



联合国
粮食及
农业组织

Food and Agriculture
Organization of the
United Nations

Organisation des Nations
Unies pour l'alimentation
et l'agriculture

Продовольственная и
сельскохозяйственная организация
Объединенных Наций

Organización de las
Naciones Unidas para la
Alimentación y la Agricultura

منظمة
الأغذية والزراعة
للأمم المتحدة

E

Third Meeting of the Parties to the 2009 FAO Agreement on Port State Measures

31 May to 4 June 2021
Brussels, Belgium¹

Progress on the development of the PSMA Global Information Exchange System (GIES) and PSMA applications

The Parties are invited to:

- Note the development of a prototype version of the PSMA Global Information Exchange System (GIES) and provide guidance on the way forward, including on the possibility of launching the prototype (beta version) for a restricted trial period and on the process for its endorsement to allow its complete operationalization.
- Note the degree of usage by the Parties of the PSMA App developed to register designated ports (DPs) and national contact points (NCPs), and encourage all Parties to submit and update the information in a timely manner.
- Note the proposal for collaboration put forward by the United Nations Code for Trade and Transport Locations (UN/LOCODE) Advisory Group to support the inclusion and maintenance of all PSMA-DPs in UN/LOCODE, and consider the UN/LOCODE as the international standard to unequivocally identify all PSMA DPs.
- Consider the role the IMO number should play in the implementation of PSMA and the operationalization of the GIES.

¹ To be held virtually.

1. Introduction

Context and background.

1. Throughout several provisions of the 2009 FAO Agreement on Port State Measures (PSMA), information exchange stands consistently as a key element to enable coordinated actions and international cooperation crucial for the effective implementation of the PSMA. Under Article 6 of the PSMA on cooperation and exchange of information, the Parties are obliged to cooperate and exchange information with relevant States, FAO, other international organizations and regional fisheries management organizations (RFMOs). Under Article 7 on designation of ports, paragraph 1, each Party shall designate and publicize their designated ports (DPs) and shall provide a list to FAO, for due publicity. Article 15 on transmittal of inspection results, indicates the recipients of the results of each inspection including the flag State, any relevant coastal State, the state of which the vessel's master is a national, relevant RFMOs and FAO and other relevant international organizations. Article 16 on electronic exchange of information, establishes the need of a communication mechanism to allow for electronic exchange of information to facilitate implementation of the PSMA. Furthermore, Article 16, paragraph 3, indicates that each Party shall designate an authority that shall act as a contact point for the exchange of information.
2. At the first Meeting of the Parties (MOP1) to the PSMA (Norway, May 2017) the Parties agreed that a staged approach should be adopted with regards to data exchange and called for the establishment of a working group to provide guidance on the development of data exchange mechanisms (the Open-ended Technical Working Group on Information Exchange [TWG-IE]). Additionally, the Parties tasked FAO with developing templates for reporting of information on national contact points (NCPs), DPs and other relevant information for the implementation of the Agreement, and to publish the information through a dedicated section within the FAO website.
3. The first meeting of the TWG-IE (United Kingdom, April 2018) agreed that a two-staged approach for developing this system should be taken prioritizing the need to access basic information such as national points of contact and designated ports. It was also agreed that the PSMA Global Information Exchange System (GIES) would: i) include a publicly available information section; ii) include a limited access section for protected information such as port inspection report; iii) facilitate the near-real time exchange of information; and iv) link with the relevant systems of regional fisheries management organizations (RFMOs) and the global systems such as the Global Integrated Shipping Information System (GISIS) of the International Maritime Organization (IMO), the Electronic Quality Shipping Information System (Equasis) and the FAO Global Record of Fishing Vessels, Refrigerated Transport Vessels and Supply Vessels (Global Record).
4. The second meeting of the TWG-IE (Republic of Korea, May 2019) recognized the importance of the Global Record as an important element to support the functioning of the GIES. The TWG-IE agreed that the GIES should be up and running as soon as possible to satisfy the requirements of the PSMA, especially sharing inspection results and information on port denials, and recommended that the Secretariat, based on an informed decision at the second Meeting of the Parties, proceeds with the development of a working prototype of the GIES, working closely with RFMOs and other regional bodies and networks.
5. The second Meeting of the Parties (MOP2) to the PSMA (Chile, June 2019) recognized the efforts of the Parties to upload their data to the pilot PSMA applications for designated ports and contact points, and noted that these applications satisfy the requirements of the Agreement. The Parties supported the recommendations of the TWG-IE, agreeing that the GIES should be operational as soon as possible, expressing their preference for a GIES as an integrated system using a modular and phased implementation approach, and requested FAO to develop a prototype for the system by the third meeting of the TWG-IE, including inspection results and information on denial of port entry as a first step, taking into account business continuity, recovery and confidentiality requirements.

