PACIFIC COMMUNITY

THIRD PACIFIC REGIONAL ENERGY AND TRANSPORT MINISTERS' MEETING (Nuku'alofa, Tonga, 24–28 April 2017)

Theme: Affordable, reliable and sustainable energy and transport services for all

AGENDA ITEM T9 – Initiatives for Safety of Navigation in the Pacific Islands Region (Submitted by Papua New Guinea)

Purpose

1. The purpose of this paper is to seek endorsement by Transport Ministers of the *Regional Strategy* on Safety of Navigation in the Pacific (Regional Strategy) and solicit their active engagement in the implementation, monitoring and evaluation of all safety of navigation related projects and programmes within the framework of the Regional Strategy. It also asks Transport Ministers to agree to adopt a consistent approach regarding membership of applicable international and regional organisations and to signing or ratifying relevant instruments.

Background

- 2. In order to support sustainable economic development and protect the ocean and the marine environment of the Pacific Island Countries and Territories (PICTs), it is necessary that navigation and all other activities happening within the waters under the responsibility of PICTs are carried out safely. Safer navigation can be catered for through the effective implementation of policies and legislation that are consistent with relevant international instruments, the existence of a functional and compliant safety of navigation infrastructure, improved capacity to provide appropriate safety of navigation systems, and updated maritime safety information services that provide timely information to enable effective decision-making.
- 3. The *International Convention for the Safety of Life at Sea* (SOLAS) is the most important international treaty concerning safety at sea and currently has 159 contracting States, which flag about 99% of merchant ships around the world, based on gross tonnage. Several chapters of SOLAS apply to vessels engaged in international voyages. However, Chapter V of SOLAS, applies to all ships on all voyages (with some exceptions) and requires Contracting Governments to ensure safety of navigation by providing services such as navigational and meteorological warnings, search and rescue (SAR), hydrography, ship reporting and routeing systems, Vessel Traffic Services (VTS) and Aids to Navigation (AtoN).
- 4. At the regional level, the call by Pacific Forum Leaders for improved coordination and delivery of safe, secure and competitive regional transport services is articulated in the *Framework for Action on Transport Services* (FATS) that was endorsed in 2010. Theme 3 of FATS and its associated implementation plan focuses on maritime safety, including safety of navigation and the development of necessary infrastructure to support shipping services to small, remote communities.
- 5. The regional meeting of Transport Officials held in Suva, Fiji on 24-27 November 2015, acknowledged and endorsed the regional initiative on safety of navigation submitted by the Pacific Community (SPC) and the International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA). That aims to identify needs for safety of navigation systems and enhance governance and capacity building related to AtoN in PICTs.

Current status

- 6. The SPC Transport Programme has developed (in consultation with member States, development partners and international organisations), a Regional Strategy to improve Safety of Navigation in the Pacific (Annex 1), whose aim is to provide a regional framework to address, in a consistent manner, all areas of safety of navigation through a global and coordinated approach.
- 7. With a view to improve safety of navigation in the Pacific Islands region, the Regional Strategy proposes intervention in these five areas.
 - a) *Governance*: the delivery of safety of navigation services requires good governance in PICTs in terms of having adequate policy and legal frameworks and effective coordination of all public and private stakeholders. All initiatives related to Maritime Safety Information (MSI), hydrography, AtoN and SAR should include technical assistance to improve institutional capacity to effectively run these services.
 - b) *Navigation and meteorological services and warnings*: timely and accurate information about adverse weather conditions and matters that may constitute dangers to the safe navigation of vessels, enable mariners to make informed decisions in the course of planning and execution of their day-to-day activities. Provision of such information, collectively known as MSI, is a duty of contracting states under SOLAS. In this regard, the *Pacific Islands Meteorological Strategy* 2017-2021 has a key activity on marine weather that includes the implementation of Regulation 5 of chapter V of SOLAS Convention.
 - c) *Hydrographic services*: regulation 9 of chapter V of the SOLAS Convention requires contracting governments to collect and compile hydrographic data, to publish, disseminate and keep up to date all nautical information necessary for safe navigation. Regional Capacity Building (CB) programmes and projects are actively collaborating to assist PICTs achieve the timely collection and circulation of nautical information necessary to maintain existing charts and publications. The International Hydrographic Organization (IHO), the Primary Charting Authorities (PCA) and the *Pacific Regional Navigation Initiative* (PRNI) have principal roles in this area.
 - d) Aids to navigation (AtoN) and vessel traffic services (VTS): regulations 12 and 13 of chapter V of the SOLAS Convention set out the obligations of Coastal States to provide VTS and AtoN; as required by the volume of traffic and the degree of risks. To respond to these requirements there is a need to assess the current and future needs for AtoN and eventually VTS in PICTs, using risk assessment tools. This area is addressed through regional projects such as the maritime component of the *Regional Safety of Navigation Project*, the PRNI as well as technical assistance in some countries from SPC, the Asian Development Bank (ADB) and Australia.
 - e) *Search and Rescue*: according to the SOLAS Convention, maritime nations have a moral and legal obligation to provide SAR services that include measures for monitoring distress communication and coordination in their area of responsibility. The Pacific Search and Rescue Steering Committee (PACSAR SC) has developed its Strategic Plan 2016-2020 ensuring a coordinated approach to build capability in terms of governance, coordination, response and prevention. PACSAR SC is supported by SPC and the International Maritime Organization (IMO).

