

OIE Aquatic Animal Health Strategy 2021–2025



Improved aquatic animal health
and welfare worldwide

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Acronyms and abbreviations

| | |
|-----------------------------------|---|
| AMR | Antimicrobial resistance |
| Aquatic Animals Commission | OIE Aquatic Animal Health Standards Commission |
| Aquatic Code | OIE <i>Aquatic Animal Health Code</i> |
| Aquatic Manual | OIE <i>Manual of Diagnostic Tests for Aquatic Animals</i> |
| FAO | Food and Agricultural Organization of the United Nations |
| OIE Focal Points | A person designated by the OIE Delegate to assist them in fulfilling the Delegate's responsibilities to the OIE for each of the following eight topics: Aquatic animals, Animal disease notification, Animal production food safety, Animal welfare, Communication, Veterinary laboratories, Veterinary products and Wildlife |
| NACA | Network of Aquaculture Centres in Asia-Pacific |
| OIE Community | OIE Members and their private sectors, OIE Regional Representations, OIE Reference Laboratories and Collaborating Centres, international partners and OIE Headquarters |
| OIE-WAHIS | OIE World Animal Health Information System |
| OIE PVS Pathway | Performance of Veterinary Services Pathway |



Introduction



'I have just been appointed as the Chief Veterinary Officer of my country. Difficult situations follow one after another: outbreaks of avian influenza, a resurgence of bovine tuberculosis outbreaks, the emergence of bluetongue ..., but I remain confident because I have the resources to respond to and manage these challenges.

One day, I am alerted of mass mortality in oyster spat. It is an unknown disease; diagnostic tools are poorly developed and there is no means of treatment. My technical knowledge of this species is almost non-existent, as my veterinary studies trained me in the diseases of terrestrial production animals and pets. I do not have staff trained in the production of this species. I do not know the industry sector nor the network of experts who can help me manage the crisis. Yet the Minister wants results with the implementation of immediate and effective measures to preserve the industry sector and export markets.'

This is a fragment of a personal story, but I am sure that many Chief Veterinary Officers have faced a similar situation when confronted with the spread of diseases in aquaculture production farms. Fortunately, professional experience helps in such circumstances, but it is not enough.

There are numerous statistics which demonstrate the social, economic and nutritional importance of the aquaculture sector, and the data also highlights the need to invest in the sector in order to achieve many of the United Nations Sustainable Development Goals.

So we must ask ourselves:

- Can veterinarians, and in particular Veterinary Services, continue to neglect aquaculture production knowing that aquaculture is the fastest-growing food production sector, now accounting for almost 50% of the aquatic animals consumed worldwide?
- Can Veterinary Services, guarantors of safe trade, continue to be so poorly or inadequately trained in aquatic animal health when aquatic animals (wild or farmed) are one of the most

traded animal products in the world, with almost 40% of products traded internationally?

Together, we must address the issues that mean many Veterinary Services are unable to support the aquaculture sector.

