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**Agenda item 5: State of Play of Inter-laboratory Testing and Good Laboratory Practice related to IMAP
Ecological Objectives 5 and 9**

**Assessment of the Capacities of National Laboratories responsible for Monitoring of IMAP Common Indicators
13, 14, 17, 18 and 20: Numeric evaluation**

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Note by the Secretariat

In line with the Programme of Work 2020-2021 adopted by COP21, the MED POL Programme has organized 2019 and 2020 Proficiency tests (PTs), along with related Training Courses on the analysis of trace elements and organic pollutants in marine samples. Furthermore, actions have been undertaken to identify specific knowledge and technical needs of individual laboratories to apply good laboratory practices for analysis of trace elements and organic contaminants as requested by the Meeting of the Ecosystem Approach Correspondence Group on Pollution Monitoring, that was held from 2 to 3 April 2019, in Podgorica, Montenegro.

Along with the missions to national laboratories, participating in national IMAP Pollution Cluster Monitoring Programme, present document has been prepared to assess the capacities of national laboratories in relation to monitoring of IMAP Common Indicators 13, 14, 17, 18 and 20. In that respect it reports on the capacities of national IMAP competent laboratories to apply the analytical methodologies as recommended in related IMAP Monitoring Guidelines for sampling, sample preservation and preparation, analysis of monitoring parameters, analytical quality assurance and monitoring data reporting. The assessment is based on the questionnaires that were distributed through respective MEDPOL Focal Points to designated national laboratories.

Therefore, the assessment findings related to capacities of 36 national IMAP competent laboratories are submitted for consideration of present Meeting of the Ecosystem Approach Correspondence Group on Pollution Monitoring.

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List of Abbreviations / Acronyms

| | |
|----------------|---|
| COP | Conference of the Parties |
| CORMON | Correspondence Group on Monitoring |
| CRM | Certified Reference Material |
| DQA | Data Quality Assurance |
| EACs | Environmental Assessment Criteria |
| IAEA | International Atomic Energy Agency |
| ILC | Interlaboratory Comparison |
| IMAP | Integrated Monitoring and Assessment Programme of the Mediterranean Sea and Coast and Related Assessment Criteria |
| MAP | Mediterranean Action Plan |
| MED POL | Programme for the Assessment and Control of Marine Pollution in the Mediterranean Sea |
| MESL | Marine Environment Studies Laboratory of the IAEA Environmental Laboratories in Monaco |
| PCBs | Polychlorinated Biphenyls |
| PT | Proficiency Test |
| QA/QC | Quality Assurance/Quality Control |
| TC | Training Course |
| TE | Trace Elements |
| UN | United Nations |

1 Assessment of the national laboratories` capacity to monitor IMAP Common Indicators 13, 14 and 17:

Numerical evaluation

1. The evaluation was undertaken to reflect a compliance of the national laboratories` analytical practice with the methods described in the IMAP Monitoring guidelines for CI13, 14, 17, 18 and 20. The evaluation of laboratories was provided i) in a narrative form which can be found in the document UNEP/MED WG.492/10, and ii) numerically, in a form of tables provided in this information document.

2. In this per-laboratory evaluation each topic (e.g. sampling, sample preparation, digestion, analysis, etc.) scored one of three different values: '1' for full compliance with the guidelines, or accredited method used; '0' for no reply; or method used is not recommended in the guidelines, nor accredited. The score value of '0.5' is given for partial compliance with the guidelines.

3. The capacity assessment scoring explanations elaborated in UNEP/MED WG.492/10 are presented here-below in Tables 1-2 for CIs 13 and CI 14 of EO 5 related to eutrophication and in Tables 3-6 for CI 17 of EO9 related to contaminants in different matrices.

4. Since only 2 laboratories returned actual answers in their questionnaires for CI 18 related to biomarkers, only the narrative evaluation was performed. Likewise, only a limited number of laboratories returned replies to questionnaires for CI20, therefore the narrative evaluation contains much relevant details and is not repeated in a tabular form. Detail narrative findings are provided in section 2 of present document.