6. Due to the travel restrictions caused by the COVID-19 pandemic, the third meeting of the TWG-IE, scheduled to be held in 2020 was postponed until further notice. However, in order to inform Parties of progress in the development of the GIES prototype, as well as to provide an opportunity to discuss technical and functional details, the Secretariat convened a series of webinars in preparation for the deliberations on the subject at the third Meeting of the Parties (MOP3).

2. Status of development and implementation

Status of the PSMA applications to register DPs and NCPs.

7. The PSMA applications (PSMA APPs) for DPs and NCPs were launched in June 2018. Since then, 24 Parties (42 States) have provided information on DPs, and 20 Parties (45 States), along with seven non-Parties, have provided information on NCPs. As of March 2021, the PSMA APPs contain information on 462 DPs and 52 NCPs, representing 46% and 49%, for each APP respectively, of the total number of States bound by the Agreement (93); only 33% have provided data to both APPs.

8. The current APPs are considered preliminary versions that will be integrated into an operational GIES in due course.

Status of development of the prototype of the GIES foreseen under the PSMA.

9. Following instructions from the Parties, FAO developed a prototype version of the GIES. The prototype includes system requirements under phase 1 of the GIES development schedule and represent the minimum requirements for a first version of GIES to become operational by allowing the exchange of information on port denials and port inspections. The following functionalities, features and standards, in accordance with these requirements have been developed:

- i. Manual data input through online forms. Parties would be able to upload information on the following into the system:
 - denial of entry into port, as per Article 9 on Port Entry, Authorization or Denial, paragraph 3;
 - denial of use of port, as per Article 11 on Use of Ports, paragraph 3;
 - withdrawal of denial, as per Article 11, paragraph 5;
 - port inspection report, as per Article 14 on Results of inspections, Article 15, Article 16 and Annex C on the Report of the results of the inspection and Annex D on Information systems on port State measures, paragraphs c) and d).
- ii. Reference lists for data input, based on international coding systems as per Annex D, paragraph d), where applicable. Reference lists used in other systems such as the FAO Global Record were applied as relevant. New reference lists were developed for the following requested data fields:
 - Purpose of port entry, from point 9 of the inspection report as per Annex C.
 - Vessel monitoring system (VMS) type, from point 25 of the inspection report.
 - Status in RFMOs, from point 26 of the inspection report.
 - Fishing areas and catch areas, from points 27 and 29 of the inspection report.
 - Product form for offloaded catch and catch retained onboard, from points 30 and 31 of the inspection report. Proposed reference list split into preservation and presentation type.
 - Actions taken by the inspectors at the end of the inspection, from point 40 of the inspection report.
 - Reasons for withdrawal of port denial.