Issues

9. Although international and regional development partners play an important role in providing technical assistance to PICTs in these five areas for ensuring safety of navigation, there is still a need to improve coordination to avoid duplication and augment impact. The purpose of the Regional Strategy is to guide development partners to provide technical assistance through an

¹ PACSAR SC members are: Australia, Fiji, France (New Caledonia & French Polynesia), New Zealand and United States of America

integrated and coordinated approach. The Strategy aims to provide a platform for coordination, monitoring, communication and reporting on all safety of navigation related initiatives in the Pacific Islands region.

- 10. To maximise the impact and sustainability of all safety of navigation initiatives in the Pacific, it is essential that governments in PICTs actively engage in the implementation, monitoring and evaluation of the initiatives within the framework of the Regional Strategy.
- 11. Currently, a number of international and regional partners² provide capacity building and technical assistance to their members and set guidelines or recommendations for the delivery of safety of navigation services. Membership of international organisations implies duties, but it also provides opportunities for member states to improve their capacities to implement international and regional instruments. Currently, not all PICTs have become members of applicable international organisations (like IMO or IALA) or parties to relevant international conventions or regional agreements, so they do not benefit from assistance provided in relevant areas of safety of navigation. Accordingly, PICTs are respectfully requested to adopt a consistent approach at the national level on membership of international organisations and ratification of relevant international and regional instruments.

Recommendations

- 12. The meeting is invited to:
 - i. Endorse the Regional Strategy on Safety of Navigation in the Pacific;
 - ii. Agree for PICTs to actively engage in the implementation, monitoring and evaluation of all safety of navigation related projects and programmes within the framework of the Regional Strategy; and
 - iii. Agree for PICTs to adopt a consistent national approach on membership of international and regional organisations and to ratification or accession of international and regional instruments in relevant areas of safety of navigation.

(31 March 2017)

² The following partners are engaged in safety of navigation related initiatives: Australia and New Zealand; ADB, IALA, IHO and IMO; PACSAR SC and the Pacific Meteorology Partnership Desk (PacMetDesk); the Pacific Community (SPC) and the Secretariat of the Pacific Regional Environment Programme (SPREP); PCAs such as the United Kingdom Hydrographic Organisation (UKHO), the Land Information New Zealand (LINZ), the Australian Hydrographic Service (AHS); and the South West Pacific Hydrographic Commission (SWPHC).

Regional strategy on safety of navigation

Regional strategy to improve the safety of navigation in the Pacific

Pacific Community

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I. PURPOSE

The purpose of this *Regional strategy on safety of navigation* ('the Strategy') is to support Pacific Island countries and territories (PICTs) and guide development partners in an integrated and coordinated approach to improving the safety of navigation in the Pacific. The Strategy aims at providing a platform to coordinate the monitoring, communication and reporting on all initiatives related to safety of navigation. In addition, the Strategy establishes and sustains regional coordination mechanisms and strategic partnerships to achieve economies of scale and promote complementary activities of development partners active in the sector. Objectives and indicators are developed to support the implementation, monitoring and reporting on progress of the Strategy.

II. BACKGROUND, PROBLEM ANALYSIS AND NEEDS

The everyday lives of Pacific Island peoples are inextricably linked to the Pacific Ocean, the biggest feature on our planet. Spread over an area of thirty million square kilometres of the Pacific Ocean, and stretching from the Commonwealth of the Northern Mariana Islands in the north-west Pacific to Pitcairn Islands in the south east, are at least 7,500 islands, of which around 500 are inhabited. The exclusive economic zones (EEZs) of the PICTs total an estimated 28 million square kilometres, with 1,500 scattered islands comprising a mere 2% in land area within this vast expanse of blue. The Pacific Island region is characterised by an enormous diversity of physical geography, cultures, languages, social-political organisation, size and resource endowment. While Papua New Guinea has a land area of 460,000 square kilometres and over 7 million people, the rest of the PICTs together have 10 million people and 100,000 square kilometres of land, with jurisdiction over a sea area of 30 million square kilometres. PICTs have, therefore, responsibility for a globally significant ocean space that far exceeds their terrestrial footprint. The 22 PICTs¹ are members of various regional organisations and agencies and form a consistent group of small islands nations in the Pacific region. The fourteen Pacific Island countries (PICs) are all small island developing states (SIDS)² and four are classed as least developed countries (LDCs)³.