2 Assessment of capacity to monitor IMAP Common Indicator 20

5. The evaluation of laboratories procedures was done in compliance with the IMAP Guidance Factsheets (UNEP/MED WG.467/5, 2019) and newly developed Monitoring Guidelines/Protocols (UNEP/MED WG.482/17¹, 2020; and UNEP/MED WG.482/18², 2020), as well as the Monitoring Guideline for Analytical Quality Assurance (UNEP/MED WG.492/7, 2021) and Reporting Monitoring Data (UNEP/MED WG.492/7, 2021).

6. Only 10 laboratories from 7 countries reported information on their status regarding seafood monitoring.

7. Laboratory 3, 4 and 5 are receiving samples by a sanitary inspector due to health safety regulations, therefore the lab cannot control sampling conditions. No information is provided on the seafood species or tissues analyzed.

8. Laboratory 3 is performing trace metal analysis with GF-AAS, which is in line with the IMAP relevant Guidelines. No organic contaminants are analyzed in seafood.

9. Samples analyzed in laboratories 4 and 5 include fish and shellfish from the environment and from aquaculture. Metals are analyzed using GF-AAS, CV-AAS and Solid Hg Analyzer, while PAHs are analyzed with HPLC. All analytical methods are in line with the methods included in the IMAP relevant Guidelines. QA includes the use of CRMs and participation in PTs with good performance.

10. All procedures followed by laboratories 16 and 18 are according to IMAP relevant guidelines.

11. Laboratory 20 is analyzing bivalves from aquaculture as part of seafood monitoring. A care is taken to avoid cross contamination and samples are microwave digested with nitric acid, in line with IMAP relevant Monitoring Guidelines. Metal analysis is done with AAS, GF-AAS, CV-AAS, AMA, in line with IMAP Guidelines, as well as with ICP-OES, while PAHs are analyzed with GC-MS in line with IMAP Monitoring Guidelines. The laboratory is using CRMs and participates in PTs with good performance.

12. *Mullus barbatus* samples are analyzed by laboratories 24 and 25. The analytical protocols are the same as for biota analysis for CI17, therefore they are in line with requirements of IMAP Guidelines related to seafood analysis. However, the appropriate sampling protocols for seafood have to be harmonized with the procedure recommended in IMAP relevant Guidelines.

13. Laboratory 26 is participating in seafood analysis, but no information is provided on species collected, sampling procedures or samples handling. Tissues are digested in line with relevant IMAP Guidelines. Metal analysis is done with ICP-MS and therefore in line with IMAP Guidelines. PAHs are analyzed with HPLC-UVF that is in line with IMAP relevant Guidelines.

¹ UNEP/MED WG.482/17, 2020, Monitoring Guidelines/Protocols for Sampling and Sample Preservation of Sea Food for IMAP Common Indicator 20: Heavy and Trace Elements and Organic Contaminants.

² UNEP/MED WG.482/18, 2020, Monitoring Guidelines/Protocols for Sample Preparation and Analysis of Sea Food for IMAP Common Indicator 20: Heavy and Trace Elements and Organic Contaminants

14. Laboratory 35 is analyzing fish muscle, bivalve whole body, cephalopods without viscera and crustaceans' white meat for Cd, Hg and Pb, using ICP-MS and CV-AAS, in line with the relevant IMAP Monitoring Guidelines/Protocols. The same species are analyzed for non-dioxin like PCBs (PCB 21, PCB 52, PCB 101, PCB 153, PCB 158 and PCB 180), using GC-MS and GC-MS/MS in line with IMAP relevant Guidelines. The laboratory is working on method validation for PAHs (Benzo(a)pyrene, benz(a)anthracene, benzo(b)fluoranthene and chrysene) using HPLC-UVF, in line with IMAP Guidelines. No information is provided on the sampling and sample pre-treatment procedures, although tissues microwave digestion is done using nitric acid in line with IMAP relevant Guidelines.

