SETTING PRIORITIES FOR ACCESSIBLE COMMUNICATIONS@SEA SOLUTIONS FOR SMALL-SCALE FISHERS

under the ITU/CTU/TATT Smart Seas Toolkit for Disaster Resilience ("Smart Seas") Project

WORKSHOP AND AGENDA REPORT OVERVIEW

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Overview

Fishing is one of the world's most dangerous jobs. Small-scale fishers (SSF), who comprise over 90% of the world's capture fisheries fleet and ply their trade in small, undecked crafts, are highly vulnerable to disasters while at sea which include, inter alia, piracy, adverse weather, and disasters resulting from climate change. Recognizing that information and communications technologies (ICTs) may be beneficial to all four phases of the disaster management cycle, and that gaps to accessible communications at sea solutions exist for SSF, the Smart Seas Project sets out to co-develop, with an international community, an *Agenda for Accessible Communications at Sea Solutions for SSF*, thereinafter referred to as the "*Agenda Report*".

The Agenda Report outlines multi-sectoral, multi-stakeholder priorities to bridge gaps to accessible communications at sea for SSF, considering accessible communications to be a multi-dimensional problem which required multi-dimensional solutions. The report will be drafted over the period Jan - Mar 2024, concluding with an in-person Setting Priorities for Accessible Communications at Sea Solutions for SSF Workshop thereinafter referred to as "*Priorities Workshop*" in Trinidad and Tobago, to review, and finalize the Report, for onward publishing to the international community.

This document provides an overview of the Agenda Report as well as its corresponding Priorities Workshop, identifying the scope of work and proposed structure of the Agenda Report.

Background

The Smart Seas Project

The Smart Seas Toolkit (SST) for Disaster Resilience ("*Smart Seas*") Project[1] is a joint initiative of the International Telecommunication Union (ITU), Caribbean Telecommunications Union (CTU) and the Telecommunications Authority of Trinidad and Tobago (TATT), supported by the Government of the Republic of Trinidad and Tobago. It sets out to increase the resilience and ultimately preserve the lives of Caribbean SSF through ICTs, with emphasis on the enabling environment. Its tri-level focus covers:

1. *Geographic area*: Trinidad and Tobago's Maritime Rescue Co-ordination Centre (MRCC), which also covers Barbados, Grenada as well as St. Vincent and the Grenadines
2. *Problem space*: maritime communications
3. *Beneficiary sector*: fisheries, with emphasis on SSF

The Project's activities and status are as follows:

Activity	Status
1. Conducting a *Gap Analysis of the Maritime Communications Enabling Environment*, from which gap-filling recommendations were produced following stakeholder consultations	In Progress
2. Developing an online toolkit (*Smart Seas Toolkit*), to strengthen the maritime communications enabling environment	Complete
3. Virtually *training* relevant agencies within the Project's beneficiary countries on the Toolkit	Complete
4. Co-developing, with relevant agents and agencies drawn from the regional and international communities, an action *Agenda for Accessible Communications @ Sea Solutions for Small-scale Fishers (Agenda Report)*	In Progress

An Agenda for Accessible Comms@Sea for SSF

Recognizing that there may be a number of barriers to accessible communications at sea (comms@sea) solutions which exist for SSF, the Smart Seas' *Setting Priorities for Accessible Comms@Sea Solutions for SSF* activity sets out to co-develop, with an international, multi-stakeholder community, a tiered list of priorities to enable accessible comms@sea for SSF, thereby reducing the risks associated with gaps in access to comms as well as necessary lifesaving and livelihood supporting data. These priorities will be captured over the period Jan – Mar 2024 through synchronous as well as asynchronous engagement with contributors from the relevant stakeholders, leading up to a hybrid workshop, "*Setting Priorities for Accessible Comms@Sea Solutions for SSF*", to be held in Trinidad and Tobago on 11-12 Mar 2024. The output of this Workshop as in action agenda titled *An Agenda for Accessible Comms@Sea Solutions for SSF*, which will be published to the international community following the Workshop.

