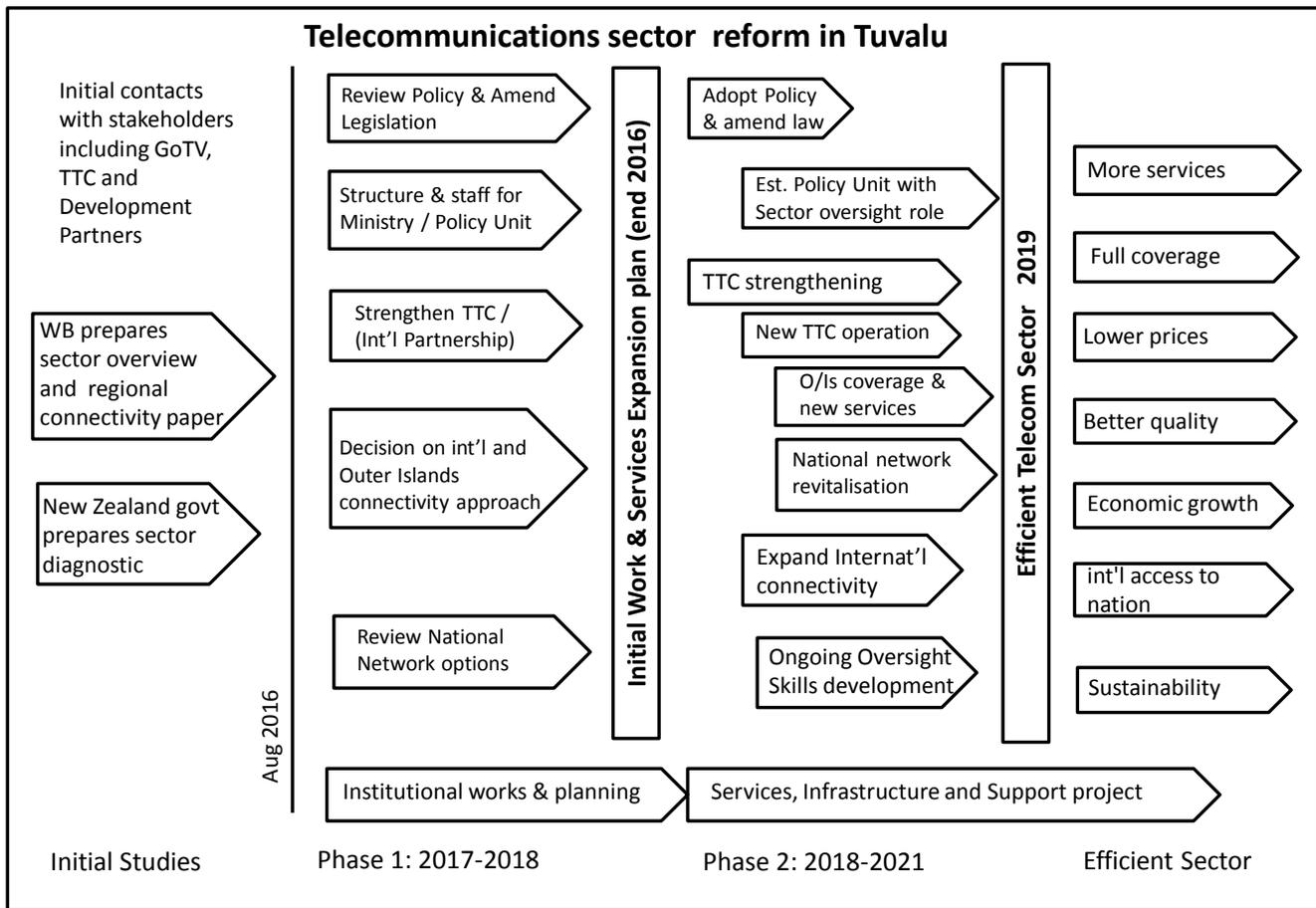
18. **ICT Policy, Legal and Regulatory Framework.** The Ministry of Communications and Transport (MCT) is responsible for the development of ICT policy, but has minimal capacity to do so. A preliminary policy document has been prepared, and MCT intends to establish a small unit specifically focused on ICT policy preparation, review and