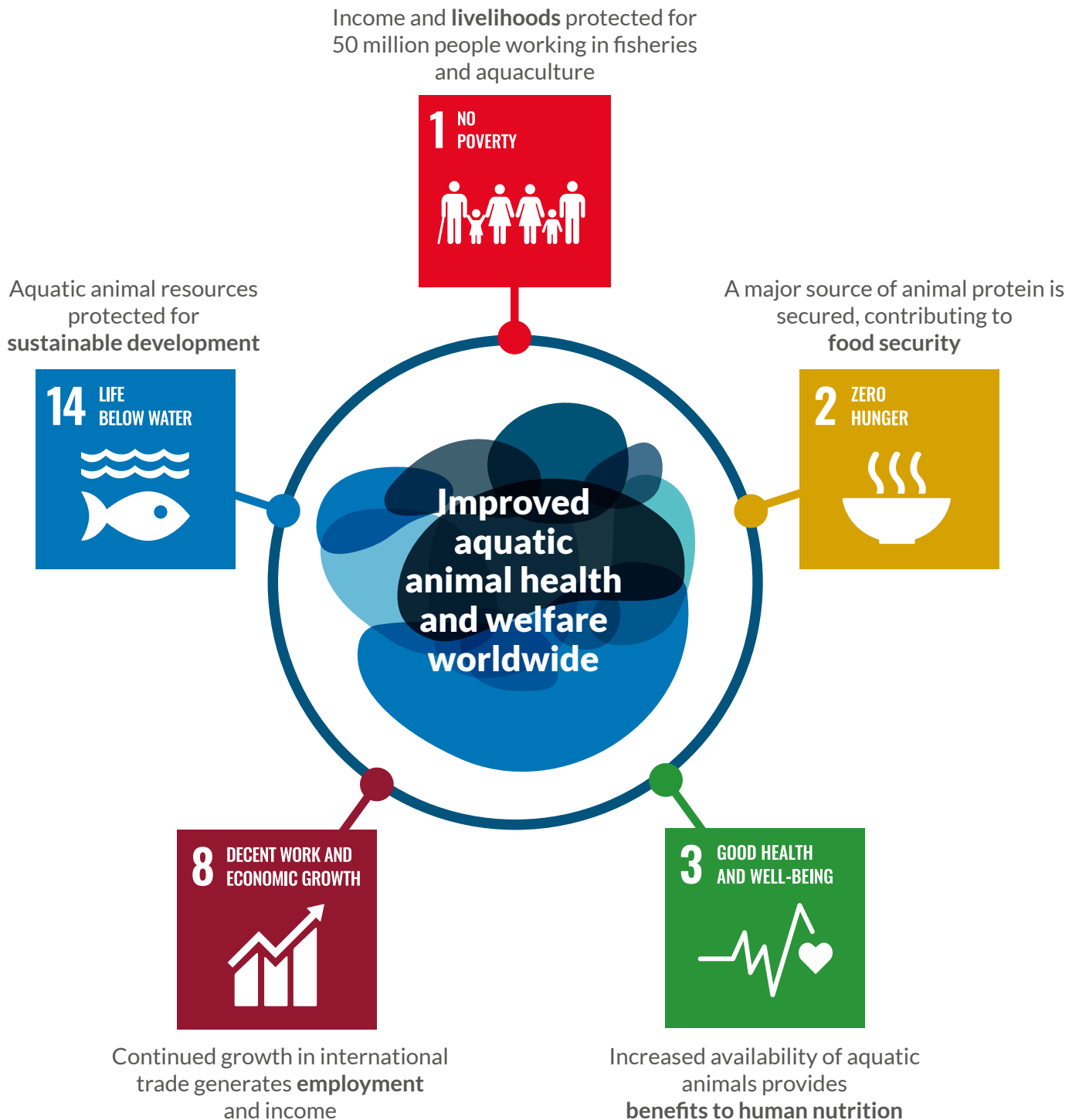
During the 2019 OIE Global Conference on Aquatic Animal Health, which was held in Chile, I made a commitment to develop the OIE Aquatic Animal Health Strategy to enable Veterinary Services or Aquatic Animal Health Services to meet both the opportunities and the challenges of this growth in aquaculture. Since that time, the OIE Aquatic Animals Commission, together with OIE staff, have worked tirelessly to turn this commitment into a reality.

Today, I am proud to present the OIE Aquatic Animal Health Strategy. It is the basis on which we will take action, in dialogue with our partners, to pursue our vision of improved aquatic animal health and welfare worldwide.

Monique Éloit
OIE Director General

Vision for aquatic animal health

This Aquatic Strategy will improve aquatic animal health and welfare worldwide, contributing to sustainable economic growth, poverty alleviation and food security, thereby supporting the achievement of the UN Sustainable Development Goals.



What you will find and where



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How to use this strategy

This Aquatic Strategy is for the **OIE Community** – OIE Members (including both the public and private sectors), OIE Reference Laboratories and Collaborating Centres, international partners and OIE staff.

If you work in any aspect of aquatic animal health or welfare, this Strategy will be relevant to you.

It has been designed to guide strategic improvement of the aquatic animal health system worldwide. Some parts will be more applicable than others, depending on your role. Below, you will find a guide that will direct you to the sections that are most relevant to you, based on your role and responsibilities.