Aim and Objectives

The *Agenda for Accessible Comms@Sea Solutions for SSF* activity sets out to assemble a loose, global community to develop a tiered list of priorities across multiple stakeholder groups, to enable accessible comms@sea for SSF. Its specific objectives are to:

1. Consult with multi-sectoral stakeholders on the relevant issues, interests & possible solutions to increase the accessibility of comms@sea for SSF
2. Assess the state of accessible comms@sea and data for SSF
3. Co-author & publish an international Agenda Report, following a 2-day hybrid workshop (Trinidad; 11-12 Mar 2024).

Contributing Stakeholder Groups

- Research institutions
- Standards bodies
- Manufacturers
- Service providers
- Fisheries authorities
- Policy makers
- Spectrum management agencies (SMAs)
- Maritime administrations (MARADs)
- MRCCs & coast stations
- Fisheries organizations (orgs)

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[1] For more information on the Smart Seas Project, visit the Smart Seas Project Page

- Meteorological (MET) services
- Entrepreneurs
- Disaster management agencies (DMAs)
- Other relevant agents & agencies

Report References

The Agenda Report will reference areas of interest of agencies within the telecommunications, fisheries and maritime sectors, including but not limited to:

1. United Nations (UN) agendas, goals, resolutions and action plans
2. Regional priorities
3. Research agendas
4. Digital transformation and inclusion strategies

Furthermore, it will consider both the demand-side matters, such as the technical and business requirements for comms@sea solutions for SSF, as well as supply-side matters, such as existing data and comms@sea solutions, standards, policies and regulations as well as capacity building opportunities.

Scope of Work

Recognizing that digital accessibility and inclusion are multi-dimensional in nature, the Agenda Report will address the following dimensions of focus for each priority identified:

1. Devices
2. Services
3. Capacity
4. Awareness & Adoption
5. Policy & Regulatory Environment

These dimensions draw on existing evaluations of accessible, affordable communications, from agencies such as the ITU[2], Alliance for Affordable Internet (A4AI)[3] and Broadband Commission on Sustainable Development[4] among others. As such, the gaps between what currently exists (the supply side) and what is required for accessible comms@sea (the demand side) are represented in Figure 1.
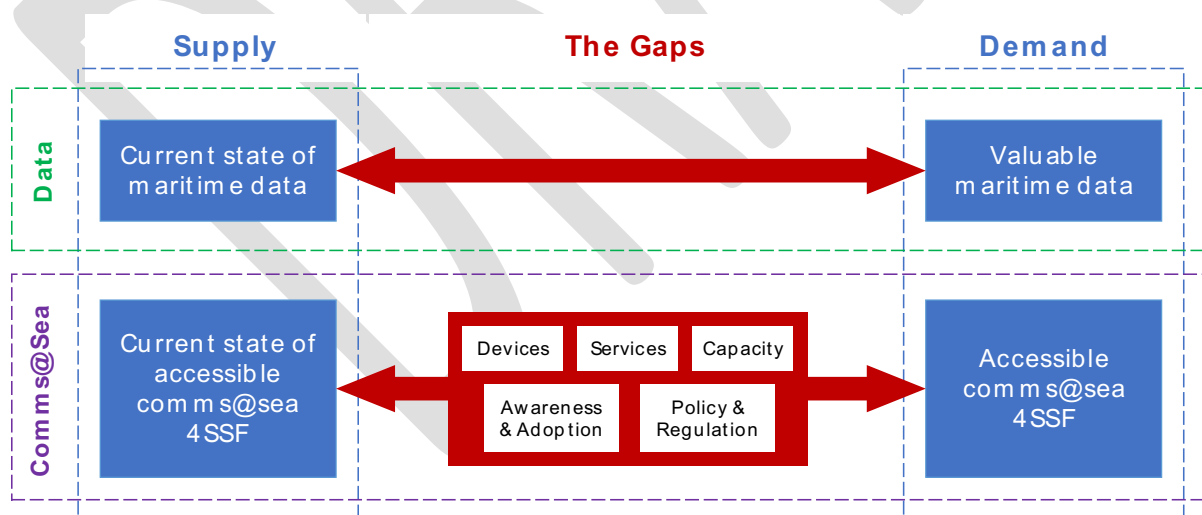
Figure 1 Supply, Demand and the Gaps between for Data and Comms@Sea for SSF