Working in this vast oceanic setting with relatively weak implementation capacity, mostly due to limited human resources, presents enormous challenges; the Pacific Island region is largely coastal and island nations' access to markets and services are primarily reliant on the maritime sector. This sector is crucial for national development and social cohesion in any modern society, but more so for the maritime nations of the Pacific region, which depend primarily on the sea for commerce, trade and mobility. According to the World Bank,⁴ in 2015 the total imports of goods and services in the Pacific region accounted for 67% of GDP compared to the world average of 30%. The sector is central to the lives of Pacific Islanders, serving as the backbone of domestic inter-island transport. It often provides the only means of access to and from smaller outer islands to meet the islanders' key socio-economic needs, such as education, healthcare and emergency services in response to catastrophic events (cyclones, droughts, etc.). The region is also heavily dependent on the maritime sector to provide and support the domestic, intra-regional and international transport of cargo and passengers, and to facilitate trade, fisheries and cruise tourism.

This places a huge burden on Pacific governments to ensure that the increasing traffic and volume of ships is managed in an efficient and safe manner in order to reduce its negative effects on countries' assets and the environment. At the same time, maritime traffic creates opportunities for the economic development of small island countries and remote communities that rely heavily on maritime transport. Ensuring the safety of maritime routes is, therefore, a

¹ Pacific Island countries and territories (PICTs) are: Cook Islands, Federated States of Micronesia, Fiji, Kiribati, Marshall Islands, Nauru, Niue, Palau, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu, Vanuatu, American Samoa (United States), French Polynesia (France), Guam (United States), New Caledonia (France), Commonwealth of the Northern Mariana Islands (United States), Pitcairn Islands (United Kingdom), Tokelau (New Zealand) and Wallis and Futuna (France) – Timor Leste is becoming member of SPC and is considered by various development partners as part of PICTs.

² Pacific Island countries (PICs) are: Cook Islands, Federated States of Micronesia, Fiji, Kiribati, Marshall Islands, Nauru, Niue, Palau, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu and Vanuatu. Federated States of Micronesia, Nauru and Niue are not IMO members.

³ Kiribati, Solomon Islands, Tuvalu and Vanuatu are categorised as least developed countries (LDCs)

⁴ http://databank.worldbank.org/data/reports.aspx?Code=NY.GDP.MKTP.CD&id=1ff4a498&report_name=Popular-Indicators&populartype=series&ispopular=y

major component of a country's strategy to support economic development by fostering safe and accessible maritime transport services and the development of new opportunities for trade and tourism. In this context, it is essential to address the need to improve the safety of navigation on current and future maritime routes and to develop the capacity of maritime administrations in the region to do so.

In the Pacific region, domestic shipping mainly involves the use of small or 'non-Convention'⁵ vessels that service the principal government and commercial centres and other islands within a country. In some countries, however, Convention-sized vessels service domestic routes and even neighbouring countries and territories.⁶ Ports in the region host a wide variety of ships flagged in other countries.⁷ Small ports are usually frequented by 100 to 150-metre container ships, small tankers and some of them by 30 to 50-metre foreign fishing vessels and their associated 'mother' ships. Bigger ports can host large bulk carriers and tankers. Some of the main ports and outer islands are also visited by cruise ships that can carry 2000 passengers.

1. Background

The outcome document entitled *The future we want* from the United Nations Conference on Sustainable Development, Rio+20, stated:

.... transportation and mobility are central to sustainable development. [...] Sustainable transport achieves better integration of the economy while respecting the environment. [It highlights] the importance of the efficient movement of people and goods, and access to environmentally sound, safe and affordable transportation as a means to improve social equity, health, resilience of cities, urban-rural linkages and productivity of rural areas (paragraph 132).

Following the Rio+20 Conference, the International Maritime Organization (IMO) developed the concept of the Sustainable Maritime Transportation System (SMTS) which "aims to raise the profile of maritime transport and highlight why maritime transport is a fundamental element in achieving a more sustainable world" and proposes various 'imperatives' or goals that must be met to implement an SMTS. In particular, the IMO confirmed that shipping routes need to be supported by better and clearer information systems in order to achieve the required efficiency while enhancing safety. These information systems include meteorological, oceanographic and hydrographic services; aids to navigation services, such as Vessel Traffic Services (VTS) as described in IMO Resolution A.857(20) Guidelines for Vessel Traffic Services; the Global Maritime Distress and Safety System (GMDSS); and satellite communication technology. Chapter V (Safety of Navigation) of the International Convention for the Safety of Life at Sea (SOLAS), sets out the obligations of contracting governments to provide a range of safety of navigation services.

At the regional level, the Pacific Forum leaders' call for improved coordination and delivery of safe, secure and competitive regional transport services has been clearly mandated in the *Framework for action on transport services* (FATS) which was endorsed in 2010. Theme 3 of the framework – Transport safety and security – and its associated implementation plan have a particular focus on maritime safety, including the safety of navigation.