15. Concerning QA, most laboratories report the use of CRMs and participation in PTs, some of them specifically referred to the PTs organized by IAEA/MESL in collaboration with MEDPOL for CI17 in biota matrix.

16. In summary, while not many laboratories provided information about their seafood monitoring for heavy metals and organic contaminants most of them appear to be well-organized and in general complying with the IMAP Monitoring Guidelines. Most laboratories that replied to the CI20 questionnaire are the same as those in charge for biota matrix of CI17; only one laboratory was in charge for CI20.

Table 1: Capacity assessment scoring explanation related to CIs 13 and 14

| SEAWATER | Score | | |
|-------------------------------|---|--|----------------------------|
| | 1 | 0.5 | 0 |
| Sampling | Lab is performing sampling | | No info provided |
| Methods | Lab is using Suggested in guidelines Methods (SM) | Lab is using other than suggested in guidelines methods (not from list, NFL) | No info provided |
| Quality assurance (QA) | Accreditation/ use of CRMs / PTs for all parameters | Accreditation/use of CRMs / PTs for some parameters | No information is provided |
| Reporting to IMAP | Yes | | No |

Table 2: Assessment of the national laboratories` capacity to monitor IMAP CIs 13 and CI 14

| Laboratory | 1 | 3 | 4 | 5 | 7 | 30 | 31 | 10 | 11 | 11b | 32 | 14 | 28 | 29b | 17 | 19 | 20 | 33 | 34 | 23 | 24 | 25 |
|----------------------------|-----|---|---|---|---|-----|-----|-----|-----|-----|-----|----|----|-----|-----|-----|----|----|----|----|----|----|
| Sampling | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 |
| Methods | | | | | | | | | | | | | | | | | | | | | | |
| Temperature | 0.5 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 |
| Salinity | 0.5 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 |
| Conductivity | 0.5 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 0 |
| Dissolved Oxygen | 0.5 | 1 | 1 | 1 | 1 | 0 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 |
| Oxygen Saturation | 0 | 1 | 1 | 1 | 1 | 0 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 |
| pH | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0.5 | 0.5 | 0.5 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 |
| Transparency - Secchi disk | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 |
| Chlorophyll <i>a</i> | 0.5 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0.5 | 0.5 | 0.5 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 |
| Ammonium | 0.5 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.5 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 |
| Nitrite | 0.5 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.5 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 |
| Nitrate | 0.5 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.5 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 |
| Total Nitrogen | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.5 | 0.5 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 0 |
| Orthophosphate | 0.5 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 |
| Total Phosphorous | 0.5 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 |
| Orthosilicate | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 |
| QA | 1 | 1 | 1 | 1 | 1 | 0.5 | 0.5 | 0.5 | 1 | 0.5 | 0.5 | 0 | 0 | 0.5 | 0.5 | 0.5 | 1 | 1 | 0 | 0 | 1 | 1 |
| Reporting to IMAP | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 |