Report Outline

[2] ITU. 2020. Manual for measuring ICT access and use by households and individuals 2020 edition. Available at https://www.itu.int/en/ITU-D/Statistics/Documents/publications/manual/ITUManualHouseholds2020_E.pdf
[3] Alliance for Affordable Internet (A4AI). 2021. Affordability Drivers Index (ADI). Available at https://a4ai.org/research/affordability-drivers-index/
[4] Broadband Commission on Sustainable Development. Make Broadband Affordable. Available at: https://www.broadbandcommission.org/advocacy-targets/2-affordability/

Based on the planned Report outputs captured in the previous section, the following structure is proposed, and is numbered to keep track of all proposed sections and hierarchy. Inputs and feedback from participating agencies are critical towards the completion of the Agenda Report.

A summary of the proposed sections, nominal length and contents of the Agenda Report is provided in Table 1, and a full breakdown of the Agenda Report's sections vis-à-vis the proposed contributing agencies are provided in **Appendix A**: Mapping of Report Sections by Agents.

Table 1 Priorities Report Outline

Section	Summary of Contents	Nominal Length
1. Introduction	Definition of small-scale fishers, safety at sea and setting the stage for a data-driven maritime communications ecosystem and fisheries value chain	4 pages
1.1 Small-scale Fishers (SSF)	Definition of Caribbean SSF through different characteristics: • Vessel size and specification • Financial and buying power • Data sharing and comms usage	1 page
1.2 Safety at Sea	Highlights of risks SSF are exposed to when they go out to sea, the types of disasters at sea and typical responses	1 page
1.3 Accessibility & Connectivity	Introduction of existing accessibility and connectivity assessments for land-based comms Existing ICT accessibility and connectivity metrics, and realization that treatment is asymmetrical and focused primarily on land-based comms	1 page
1.4 Comms@Sea: The Missing Link	Shift in focus from land-based assessments to enabling accessible comms@sea and promoting a data-driven value chain	1 page
2. Accessible Comms@Sea	Conceptual foundations and framework to assess: 1. comms@sea solutions 2. data and data particulars	10 pages
2.1 Conceptual Basis for an Analytical Framework	Consolidation of concepts from the Introduction chapter, as the fundamental principles that underpin the development of the analytical framework to assess (i) data (ii) accessible comms@sea	2 pages
2.2 Analytical Framework	Adaptation of existing accessibility and connectivity assessment frameworks to assess, as applicable to SSF: 1. data and data particulars 2. comms@sea for SSF over 5 dimensions: (i) Devices (ii) Services (iii) Capacity (iv) Awareness & Adoption (v) Policy & Regulatory Environment	2 pages
2.3 Devices	Elaboration of each dimension, with respective assessment criteria	1 page
2.4 Services		1 page
2.4 Capacity		1 page
2.5 Awareness & Adoption		1 page
2.6 Policy & Regulatory Environment		1 page
2.7 Key Metrics	Recommendations to refresh existing metrics for ICT accessibility and connectivity in the context of comms@sea	1 page
3. Demand Side	Identification and prioritization of lifesaving and livelihood supporting SSF data and comms@sea	6 pages
3.1 Comms Requirements	Tiered specification of technical requirements of comms@sea for SSF: 1. Functional 2. Non-functional	1 page
3.1.1 Functional		1 page
3.1.2 Non-Functional	To include: 1. Reference locations and distribution of stations 2. Locations of SSF	1 page
3.2 Data Requirements	Tiered specification of data requirements for SSF: 1. Lifesaving 2. Livelihood supporting	1 page
3.2.1 Lifesaving		1 page