implementation oversight, particularly given its role in TK III. There is no ICT-specific legal or regulatory framework, and currently no effective mechanism for monitoring (or improving) sector performance. The GoTV has been looking at options for improving the effectiveness of TTC, along with other public enterprises. The Public Enterprise Reform and Management Unit (PERMU) under the Ministry of Finance and Economic Development (MFED) has been mandated to oversee public enterprise performance. However, its main role is to review financial reports of the public enterprises *ex post*. GoTV is keen to develop a more effective legal/regulatory/institutional framework for ICT services provision; the mechanism for doing so will need to be sustainable and reflect institutional absorptive capacity, potentially through a multi-sector approach or a regional collaboration/partnership.

19. **Phased approach.** On this basis, the proposed ICT sector reform program that the proposed Project will support will be implemented in two main phases, as summarized in Figure 1. The first phase focuses on establishment of policy, legal/regulatory and institutional foundations for the sector and the restructuring of TTC. The second focuses on reducing the cost and increasing the capacity of international and national connectivity through investment in cable or satellite infrastructure. The Project design provides for flexibility in the selection of the preferred connectivity option, noting that applicable infrastructure investment component may require co-financing.

Figure 1. ICT Reform Implementation Approach and Sequencing





#### Relationship to CPF

20. A Systematic Country Diagnostic (SCD) for eight small Pacific Island states was completed in January 2016. This identified the key challenges for Tuvalu as: fully exploiting the limited set of economic opportunities; fostering access to economic opportunities and public services; protecting incomes, assets and services for the poor; and addressing selectively weaknesses in economic governance. A new Regional Partnership Framework is under preparation for these countries, with three focus areas: (a) fully exploiting available economic opportunities; (b) enhancing access to public services and employment opportunities; and (c) protecting incomes and livelihoods. Improving access to ICTs was identified as one of the country priorities during consultations on the SCD and RPF.

21. The proposed Project also builds on the World Bank's initial diagnostic assessment of the ICT sector in 2014-2015 and policy dialogue with the Government—including recent updates undertaken in conjunction with colleagues from New Zealand's Ministry of Foreign Affairs and Trade (MFAT). Improved ICT services would contribute to a broad range of Government policy objectives articulated in the new medium-term development plan. Indeed, the reform of the telecommunications sector is a priority for the GoTV as is expressed in the National Strategy for Sustainable Development 2016 to 2020 ("TK III"), approved in April 2016.

### **C. Proposed Development Objective(s)**

The Project Development Objective is to facilitate improved access to telecommunications and ICT services in Tuvalu.

#### Key Results (From PCN)

22. Progress will be measured against the following PDO-level results indicators:
- (a) Legal and regulatory framework more effective at enhancing sector performance;
  - (b) Mobilization of private (including foreign) investment in ICT;
  - (c) Increase in penetration of telephones and Internet access, including the number of direct beneficiaries (particularly female);
  - (d) Decreases in tariffs of key communications services.
  - (e) Direct Project beneficiaries and percent of beneficiaries that are female
  - (f) Beneficiaries that feel Project investments reflected their needs.
23. The direct beneficiaries of the Project will be the people of Tuvalu (including individuals, businesses, government agencies and other institutions) who will receive improved services and greater access to ICT services, including voice and data services. The development of value-added services once the foundation network is in place is expected to support the expansion of a new range of important services, including mobile phone banking, e-commerce and, potentially, e-government services as are set out in the Tuvalu National Development Plan (TK III). The broader impacts of the Project through the improved enabling environment are expected to be as follows:



- direct investment in the ICT services sector and indirect investment in the wider economy supported by improved access and affordability of ICT services and lower transaction costs;
- potential for reduced travel costs for individuals and businesses leading reduced isolation of remote communities on the outer islands and improved social and economic outcomes for the whole economy; and
- potential for improved communications facilities for schools, health clinics, government and other services.