Table 3: Capacity assessment scoring explanation related to IMAP CI 17

| SEDIMENTS | BIOTA | SEAWATER | Score | | |
|--|---|---|---|---|--|
| | | | 1 | 0.5 | 0 |
| Sampling | | | Lab is performing sampling | Biota Samples are delivered to lab, or only only bivalves or fish is sampled | No information provided, not sampled |
| Sample preparation | | | | | |
| Sample preparation to avoid contamination - sieving | Sample preparation to avoid contamination | Sample preparation to avoid contamination | Sediment is handled to avoid contamination and are sieved Biota is handled and dissected to avoid contamination Seawater is handled to avoid contamination | Bulk sediments are used (no sieving) Biota no details on handling provided | All matrices No information is provided |
| Trace Element (TE) Digestion and Analysis | | | | | |
| Digestion | | | Sediments: strong acids +HF Biota: strong acids | Sediment: Acids but no HF | No information is provided |
| Analysis | | | TE analysis performed | | No TE analysis |
| Cd | | | analysed | | not analysed |
| Hg | | | analysed | | not analysed |
| Pb | | | analysed | | not analysed |
| Organic Contaminant (OC) Digestion and Analysis | | | | | |
| Extraction - cleanup | | | Extraction and cleanup information | Extraction information | No information is provided |
| Analysis | | | OC analysis performed | | No OC analysis |
| PCB | | | Yes | | No |
| HCB | | | Yes | | No |
| Lindane | | | Yes | | No |
| ΣDDTs | | | Yes | | No |
| PAH | | | Yes | | No |
| QA | | | Accreditation/ use of CRMs / participation in PTs for all contaminants | Accreditation/ use of CRMs / participation in PTs for some contaminants | No information is provided |
| Reporting to IMAP | | | Yes | | No |

Table 4: Assessment of the national laboratories` capacity to monitor parameters related to IMAP CI 17 in biota matrix

| Laboratory | 1 | 3 | 4 | 4 | 5 | 26 | 7 | 8 | 9 | 10 | 27 | 14 | 28 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | |
|--------------------------|----------|----------|----------|----------|----------|-----------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|---|
| Sampling | 1 | 0.5 | 0 | 0 | 1 | 0 | 0.5 | 1 | 0 | 0.5 | 0.5 | 1 | 1 | 1 | 1 | 1 | 1 | 0.5 | 0.5 | 1 | 0 | 0.5 | 0.5 | |
| Sampling preparation | 0 | 0 | | 0 | 1 | 0 | 1 | 1 | 1 | 0.5 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | |
| TE | | | | | | | | | | | | | | | | | | | | | | | | |
| Digestion | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Analysis | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Cd | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Hg | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 |
| Pb | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| OC | | | | | | | | | | | | | | | | | | | | | | | | |
| Extraction - cleanup | 1 | 0 | 0.5 | 0.5 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 |
| Analysis | 0.5 | 0 | 1 | 1 | 1 | 0.5 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 |
| PCB | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 |
| HCB | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 |
| Lindane | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 |
| ΣDDTs | 0.5 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 |
| PAH | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 |
| QA | 0.5 | 1 | 1 | 1 | 1 | 1 | 0.5 | 0.5 | 1 | 1 | 1 | 1 | 0.5 | 1 | 1 | 0.5 | 0 | 1 | 1 | 1 | 1 | 0.5 | 1 | 1 |
| Reporting to IMAP | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 |

Table 5: Assessment of the national laboratories` capacity to monitor parameters related to CI 17 in sediment matrix

| Laboratory | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 |
|--------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Sampling | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 |
| Sampling preparation - sieving | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.5 | 0.5 | 0.5 | 0.5 | 1 | 1 | 1 | 0 | 1 | 1 |
| TE | | | | | | | | | | | | | | | | | | | | | | | | | |
| Digestion | 0 | 1 | 1 | 1 | 1 | 0.5 | 1 | 1 | 0.5 | 0.5 | 0.5 | 0 | 0.5 | 1 | 0.5 | 0 | 0.5 | 0.5 | 0.5 | 1 | 0.5 | 1 | 1 | 1 | 1 |
| Analysis | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Cd | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Hg | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 |
| Pb | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| OC | | | | | | | | | | | | | | | | | | | | | | | | | |
| Extraction - cleanup | 1 | 1 | 0 | 1 | 0 | 0.5 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 |
| Analysis | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 |
| PCB | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 |
| HCB | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 |
| Lindane | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 |
| ΣDDTs | 0.5 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 |
| PAH | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 0 |
| QA | 0.5 | 1 | 0.5 | 1 | 0.5 | 0.5 | 1 | 1 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 1 | 0.5 | 1 | 1 | 1 | 1 | 1 | 1 | 0.5 | 1 |
| Reporting to IMAP | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 |