2. Problem analysis

The United Nations Convention on the Law of the Sea (UNCLOS) establishes maritime zones where a state has rights and duties to manage and control navigation in the waters under its jurisdiction. The SOLAS Convention is broadly

⁵ 'Convention' refers to the International Convention for the Safety of Life at Sea (SOLAS). Among other things, SOLAS specifies the international requirements for the operation of vessels of a gross tonnage of 500 or more engaged in international voyages.

⁶ SPC database contains **2345 domestic vessels registered in 12 countries** (Cook Islands, Federated State of Micronesia, French Polynesia, Kiribati, Marshall Islands, New Caledonia, Palau, Papua New Guinea, Samoa, Solomon Islands, Tonga and Vanuatu); 1176 vessels have a length of 15 m or above or a gross tonnage of 50 or above; 950 vessels have a length of less than 15 m or 50 in gross tonnage; 219 vessels are recorded with no information on length and gross tonnage. 620 vessels are declared as carrying passengers, including 18 vessels of 500-gross tonnage or more carrying more than 12 passengers (five vessels carry more than 400 passengers); 247 vessels are declared as carrying passengers but there is no information on the number of passengers.

⁷ The number of calls of vessels engaged on international voyages in the port of 13 PICTs is approximatively 7000 per year (Source: SPC 2014); around 50% calling in Papua New Guinea ports, 35% calling in Fiji, French Polynesia and New Caledonia, 15% in the rest of PICTs (Nauru, Marshall Islands, Samoa, Tuvalu, Kiribati, Tonga, Vanuatu, Solomon Islands, Wallis and Futuna). The smallest ports are visited by less than ten distinct vessels each year.

considered the most important of all international treaties concerning the safety of life at sea and currently has 159 contracting states, which flag about 99% of merchant ships around the world in terms of gross tonnage. Several chapters of the SOLAS Convention apply to vessels engaged in international voyages, while Chapter V applies to all ships on all voyages (with some exceptions) and requires contracting governments to ensure safety of navigation by ensuring that services are in place to provide navigational and meteorological warnings, search and rescue, hydrography, ship reporting and routeing systems, vessel traffic services, and aids to navigation (AtoN). The obligations placed on contracting governments under SOLAS Chapter V, both as flag states and as coastal states, are included in the IMO Instruments Implementation Code (III Code). This code constitutes the legal framework for the implementation of the mandatory IMO Member State Audit Scheme (IMSAS), which became mandatory from 1 January 2016.

The level of implementation of safety of navigation requirements varies in the Pacific region. A number of PICTs have ratified the SOLAS Convention and have given effect to its requirements through legislative provisions and services, but they often lack the resources and expertise to effectively implement those requirements. This is particularly the case for the provision of hydrographic and AtoN services, for which many PICTs are unable to satisfactorily implement the recommendations and guidelines published by the International Hydrographic Organization (IHO) and the International Association of Marine Aids to Navigation and Lighthouses (IALA). The main challenges to implementing those provisions are a lack of government priority and awareness, and hence a lack of commitment and financial resources and infrastructure to conduct appropriate risk assessments and put in place adequate safety systems and services. Similarly, most PICTs do not have the capacity and the infrastructure to collect, analyse and disseminate the maritime safety and meteorological information of concern to people who use the sea for their activities. Search and rescue (SAR) services that respond to distress at sea are also lacking. This is most often due to a lack of capacity to conduct SAR operations in waters under PICT responsibility and a lack of effective national coordination and regional collaboration.

Various international and regional organisations and development partners play an important role in moving towards improved safety of navigation services and providing technical assistance to PICTs. Although efforts are being made to share information on current initiatives, there is still a need to: (i) improve communication and coordination to avoid duplication; (ii) use complementary areas of expertise; (iii) replicate sustainable 'best practices'; (iv) improve cost-effectiveness; (v) increase economies of scale; and (vi) improve the impact of technical assistance through the pursuit of common goals and objectives.

While safety of navigation is being increasingly recognised as a key development challenge in PICTs, the integration of safety of navigation improvement in sectoral policies and measures is still widely lacking.

III. VISION

The vision is a safe environment for navigation and the conduct of all activities within waters under the responsibility of PICTs, thereby supporting sustainable economic development and the protection of the ocean and the marine environment.

Safer navigation is ensured through the effective implementation of policies and legislation in accordance with the relevant international instruments, the existence of a functional and compliant safety of navigation infrastructure, improved capacity to provide appropriate safety of navigation systems, and updated maritime safety information services that provide timely information to enable effective decision making.

Safety of navigation is addressed through a global and coordinated approach to consistently bring technical and infrastructure improvement solutions to the main elements that support improved safety of navigation in the Pacific region. This approach is supported by Pacific governments, and relevant intergovernmental, international and regional organisations and development partners in order to ensure positive outcomes and cost-effective solutions at the regional level.