24. Improving services for the Outer Islands and identifying a sustainable solution for international connectivity (faster, cheaper international Internet bandwidth) is an important component of the reforms. Introduction of broadband Internet services in areas currently without services (or with only limited services) will lead to a range of significant benefits for all communities in Tuvalu, and not just the remote communities. Benefits would include business development opportunities and the expansion of health, education, government services and other information services. The delivery of these services is fundamental to securing the economic and social viability of the Outer Islands and, accordingly, reducing pressure on Funafuti caused by inter-island migration.

25. **Regional benefits.** By facilitating improved broadband internet access through regional connectivity solutions, and supporting regulatory reforms, the Project is also expected to provide regional benefits for Tuvalu, including fostering greater collaboration with regional institutions and private sector service providers. Other potential regional benefits may be derived through cooperation with regional neighbours on trade facilitation, natural disaster management and monitoring, and provision of online education and health services.

#### D. Concept Description

26. The Project will assist the Government of Tuvalu in the following areas:

- Developing and implementing a sector policy appropriate to the needs and circumstances of Tuvalu into the future with related legislation/amendments;
- Establishing a sector management regime and structure within the Government to address the operation and performance of the sector specifically toward service quality and broadband services in the Outer Islands;
- Developing a new, more financially-sustainable business model for telecommunications service provision, including restructure of the current TTC arrangements,
- Development of a regulatory framework for improving and reducing cost of telecommunications nationally especially broadband and new services provision in remote areas (Outer Islands); and
- Increasing the capacity and reducing the cost of international bandwidth.

29. Proposed components are as follows:

##### **Component 1. Policy, Legal and Regulatory Support (US\$0.41 million)**

Assist the Ministry of Communications and Transport (MCT) to develop and implement ICT policy, new / amending legislation and reforms for the ICT sector, including strategies for outer islands and international connectivity.



**Component 2. Tuvalu Telecoms Corporation (TTC) Transformation (US\$0.6 million)**

Assist the MTC and the Ministry of Finance and Economic Development (MFED) in connection with the reform and strengthening of the sector which may involve restructuring of TTC. The incumbent will be reviewed and the sector reformed with a view to its being able to provide expanded services, a capability to support links to and services on the Outer Islands and ensuring sustainability and minimal Government support. The Project will provide advisory assistance to Government in identifying and implementing options for reforming the sector. This may include the introduction of an equity investor or other strategic partner for TTC, or re-scoping of TTC operations with new service level competitive providers with access to financial resources and technical skills for expanded services and capabilities and sustainable operations.

**Component 3. International Connectivity (US\$8.65 million)**

Support investment in an international and Outer Islands connectivity solution to be defined upon completion of Components 1 and 2. This could entail investment in an optical fibre submarine cable (to Fiji or to Wallis & Futuna) with satellite sub-distribution for the outer Islands, or a prepaid long-term satellite solution for the nation overall. The determination of approach is necessarily a task for the reformed TTC. While options are described further below, the definition and implementation of this Component is dependent on the adopted policy, available funds and decisions of the reformed services provider. This component will also support technical project preparation including of applicable safeguards documentation.

**Component 4. Project Management & Support (US\$0.34 million)**

This includes project management consultants, project audit and communications costs.

29. **Cofinancing.** Discussions with New Zealand’s Ministry of Foreign Affairs and Trade (MFAT), and the Asian Development Bank (ADB), indicates potential interest in cofinancing in particular for Component 3.

**SAFEGUARDS**

**A. Project location and salient physical characteristics relevant to the safeguard analysis (if known)**

Safeguards analysis is related to the potential infrastructure investments under Component 3. There are two main options: sub-marine cable and satellite receiver infrastructure. The Project location will be determined as part of the options analysis. For the submarine cable option the cable could be laid between Wallis atoll (Wallis and Futuna) and Funafuti atoll, or between Suva (Vitu Levu, Fiji) and Funafuti atoll. The cable would be laid across the ocean floor and across the outer and inner reef, before landing at the beach. The exact location for the cable route, beach manhole and cable landing station will be identified during the design stage for Component 3. Due to the narrow, and flexible, project footprint, significant or sensitive receptors such as mangroves, sea grasses, breeding areas, physical cultural resources and boat channels can be avoided during concept and detailed design. Government land / buildings on Funafuti would be prioritised for beach manhole and cable landing station sites.