- iii. Connection with the FAO Global Record through a link that facilitates data verification from flag State certified information and in a future version may also support risk analysis. This linkage also facilitates the manual data input as it prefills relevant data fields with information from the Global Record indicating whether that information is matching or not with that obtained through the inspection and/or port entry/use denial.
- iv. Development of Application Programming Interphases (APIs) to initiate automatic connection with regional and national systems.
- v. User area: within this area, NCPs would have the possibility to complete and update their profiles, and access their history of uploads and saved reports pending of finalization.
- vi. Search engine: the system search engine allows for tailored searches on information accessible to the different types of users: Parties, non-Parties, Observers and general public (summary information only). In particular, users would be able to obtain details on port entry/use denials, withdrawn denials and port inspection reports by filtering through their notification numbers, port State, port, vessel's main identifiers, date range and/or presence of an apparent infringement or evidence of illegal, unreported and unregulated (IUU) fishing.
- vii. System architecture: robust infrastructure migrated to the Cloud and developed following a multi-tenancy approach that would enable the possibility of building national or regional e-PSM systems compatible with the GIES, as required. The GIES prototype has been developed to be an application operative in the 6 official languages of the organization, with a dynamic interface adaptable to mobile phones, tablets and PCs. These characteristics will support the required business continuity and recovery, whilst confidentiality requirements are addressed through accessibility requirements.

3. Analysis and next steps

PSMA applications

10. Conclusions of the analysis on the data submitted to the PSMA APPs:

- i. Degree of completion:
 - DPs: from the total number of DPs submitted, 60% do not include the Port Main Authority data field and 62% do not provide any contact details. Only half of them (49%) include the United Nations Code for Trade and Transport Locations (UN/LOCODE).
 - NCPs: extent of completion is satisfactory, with around 94% of the data fields provided by each State.
- ii. Some of the most common inconsistencies and errors found were:
 - DPs: designation of port terminals within the same port, individually as independent PSMA designated ports. Submission of geographical coordinates within port location instead of using the specific data fields available for latitude and longitude. Confusion between Port Main Authority and the designated authority by the Party as national contact point.
- iii. NCPs: no significant discrepancies or errors detected.

11. Additional developments planned for the DPs and NCPs applications:

- i. Upgrade of the information technology framework and architecture of the PSMA APPs to ease maintenance, solve outstanding screen resolution issues, benefit from the advantages of migrating the database to the Cloud and provide a more modern look and feel that would improve user experience and integration within GIES.
- ii. Improvement of the search engine: development of a more potent and versatile search tool with improved performance and an increased range of search criteria available.

- iii. Inclusion and display of NCPs personal data in data restricted area, only available to the Parties.
- iv. Use of UN/LOCODE for PSMA DPs. FAO has collaborated with the UN/LOCODE Team on a proposal for collaboration to support the inclusion and maintenance of all PSMA DPs in UN/LOCODE. Based on this proposal, any Party would be able to request a UN/LOCODE for its designated ports to unequivocally identify them within the PSMA DPs APP. This would allow standardization of the codes for ports in line with international standards. Given the approval of this collaboration by the UN/LOCODE Advisory Group, guidance is sought from the Parties on whether the UN/LOCODE should be introduced as a mandatory requirement when registering DPs in the PSMA DPs APP.

GIES

12. Further considerations in relation to the development of the GIES prototype:

- i. Access rights and confidentiality requirements. The GIES will contain official data provided by States that may be sensitive or subject to data protection or confidentiality restrictions. Article 16 establishes that Parties should cooperate to establish an information-sharing mechanism with due regard to appropriate confidentiality requirements. Noting this, but aware of the necessity of notifying all relevant details of a port denial or inspection report to all the relevant actors involved, irrespective of whether they are a Party to the PSMA or not, the formula devised to satisfy both requirements is as follows:
 - Parties can access summary information on all inspections and port denials contained in the system (useful for risk analysis).
 - Parties, non-Parties and RFMOs can access information related to them, such as that included in the notifications for which they are recipient, as well as any information provided by them.
 - The general public can access selected summary statistics, such as total number of inspections and port denials submitted into the system, most active Parties, and number of daily submissions into the system.
- ii. Scope of the GIES inspection report. The development of the inspection report, may involve different levels of detail depending of its final use. The adoption of the inspection report envisaged for the GIES, as the national or regional inspection report by any Party, may require a greater degree of description of some of its data fields, such as on the inspectors involved, catch areas and gears inspected. A more detailed GIES inspection report may not only serve as national or regional inspection report and reduce the duplication of efforts, but also may increase compatibility with existing reports and streamline the notification of inspection results.
- iii. Consider supporting the mandatory use of the IMO numbering scheme. Given the rapid and widespread uptake by RFMO/As of the IMO number as a requisite for vessels above a certain length overall (LOA), and its increased transposition into national legislation, it is timely to consider the role that the IMO number should play in the implementation of the PSMA, particularly in relation to information exchange. The IMO number is necessary to ensure the correct identity of the vessel requesting entry/use of a port, critical for the conduction of risk analysis, inspections and subsequent reporting. Parties may wish to consider in which way the IMO number could become compulsory for the effective implementation of the PSMA. It is relevant to underscore that the IMO number would eventually become mandatory for fishing vessels above 24 m of length through the entering into force of the IMO Cape Town Agreement, expected in 2022.
- iv. Consider including beneficial ownership in Annex A on information to be provided in advance by vessels requesting port entry. Due to the relevance of determining who is the beneficial owner of the vessel for risk analysis and in decision-making processes, the inclusion