IV. IMPLEMENTATION

The Strategy covers the following areas of safety of navigation: (i) governance; (ii) navigation and meteorological services and warnings; (iii) hydrographic services; (iv) aids to navigation and vessel traffic services; and (v) search and rescue services. The Strategy promotes a consistent approach to safety of navigation in the Pacific, so the five areas are interlinked and target the overall objective, results and indicators, as stated in Section V of this Strategy. Although the delivery of initiatives places the responsibility on the implementing agencies, the coordination and reporting function for the Strategy, which includes aggregating information and capturing progress through monitoring, is designated to the Pacific Community (SPC). SPC will report progress on the Strategy implementation to PICTs and development partners through the agreed performance monitoring plan.

1. Safety of navigation governance

The lack of political will, frequent staff turnover, limited resources and expertise, and inadequate legal frameworks in most PICTs are common issues that prevent the effective delivery of safety of navigation services. The delivery of such services requires a good governance framework from Pacific governments, supported by an adequate policy and legal framework and effective coordination of all public and private stakeholders. Good oversight of safety of navigation in waters under the responsibility of a Pacific nation requires improved accountability and transparency of institutions, processes, rules and actions; a clarification of roles and relationships between all stakeholders (including the private sector and communities); enhanced capacity; and the allocation of appropriate resources. Good governance will eventually allow PICTs to properly fulfil their obligations as contracting governments under international instruments.

Improving governance to deliver effective safety of navigation services in accordance with international instruments will require: (i) a specific high-level objective in the national maritime transport policy; (ii) the development and enactment of a legislative and regulatory framework, taking into account the international instruments; (iii) the drafting of quality management systems and procedures in maritime administrations; and (iv) the implementation of training plans with the support of intergovernmental, international and regional development partners.

2. Navigation and meteorological services and warnings

Regulations 4 and 5 of Chapter V of the SOLAS Convention require contracting governments to ensure that appropriate warnings about dangers to navigation are issued and that weather forecasts, warnings and other meteorological information are promulgated to mariners. This information, although specified in separate regulations (V/4 and 5 respectively), is known collectively as maritime safety information (MSI) and is assimilated and promulgated via the Global Maritime Distress and Safety System (GMDSS). Most PICTs, however, do not have the capability to fulfil even the most basic provisions under these regulations, primarily due to inadequate commitment to the resourcing and reporting of MSI. Furthermore, the lack of appropriate radio broadcast facilities at the national level and dysfunctional contact with relevant NAVAREA/METAREA coordinators are preventing the promulgation of timely and relevant safety information, essential for the safe operation of vessels.

Obvious and important activities to achieve improvements to MSI services in PICTs are: (i) to conduct technical assessments to identify associated gaps in capability and services, from which appropriate plans can be developed in partnership with other safety of navigation components; and (ii) to provide technical support to PICTs to establish an MSI regional coordinator.

In this area, the Pacific Islands Meteorological Strategy 2012–2021 has a key activity on marine weather, which includes implementation of Regulation 5 of Chapter V of the SOLAS Convention and the provision of marine weather forecasts by national meteorological services. This is coordinated by the Pacific Meteorological Council through the Secretariat of the Pacific Regional Environment Programme/Pacific Meteorological Desk Partnership.

3. Hydrographic services

Regulation 9 of Chapter V of the SOLAS Convention requires contracting governments to ensure the collection and compilation of hydrographic data and the publication, dissemination and keeping up to date of all nautical information necessary for safe navigation. Technical assessments of the hydrographic capability of PICTs completed in recent years confirm that this obligation is not being fulfilled, primarily due to the state of existing nautical charts which, in many cases, are based on outdated and extremely sparse data, and the relatively high cost of the specialised hydrographic surveys required to update them.

Recognising that the development of a hydrographic survey capability is beyond the reach of most PICTs, and that the production of charts and nautical publications can be, and in some cases has been, achieved through appropriate bilateral arrangements with established chart-producing states, the International Hydrographic Organization (IHO) capacity-building activities in the Pacific are focused on PICTs achieving Phase 1 of the IHO Capacity Building (CB) Maturity Model – the timely collection and circulation of nautical information necessary to maintain existing charts and publications. Other regional capacity-building programmes have been adopted and are actively collaborating to assist PICTs achieve this goal, as well as increasing awareness of the importance and value of hydrography, identifying and developing appropriate governance models and strengthening links with charting authorities. This work is, however, being carried out largely in isolation, and is not linked to other components of safety of navigation improvement.

In addition to the establishment of effective arrangements to provide the required hydrographic services, PICTs require assistance in developing mitigation measures based on appropriate risk assessment methodology. Development partner support will be required in the implementation of such measures, which will involve significant hydrographic survey and subsequent chart modernisation programmes.

The establishment of national hydrographic coordination committees is another key activity essential to identifying risks and priorities and strengthening relationships, both among stakeholders and with regional METAREA and NAVAREA coordinators, thereby achieving greater collaboration among national bodies with maritime safety responsibilities.