Section	Summary of Contents	Nominal Length
3.2.2 Livelihood-supporting		1 page
4. Supply Side	Existing datasets, data particulars and comms@sea solutions	13 pages
4.1 Overall	Summary of the current state across comms@sea and data	0.5 pages
4.2 Data	Sources of lifesaving and livelihood supporting data for SSF	2 pages
4.3 Comms@Sea	Identification of existing: 1. Devices (VHF-DSC radios, VMS, etc.) 2. Services (cellular, VHF, coverage stations, etc.) 3. Capacity (existing programmes, cost, etc.) 4. Awareness & Adoption (culture, usage, etc.) 5. Policy & regulatory env (carriage regulations, etc.) Notes: 1. these will cover solutions outside the existing standard maritime comms suite, such as HAM radio, LoRa, etc. 2. data will be gathered through primary (stakeholder consultations) as well as secondary (desk research) methods	2 pages
4.3.1 Devices		2 pages
4.3.2 Services		2 pages
4.3.3 Capacity		2 pages
4.3.4 Awareness and Adoption		2 pages
4.3.5 Policy & Regulatory Environment		0.5 page
5. Gaps	Identification of gaps which exist between the supply and demand side	8 pages
5.1 Overall	Identification of gaps in: 1. data and data particulars 2. comms@sea for SSF across the 5 dimensions	0.5 pages
5.2 Data		1 page
5.3 Comms@Sea		1 page
5.3.1 Devices		1 page
5.3.2 Services		1 page
5.3.3 Capacity		1 page
5.3.4 Awareness & Adoption		1 page
5.3.5 Policy & Regulatory Environment		1 page
6. Key Priorities		8 pages
6.1 Priority Setting	Rating of priorities of existing: 1. contender technologies and devices, based on accessibility 2. data and data particulars	1 page
6.2 Priorities by Agent		7 pages
6.2.1 Research Institutions		0.5 pages
6.2.2 Standards Bodies		0.5 pages
6.3 Manufacturers		0.5 pages
6.4 Policy Makers		0.5 pages
6.5 SMAs		0.5 pages
6.6 MARADs	Priorities by each agent/agency type, to enable: 1. Accessible comms@sea 2. Data-driven fisheries value chain	0.5 pages
6.7 Fisheries Authorities		0.5 pages
6.8 Fisheries Organizations		0.5 pages
6.9 MRCCs & Coast Stations		0.5 pages
6.10 DMAs		0.5 pages
6.11 Service Providers		0.5 pages
6.12 MET Services		0.5 pages

Section	Summary of Contents	Nominal Length
6.13 Entrepreneurs	6	0.5 pages
6.14 Other Agents & Agencies		0.5 pages
7. Progress Tracking	Mechanisms for tracking progress following the report publications	2 pages
8. Conclusion	Summary of report and next steps	1 page
Nominal Total (discounting references & appendices)		**40 Pages**

Workshop Plan

Name:	Setting Priorities for Accessible Communications at Sea Solutions for Small-Scale Fishers Workshop
Date:	11 – 12 Mar 2024
Times:	09:00 AM - 16:30 PM (AST)
Modality:	Hybrid (Hyatt Regency, Trinidad and Tobago)
Aims & Objectives:	To assemble a loose, global community to develop a tiered list of priorities across multiple stakeholder groups, to improve the accessibility of comms at sea for SSF. Its specific objectives are to: - Consult with multi-sectoral stakeholders on the issues, interests & possible solutions to increase the accessibility of comms@sea for SSF - Identify priorities for accessible comms@sea for SSF - Co-author & publish international Report for accessible comms@ sea for SSF, following 2-day hybrid workshop
Provisional Agenda:	**Day 1: 11 Mar 2024** - Registration & badging - Welcome remarks - Agenda overview - Working Group sessions - Day 1 summary & consensus **Day 2: 12 Mar 2024** - Day 2 opening & Day 1 recap - Working Group sessions - Agenda sign-off - Closure