of this additional data field could be of great value for the national authorities receiving a request for port entry.

- v. Consider inclusion of “Evidence through inspection that the vessel has engaged in IUU fishing or fishing related activities in support of such fishing” as a new data field within the inspection report. As per article 15, Parties shall transmit the results of each inspection to those States for which there is evidence through inspection that the vessel has engaged in IUU fishing within waters under their national jurisdiction.

13. Further developments envisaged for Phase 2 of the GIES:

- i. Dashboard, to present and organize the contents;
- ii. Summary statistics reports, to reflect the participation and highlight the level of implementation of the respective reporting requirements
- iii. Consideration of inclusion of information on the advance request of entry into port as per article 8 and annex A.
- iv. Inclusion of actions taken by the flag States, as per article 20 on the role of flag States, paragraph 5.
- v. Advanced user management, to facilitate a higher level of coordination at national and regional level.
- vi. Customised versions of the GIES application, for regional or national e-PSMA systems (multitenancy functionality), will be made available upon request. These versions will be free of charge and fully compatible with the standard GIES.
- vii. Other possible considerations:
 - Development of a risk analysis tool to support Parties in the decision-making process.

4. Development and running costs

14. The current GIES prototype has been developed as an integrated system (connected to other already existing systems), through a modular and phased implementation approach (port denials and inspection reports prioritized for this version). Although finalization of this first version is still pending discussions at MOP3, and total development costs cannot be fully reported in detail, average development costs (per month and per year) per component can be put forward for information as follows²:

- a. Development of GIES requirements. Design of system architecture, definition of requirements specifications. This preparatory phase involves fisheries and IT experts through several iterations. The system requirements were developed following a phased and modular approach focusing on the minimum requirements for the system prototype.
- b. Development of GIES application (prototype). The initial software development phases of a global information system such as the PSMA GIES or the FAO Global Record are around USD 0.5 million per year for a 2-3 year period depending on the complexity. See sections above for details.
- c. Further developments of GIES. Once the GIES prototype is endorsed by the Parties for its operationalization it will become the first operational GIES version that Parties can use to share information. This version would still need further developments to incorporate all desired requirements and functionalities for a complete system as described in sections above. This second phase of development is expected to require the same level of expenditure as for GIES prototype.

² This is not a financial report.

- d. Estimated future running costs. Once an operational and complete version of the system is available, maintenance costs are usually at around 40% of the development costs, i.e. around USD 200 000 to 250 000 per year. Further minor developments/improvements can be conducted in parallel.
- e. Typical development costs are as follows:
- i. IT Development: IT development team (i.e., back-end, front-end and IT project manager).
 - ii. FAO IT Services: FAO electronic communication systems and corporate information systems, software licenses, LAN network, hardware maintenance and helpdesks.
 - iii. Technical oversight: fisheries expert(s) for technical inputs, oversight of IT development work and internal testing of the system.
 - iv. Project coordination: fisheries officer(s) for general coordination/management and technical oversight.
 - v. Project management & budgeting: administrative and operational management of the project(s).
 - vi. FAO Administrative services: FAO services needed to deliver specific project inputs. For example, the FAO services to recruit the project personnel, deploy the necessary technical assistance, procure equipment, prepare certified financial reports, perform evaluation, and ensure project personnel are safe and can use FAO systems.
 - vii. Communications and advocacy: development and implementation of the GIES communication strategy and advocacy work through bilateral and multilateral webinars and workshops.
 - viii. Translation into all 6 UN languages.
 - ix. Graphic design: development of a graphical identity in line with FAO standards.