4. Aids to navigation and vessel traffic services

Regulations 12 and 13 of Chapter V of the SOLAS Convention set out the obligations placed on contracting governments to provide vessel traffic services (VTS) and aids to navigation (AtoN), as the volume of traffic justifies and the degree of risk requires. This is in accordance with the international recommendations and guidelines published by the International Association of Marine Aids to Navigation and Lighthouses (IALA). Whilst PICTs have made efforts to procure and maintain AtoN, which vary from country to country in the Pacific region, their efforts are impeded by frequent natural events such as cyclones that damage AtoN or result in their dislodgement. Furthermore, due to fiscal constraints, insufficient attention is paid to the maintenance of AtoN generally. These issues need to be addressed systemically to improve the sustainability of investments in AtoN. The recruitment, selection and training of suitable personnel are pre-requisites to the provision of effective AtoN services and VTS, if required. In a number of cases, however, demographic factors make that requirement difficult to achieve in practice, especially in countries that have insufficient resources or expertise to provide such training.

To respond to these issues, there is a need to identify the current and future needs for AtoN and eventually VTS in the region, using risk assessment tools and basing the assessment on the volume of traffic and the probability and consequences of marine casualties. It is also advantageous to assess the economic impact of planned investments to promote the benefits of investing in AtoN and VTS for the facilitation of trade and tourism. Noting that VTS is a considerable investment, guidance for establishing a VTS is provided in IALA Recommendation Chapter V-119 on the implementation of vessel traffic services.

PICTs do not have the capacity to provide training for AtoN managers and technicians, given the level of technical knowledge required to manage AtoN and VTS services and operate and maintain AtoN as indicated in IALA manuals, recommendations and guidelines. For this reason, most PICTs are on the IALA World-Wide Academy (WWA) list of target states, which means that they have yet to demonstrate their ability to meet their SOLAS Chapter V obligation that AtoN and VTS services are provided in a manner consistent with international standards. This requires countries and development partners to identify and offer places to potential AtoN managers and technicians from PICTs to training organised by IALA and/or an approved training organisation (ATO) under the terms of IALA Guideline 1100.

5. Search and rescue services

There are moral and legal obligations under Regulation 7 of Chapter V of the SOLAS Convention for maritime nations to provide search and rescue (SAR) services to respond to distress calls when initiated in their waters of responsibility. The challenge in the Pacific region is obviously related to the vast size of the ocean, coupled with significant ship and pleasure-craft activities, the advent of ever-larger cruise vessels, and commercial aircraft transiting the associated air space. The increase in tourism activity and travel is a welcome boost to the economies of PICTs, but they must be aware of the risks should an incident occur that will necessitate a mass rescue operation (MRO), which, by definition, is an event that exceeds a SAR service's resources.

According to the International Convention on Maritime Search and Rescue (SAR Convention) there are eight countries that are normally associated with having rescue coordinating centres (RCCs) and are allocated a search and rescue region (SRR) in the Pacific region. Those countries are: Australia, Fiji, French Polynesia, Nauru, New Caledonia, New Zealand, Papua New Guinea, Solomon Islands and United States of America. However, while Fiji and Solomon Islands are allocated a search and rescue region, they have not acceded to the SAR Convention. Similarly, Nauru is not a party to the Convention and, in addition, Nauru does not have adequate SAR resources and capacity to commit itself to fully operate an RCC.

While the other PICTs are located in an SRR under the responsibility of one of the eight countries, they still have the responsibility to provide SAR services in their waters and coordinate and communicate with neighboring countries. This has been acknowledged by the *Maritime search and rescue technical arrangement for cooperation among Pacific Island countries and territories that support international lifesaving in the Pacific region* (SAR TAfC), which so far has been signed by Australia, New Caledonia, New Zealand, Vanuatu and USA. Moreover the Pacific SAR Steering Committee (PACSAR SC) has been formed with membership from Australia, New Caledonia, New Zealand and USA and the support of SPC to improve regional SAR coordination and provide capacity-building activities in the Pacific region.

SAR initiatives as agreed by the PACSAR SC and SPC are framed around the motto 'Saving lives together in the Pacific', which focuses on four key capability areas: (i) responsible SAR governance; (ii) effective SAR coordination; (iii) efficient operational response; and (iv) SAR prevention. The PACSAR SC strategic plan outlines the related activities and respective measurements. The activities are based on working to provide technical assistance at the national level while collaborating to improve the collective regional SAR capability. The improvement of regional SAR coordination requires the cooperative efforts of the PACSAR SC, the delivery of capacity-building activities, and regional meetings to improve harmonisation of SAR services and facilitate SAR operations.

6. Timeframe

The Strategy addresses the period from 2017 to 2021. A progress report on the status of implementing the Strategy will be submitted to PICTs officials in 2020. An evaluation will be conducted at the end of the period to review and renew the Strategy for the following five years (2021–2026).

7. Partners

Development partners

As the specialised agencies setting the standards for safety of navigation, IMO, IHO and IALA are the main partners supporting the implementation of the Strategy in the Pacific region. The three organisations have agreed to work collaboratively and to communicate on technical cooperation and capacity-building activities to improve the abilities of the contracting governments to meet their safety of navigation obligations as set out in Chapter V of the SOLAS Convention.