Appendix A: Mapping of Report Sections by Agents

Section	Summary of Contents	Nominal Length	SMAs	MARADs	Policy Makers	Research Institutions	Standard Bodies	Manu	Service Providers	MRCCs & CS	Fisheries Authorities	Fisheries Orgs	Entrepreneurs	DMAs	MET Services
1. Introduction	Definition of the SSF, safety at sea and the sets the stage for a data-driven maritime communications ecosystem and fisheries value chain	4 pages	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
1.1 The SSF	Definition of Caribbean SSF through different characteristics: · Vessel size and specification · Financial and buying power · Data sharing and comms usage	1 page		✓		✓					✓	✓			
1.2 Safety at Sea	Highlights of risks SSF are exposed to when they go out to sea, the types of disasters at sea and typical responses	1 page		✓		✓		✓	✓	✓	✓	✓		✓	✓
1.3 Accessibility & Connectivity	Introduction of existing accessibility and connectivity assessments for land-based comms Existing ICT accessibility and connectivity metrics, and realization that treatment is asymmetrical and focused primarily on land-based comms	1 page	✓			✓			✓	✓	✓			✓	✓
1.4 Comms@Sea: The Missing Link	Shift in focus from land-based assessments to enabling accessible comms@sea and promoting a data-driven value chain	1 page	✓	✓					✓	✓	✓			✓	
2. Accessible Comms@Sea	Conceptual foundations and framework to assess: 1. comms@sea solutions 2. data and data particulars	10 pages	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2.1 Conceptual Foundations	Consolidation of concepts from the Introduction chapter, as the fundamental principles that underpin the development of the analytical framework to assess (i) data (ii) accessible comms@sea	2 pages	✓			✓									
2.2 Analytical Framework	Adaptation of existing accessibility and connectivity assessment frameworks to assess, as applicable to SSF: 1. data and data particulars 2. comms@sea for SSF over 5 dimensions: (i) Devices (ii) Services (iii) Capacity (iv) Awareness & Adoption (v) Policy & Regulatory Environment	2 pages	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓	✓
2.3 Devices	Elaboration of each dimension, with respective assessment criteria	1 page	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓		
2.4 Services	Elaboration of each dimension, with respective assessment criteria	1 page	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓
2.5 Capacity		1 page		✓						✓				✓	

Section	Summary of Contents	Nominal Length	Agents												
			SMAs	MARADs	Policy Makers	Research Institutions	Standard Bodies	Manu	Service Providers	MRCCs & CS	Fisheries Authorities	Fisheries Orgs	Entrepreneurs	DMAs	MET Services
2.6 Awareness & Adoption		1 page	✓	✓					✓		✓	✓		✓	
2.7 Policy & Regulatory Environment		1 page	✓	✓	✓	✓	✓				✓	✓		✓	✓
2.8 Key Metrics	Recommendations to refresh existing metrics for ICT accessibility and connectivity to the context of comms@sea	1 page	✓		✓	✓					✓				
3. Demand Side	Identification and prioritization of lifesaving and livelihood supporting SSF data and comms@sea	6 pages	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3.1 Comms Requirements	Tiered specification of technical requirements of comms@sea for SSF: 1. Functional 2. Non-functional	1 page	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
3.1.1 Functional	To include: 1. Ideal locations and distribution of stations 2. Locations of SSF	1 page	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
3.1.2 Non-Functional		1 page				✓	✓	✓	✓	✓	✓	✓	✓		
3.2 Data Requirements	Tiered specification of data requirements for SSF: 1. Lifesaving 2. Livelihood supporting	1 page	✓			✓				✓		✓		✓	✓
3.2.1 Lifesaving		1 page				✓				✓		✓		✓	✓
3.2.2 Livelihood-supporting		1 page				✓						✓		✓	✓
4. Supply Side	Existing datasets, data particulars and comms@sea solutions	13 pages	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
4.1 Overall	Summary of the current state across comms@sea and data	0.5 pages	✓	✓	✓	✓	✓			✓		✓	✓	✓	✓
4.2 Data	Sources of lifesaving and livelihood supporting data for SSF	2 pages		✓		✓				✓		✓	✓	✓	✓
4.3 Comms@Sea	Identification of existing: 1. Devices (VHF-DSC radios, VMS, etc.)	2 pages	✓	✓	✓	✓				✓		✓	✓		✓
4.3.1 Devices	2. Services (cellular, VHF, coverage stations, etc.) 3. Capacity (existing programmes, cost, etc.) 4. Awareness & Adoption (culture, usage, etc.) 5. Policy & regulatory env (carriage regulations, etc.)	2 pages	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓		
4.3.2 Services		2 pages	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓
4.3.3 Capacity	Notes: 1. these will cover solutions outside the existing standard	2 pages		✓						✓					