Table 1. Figures³ taken from average monthly costs during March 2020 to February 2021 for reference.

| Work areas | Monthly | Annual |
|-------------------------------|----------------|----------------|
| IT Development | 13 486 | 161 833 |
| FAO IT Services | 288 | 3 460 |
| Technical oversight | 12 026 | 144 318 |
| Project coordination | 6 128 | 73 535 |
| Project management and budget | 1 894 | 22 724 |
| FAO administrative services | 1493 | 17 911 |
| Communication and advocacy | 893 | 10 713 |
| Translation | 481 | 5 775 |
| Graphic identity | 78 | 935 |
| Total | 36 767 | 441 203 |
| | 40% | 14 707 |

³ Figures not following FAO chart of accounts.

5. Timeframe and work programme

15. In the short-term (1-2 years), the GIES prototype, should it be endorsed by the Parties to PSMA at MOP3, could be launched as GIES version 1 soon after the meeting. Any adjustments indicated by the Parties could be incorporated, as required. The launch would be followed by a period of establishing connections to all relevant existing national and regional e-PSM systems. Work on a second version with additional functionalities could start in parallel, with a possible demonstration at MOP4, depending on the dates of the meeting.

16. In the medium to long-term (over 3 years), a second and more complete version of GIES could be operational finalizing the main development phase, except for selected improvements, and the system would enter the main maintenance phase.

17. From the launch and operationalization of the first version, backstopping support would be provided by FAO to respond to queries on the use of the system. Additionally, and through projects under the PSMA Assistance Fund, FAO would be providing assistance to Parties and RFMOs in upgrading or developing their national and regional e-PSMA systems to the extent possible and connecting them with the GIES, if and when required.

18. The detailed work programme is presented in Annex 1.

Annex 1. Detailed work programme for GIES development

| Milestones/Activities | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|------|------|------|------|------|
| 1. GIES agreed by the Parties to the PSMA | | | | | |
| 1.1 Definition of GIES structure and requirements | | | | | |
| 1.1.1 Presentation of preliminary feasibility study/ design proposition to 2nd PSMA TWG-IE | X | | | | |
| 1.1.2 Review of the preliminary feasibility study/ submission to the second meeting of the Parties (MOP2) | X | | | | |
| 1.2 Development of GIES Prototype | | | | | |
| 1.2.1 Development of detailed requirements specifications | X | X | | | |
| 1.2.2 Development of GIES Prototype and presentation to MOP3 ⁴ | | X | X | | |
| 1.3 Continued development of GIES | | | | | |
| 1.3.1 Further development of GIES in accordance with recommendations of MOP3 | | | X | X | |
| 1.3.2 Connection of GIES to countries/ regions | | | X | X | X |
| 1.3.3 Presentation of GIES to PSMA TWG-IE/ MOP4 | | | | X | |
| 1.3.4 Finalization of main development phase in accordance with recommendations of MOP4 | | | | X | X |
| 1.3.5 GIES maintenance and small improvements | | | X | X | X |
| 2. GIES deployed to the concerned institutions/ authorities of the Parties to the PSMA | | | | | |
| 2.1 Development of training programme and manuals | | | | X | X |
| 2.2 Conduct of regional workshops to introduce GIES and functionalities to the Parties of the PSMA | | | | X | X |
| 2.3. Set up Help Desk service | | | | X | X |
| 2.4. Deployment of GIES to interested Parties and/or RFMOs | | | | X | X |
| 2.5. Technical assistance/support provided to Parties | | | | X | X |

⁴ Third meeting of PSMA TWG-IE scheduled prior to MOP3 not convened.