The option for satellite connectivity would require the installation of satellite equipment within TCC compounds on Funafuti and outer islands where possible. TCC has a communications station on all islands except Niulakita.

**B. Borrower’s Institutional Capacity for Safeguard Policies**



The Recipient, the Ministry of Finance and Economic Development, has worked with the World Bank for a number of years on energy and transport infrastructure projects and is familiar with the requirements of the safeguards policies. The implementing agency, Ministry of Communications and Transport, has had recent experience with the implementation of safeguards policies on the Tuvalu Aviation Investment Project, through a Project Management Unit that is supported by specialist consultants. The implementing agency will need the support of specialist safeguards consultants to prepare and implement safeguards instruments.

C. Environmental and Social Safeguards Specialists on the Team

D. Policies that might apply

Safeguard Policies	Triggered?	Explanation (Optional)
Environmental Assessment OP/BP 4.01	Yes	Under Component 3, there will be infrastructure investments that may have impacts on land use or the coastal marine area. The type of investments will be either a submarine cable or satellite receiver stations. The proposed investment (cable or satellite receiver stations), and the nature and scale of impacts, will not be known at project appraisal, and therefore an ESMF will be prepared to guide safeguards screening and implementation. The Project is classified Category B as the impacts are likely to be minor and easily mitigated for either investment option.
Natural Habitats OP/BP 4.04	Yes	This policy has been triggered in case the selected infrastructure investments include activities that may disturb natural habitats in the open ocean, lagoon, reef or foreshore during installation. This is most likely if the ICT cable option is selected. The ESMF will provide methods for screening, assessing and avoiding significant disturbances or damage to natural habitats.
Forests OP/BP 4.36	No	If any foreshore works are required under Component 3, mangrove habitats will be avoided. Therefore there will be no disturbance to forest habitats, or the management of, or access to forests.
Pest Management OP 4.09	No	Not applicable
Physical Cultural Resources OP/BP 4.11	Yes	Under Component 3, infrastructure investments may require disturbances to land or to the foreshore and seabed. The ESMF will include a screening process for PCR, and PCR impacts should be avoidable. A chance find procedure will be used for any civil works



		activities.
Indigenous Peoples OP/BP 4.10	No	The assessment undertaken by OPCS and documented in the Environmental and Social Safeguard Instrument for the Pacific (ESSIP) found that there are no minority populations in Tuvalu that meet all four criteria in OP 4.10. Hence this policy is not triggered.
Involuntary Resettlement OP/BP 4.12	Yes	Under Component 3, infrastructure investments may require the occupation of land or foreshore / seabed. Where possible Government owned land will be used for the location of infrastructure. This policy has been triggered to cover the unlikely event that compulsory acquisition or involuntary resettlement is unavoidable. Because the location of infrastructure and land requirements will not be known at the time of appraisal, an RPF will be prepared.
Safety of Dams OP/BP 4.37	No	Not applicable
Projects on International Waterways OP/BP 7.50	No	Not applicable
Projects in Disputed Areas OP/BP 7.60	No	Not applicable.

**E. Safeguard Preparation Plan**

Tentative target date for preparing the Appraisal Stage PID/ISDS

Apr 03, 2017

Time frame for launching and completing the safeguard-related studies that may be needed. The specific studies and their timing should be specified in the Appraisal Stage PID/ISDS

The ESMF and RPF will be prepared, consulted and disclosed by March 2017.

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Ministry of Finance and Economic Development



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**APPROVAL**

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Country Director:	Michel Kerf	19-Jul-2017

**Note to Task Teams:** End of system generated content, document is editable from here.