Several other agencies play an important role in providing standards, recommendations and guidelines, as well as the technical expertise for the delivery of compliant and efficient safety of navigation services. These agencies include the World Meteorological Organization (WMO), the joint WMO/UNESCO's Intergovernmental Oceanographic Commission (IOC) Technical Commission for Oceanography and Marine Meteorology (JCOMM), and the International Mobile Satellite Organization (IMSO).

Strategic partners include organisations and countries currently supporting and implementing initiatives to improve safety of navigation services in the Pacific at the national and regional levels and those that are primary charting authorities or NAVAREA/METAREA coordinators. Some of those organisations are listed as donors and/or partners in Annex II to this Strategy.

Partnership desk

As coordinating agency, a partnership desk is created within SPC to: i) collect information on all safety of navigation initiatives in the Pacific region; (ii) improve awareness of PICTs' level of implementation through information sharing; (iii) monitor and report on implementation of the Strategy; and (iv) seek endorsement of PICTs and partners on progress and achievements.

V. OBJECTIVES, RESULTS and INDICATORS

Goal

To ensure that navigation in the waters under the jurisdiction of PICTs is safe for any person or vessel at sea, that the environment is protected and that international and domestic vessel traffic is facilitated to support the sustainable development of PICTs.

Specific objective

To support PICTs to improve the provision of their safety of navigation (SoN) services in accordance with their international obligations

Indicator

Number of PICTs providing adequate SoN services in accordance with international requirements, guidelines and recommendations

Timeframe

5 years: 2017-2021

Results	Performance measure				
Result 1					
PICT provide effective services that fulfil their safety of navigation obligations	Evidence of PICTs with functional and well-maintained SoN infrastructure				
	Evidence of PICTs with effective SoN services being provided				
	• Evidence of effective capacity building through SoN related initiatives				

Result 2 PICT safety of navigation projects and initiatives are designed in line with the Strategy, addressing its five components	 Number of regional and/or country projects and initiatives addressing the five components of the Strategy
Result 3 Coordination among PICTs and development partners for the implementation of safety of navigation projects and initiatives is improved	 Evidence of information sharing and coordinated projects being planned to address country needs in line with the Strategy Number of regional coordination meetings held
Result 4: Greater visibility and awareness of PICTs' status in achieving their safety of navigation obligations	Number of updated reports on PICT performance and progress against the five components as noted in the Strategy

VI. MONITORING AND EVALUATION

The monitoring and evaluation (M&E) of the Strategy will be aligned to SPC's Planning, Evaluation, Accountability, Reflection and Learning (PEARL) policy which focuses on providing good quality performance information to answer key questions to support planning, improvement and decision-making.

The M&E process will be informed by a Strategy baseline with information SPC has to date and the Performance Monitoring Plan (PMP) in Annex I, which provide means of verification and monitoring tools against the overall objective, results and indicators.

A monitoring report will be produced annually to communicate the progress being made, based on the agreed indicators. At the end of the Strategy timeframe, a review and evaluation report will be produced to assess progress against the Strategy indicators and agree on the new baseline indicators for the PMP. The full evaluation will also measure the outputs achieved by PICTs towards the overall goal and specific objective.

Overall objective and results	Performance measure Means of verification (MOV)		Schedule for collection	Responsibility			
Goal To ensure that navigation in the waters under the jurisdiction of PICTs is safe for any person or vessel at sea, that the environment is protected, and that international and domestic vessel traffic is facilitat to support the sustainable development of PICTs							
<i>Specific objective</i> To support PICTs to improve the provision of their safety of navigation services (SoN) in accordance with their international obligations	• Number of PICTs providing adequate SoN services in accordance with international requirements, guidelines and recommendations						
Result 1 PICTs provide effective services that fulfil their SoN obligations	 Evidence of PICTs with functional and well maintained SoN infrastructure Evidence of PICTs with effective SoN services being provided Evidence of effective capacity building through SoN related initiatives 	 PICT SoN audit/review reports Project training reports 	Annually	IMO/IHO/IALA/SPC/SPREP Project implementers			
Result 2 PICT SoN projects and initiatives are designed in line with the Strategy addressing its five components	• Number of regional and/or country projects and initiatives addressing the five components of the Strategy	 SoN project design documents SoN project evaluation documents 	Annually	Development partners, regional agencies and PICTs			
Result 3 Coordination among PICTs and development partners for the implementation of SoN projects and initiatives is improved	 Evidence of information sharing and coordinated projects being planned to address country needs in line with the Strategy Number of regional coordination meetings held 	• Strategy review/evaluation report	Two years	SPC			
Result 4 Greater visibility and awareness of PICT status in achieving their SoN obligations	• Number of updated reports on PICT performance and progress against the five components as noted in the Strategy	• Annual state of SoN in the Pacific reports produced by the partnership desk	Annually	SPC .			