Section	Summary of Contents	Nominal Length	SMAs	MARADs	Policy Makers	Research Institutions	Standard Bodies	Manu	Service Providers	MRCCs & CS	Fisheries Authorities	Fisheries Orgs	Entrepreneurs	DMAs	MET Services
4.3.4 Awareness and Adoption	maritime comms suite, such as HAM radio, LoRa, etc. 2. data will be gathered through primary (stakeholder consultations) as well as secondary (desk research) methods	2 pages	✓	✓					✓		✓	✓		✓	✓
4.3.5 Policy & Regulatory Environment		0.5 page	✓	✓	✓	✓	✓		✓			✓		✓	✓
5. Gaps	Identification of gaps which exist between the supply and demand side	8 pages	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5.1 Overall		0.5 pages	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5.2 Data		1 page	✓		✓	✓		✓	✓	✓	✓	✓		✓	✓
5.3 Comms@Sea		1 page	✓	✓	✓	✓		✓	✓	✓	✓	✓			
5.3.1 Devices	Identification of gaps in: 1. data and data particulars 2. comms@sea for SSF across the 5 dimensions	1 page	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓		
5.3.2 Services		1 page	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓
5.3.3 Capacity		1 page		✓						✓					
5.3.4 Awareness & Adoption		1 page	✓	✓					✓		✓	✓		✓	✓
5.3.5 Policy & Regulatory Environment		1 page	✓	✓	✓		✓			✓	✓	✓		✓	✓
6. Key Priorities		8 pages	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
6.1 Priority Setting	Rating of priorities of existing: 1. contender technologies and devices, based on accessibility 2. data and data particulars	1 page	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
6.2 Priorities by Agent		7 pages	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
6.2.1 Research Institutions	Priorities by each agent/agency type, to enable: 1. Accessible comms@sea 2. Data-driven fisheries value chain	0.5 pages				✓									
6.2.2 Standards Bodies		0.5 pages	✓				✓								
6.2.3 Manufacturers		0.5 pages						✓							
6.2.4 Policy Makers		0.5 pages			✓										
6.2.5 SMAs		0.5 pages	✓			✓									

Section	Summary of Contents	Nominal Length	Agents												
			SMAs	MARADs	Policy Makers	Research Institutions	Standard Bodies	Manu	Service Providers	MRCCs & CS	Fisheries Authorities	Fisheries Orgs	Entrepreneurs	DMAs	MET Services
6.2.6 MARADs		0.5 pages		✓											
6.2.7 Fisheries Authorities		0.5 pages									✓				
6.2.8 Fisheries Organizations		0.5 pages										✓			
6.2.9 MRCCs & Coast Stations		0.5 pages								✓					
6.2.10 DMAs		0.5 pages												✓	
6.2.11 Service Providers		0.5 pages							✓						
6.2.12 MET Services		0.5 pages												✓	✓
6.2.13 Entrepreneurs		0.5 pages											✓		
6.2.14 Other Agents & Agencies		0.5 pages													
7. Progress Tracking	Mechanisms for tracking progress following the report publications	2 pages	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
8. Conclusion	Summary of report and next steps	1 page	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Nominal Total (discounting references & appendices)		**40 pages**													