ANNEX I – PERFORMANCE MONITORING PLAN

ANNEX II – REGIONAL FRAMEWORK – PROGRAMMES/PROJECTS CURRENTLY IMPLEMENTED

Title	Overall objective	Specific objectives/results	Donor	Implementer	Partner	Timeframe	Targeted countries
Framework for Action on Transport Services	Enhanced economic development for Pacific communities through effective responses to transport challenges	 Theme 1: Leadership, governance, coordination and partnerships Theme 2: Capacity development, policy, planning and regulatory frameworks Theme 3: Transport safety and security Theme 4: Improved access Theme 5: Environmental impact, technology and energy Theme 6: Transport data, information and knowledge Theme 7: Sustainability, monitoring and evaluation 	t			2011–2020	All PICTs
Pacific Islands Meteorological Strategy 2012– 2021	National meteorological services of PICTs are able to provide relevant weather and climate services to their people to make informed decisions for their safety, socio-economic well-being, prosperity and sustainable livelihoods	 Pacific Key Outcome 2: Marine weather services in the Pacific region are improved. (Eleven national priority actions and eight regional priority actions) Pacific Key Outcome 4: Multi-hazard early warning systems (MHEWS) for tropical cyclones, storm surges, waves and tsunami in the Pacific region are implemented and improved. Pacific Key Outcome 10: Regional and national meteorological services are more capable and effective. Pacific Key Outcome 13: Enhanced strategic partnerships and collaboration with UN, regional and national organisations and agencies. 		Pacific Meteorologic al Council, with the Pacific meteorologic al desk partnership as the secretariat	SPREP WMO	2012–2021	All PICTS
Pacific Search and Rescue Steering Committee Strategic Plan 2017–2021	By 2020 the SAR capability of each PICT in the Pacific region, and of the region as a collective, has measurably improved, in line with international standards, and success measures	 key capability area 1: Responsible SAR Governance Key capability area: Effective SAR Coordination Key capability area: Efficient Operational Response Key capability area: SAR Prevention 		PACSAR SC	ΙΜΟ	2017–2021	All PICTs

Title	Overall objective	Specific objectives/results	Donor	Implementer	Partner	Timeframe	Targeted countries
Maritime and Waterways Safety Project	Safer and enhanced access to socio-economic opportunities for communities in Papua New Guinea and regional and international stakeholders are achieved.	 Output 1: Replaced, installed and maintained navigational aids Output 2: Improved safety information infrastructure Output 3: Improved maritime safety practice of communities Output 4: Efficient project management and capacity development 	ADB	National Maritime Safety Authority (NMSA) of Papua New Guinea		2012–2018	Papua New Guinea
Pacific Regional Navigation Initiative	Contribute to safe, reliable and affordable transport services in the Pacific that connect people to markets and services.	 Long term: Produce Pacific maritime/nautical charts that support economic development through the transport of people and goods. Achieve a safer Pacific maritime environment due to strengthened navigation that supports the well-being of all mariners. Medium term: PICTs provide accurate and timely information to enable nautical chart updating. PICTs have hydrographic institutional capacity that contributes to maritime health and safety issues. Short term: All relevant data are available to improve nautical charts. Areas of maritime navigational risk identified and mitigation measure priorities actioned. All PICTs are aware of maritime transport safety and hydrographic compliance obligations. 	NZ MFAT	LINZ/SPC	IALA	2015–2018	LINZ - Cook Islands, Niue, Samoa, Tokelau, Tonga SPC – Kiribati, Tuvalu, Vanuatu
Regional Safety of Navigation Project	Support PICTs' economic development, shipping and trade through safe maritime routes managed in accordance with international instruments and best practices.	 Result 1: Identified needs for safety of navigation systems Result 2: Improved PICTs' systems and capacity to establish, operate and maintain AtoN.⁸ 	IFAN	SPC	IALA	2016–2021	Cook Islands, Kiribati, Federated States of Micronesia, Marshall Islands, Nauru, Niue, Palau, Samoa, Solomon Islands, Tokelau, Tonga, Tuvalu, Vanuatu

⁸ One of the specific objectives is to accredit SPC as an accredited training organisation to deliver IALA AtoN model courses at its regional office in Fiji.

Title	Overall objective	Specific objectives/results	Donor	Implementer	Partner	Timeframe	Targeted countries
SPC Tropical Cyclone	Capacity in marine safety is	 Areas of maritime navigational risk identified 	Kreditanstalt für	SPC		2016–2018	Vanuatu
Pam Recovery Project –	improved.	and mitigation measure priorities actioned.	Wiederaufbau (KfW)				
Maritime and AtoN		 Maritime safety information promulgated 					
component		through relevant NAVAREA coordinator.					
		 Training conducted to support maritime 					
		transport safety and hydrographic compliance					
		obligations.					

ANNEX III – THEORY OF CHANGE