| If you are/ If you work in the | You will want to know about... | Activity number |
|--|---|------------------------|
| OIE Delegate | ... activities that you and your country, as an OIE Member, have responsibility for | 2.4 |
| | ... activities that can provide support to you | 2.6 |
| Competent Authority for aquatic animal health | ...activities to improve aquatic animal health and welfare in your country | 2.2 |
| | | 2.3 |
| | | 2.8 |
| | | 3.2 |
| OIE Reference Laboratory, OIE Collaborating Centre or expert | ... activities that build the capacity of OIE scientific networks through better utilisation of these important resources | 3.4 |
| | | 3.2 |
| Partner organisation of the OIE | ... implementation of this Strategy and capacity-building activities | 4.3 |
| | | 2.4 |
| Private sector | ... activities regarding implementation of OIE standards at the national level | 4.1 |
| | | 1.1 |
| Potential investor in capacity-building projects | ... activities that require investment | 2.3 |
| | | 2.5 |
| | | 2.7 |
| | | 3.3 |
| OIE staff member, either at Headquarters or in Regional Representations | ... all of the activities, particularly those that you have responsibility for implementing | 3.4 |
| | | All |

Summary of objectives and activities



Objective 1 STANDARDS

Scientifically sound OIE international standards meet OIE Members' needs to manage risks, facilitate safe trade and improve aquatic animal health and welfare

| | | |
|----------|-----|--|
| Activity | 1.1 | Develop new OIE standards |
| | 1.2 | Revise existing <i>Aquatic Code</i> standards |
| | 1.3 | Review the scientific basis of existing animal welfare standards |
| | 1.4 | Revise existing <i>Aquatic Manual</i> standards |
| | 1.5 | Identify barriers to the implementation of standards |
| | 1.6 | Increase the accessibility of standards |



Objective 2 CAPACITY BUILDING

OIE programmes support the strengthening of the Aquatic Animal Health Services of OIE Members

| | | |
|----------|-----|--|
| Activity | 2.1 | Support the implementation of standards |
| | 2.2 | Increase the use of the OIE PVS Pathway |
| | 2.3 | Develop public-private partnerships |
| | 2.4 | Identify barriers to transparency in disease reporting |
| | 2.5 | Develop a Disease Identification Guide for mobile devices |
| | 2.6 | Support OIE Delegates and OIE Focal Points |
| | 2.7 | Establish an OIE Global Aquatic Animal Health Scholarship scheme |
| | 2.8 | Support small-scale aquaculture |



Objective 3 RESILIENCE

Responses to emerging aquatic animal health issues of regional or global concern are coordinated and timely

| | | |
|----------|-----|--|
| Activity | 3.1 | Formalise procedures for a coordinated OIE approach to disease emergencies |
| | 3.2 | Provide support for early response at the national level |
| | 3.3 | Develop guidelines for collaborative emergency response |
| | 3.4 | Provide practical AMR guidance |



Objective 4 LEADERSHIP

OIE's capacity to provide global aquatic animal health and welfare leadership is strengthened

| | | |
|----------|-----|--|
| Activity | 4.1 | Further develop international partnerships |
| | 4.2 | Develop the OIE's aquatic animal health and welfare capabilities |
| | 4.3 | Engage OIE scientific networks |
| | 4.4 | Establish forums for the OIE Community |
| | 4.5 | Identify the highest-priority research areas |

Drivers for collaboration on aquatic animal health and welfare



Aquatic animal production is growing rapidly and contributes significantly to human nutrition, poverty alleviation and sustainable development. It is essential to achieving many of the Sustainable Development Goals.¹

Disease outbreaks are the greatest threat to aquatic animal production globally. This threat is shared and requires collaborative actions by the OIE and its Members, in collaboration with relevant stakeholders, to protect and improve aquatic animal health worldwide.

This Aquatic Strategy sets priorities for collaborative actions to protect aquatic animal health and welfare, and to fully realise the potential of aquatic animal production.



The growing and shared importance of aquatic animal production

Human consumption of aquatic animals is greater than ever before. Aquatic animals, including those from wild fisheries and aquaculture, are critical for human nutrition, livelihoods, food security and poverty alleviation. Aquaculture has potential for continued growth to meet the world's rapidly growing demand for aquatic animal products. Wild fisheries harvest will also continue to play an important role. Thriving and sustainable businesses are essential if growing demand is to be met.



THE GLOBAL POPULATION IS GROWING

- The world's population will approach 10 billion by 2050.²
- Growth, especially in developing countries, will be concentrated in urban areas, with an estimated 6.3 billion people living in these areas by 2050.² The population in rural areas will decline.
- This will create a move away from subsistence and small-scale aquaculture and increase reliance on commercial production systems.



DEMAND FOR AQUATIC ANIMAL PRODUCTS IS INCREASING

- Demand for aquatic animal products has been increasing and is predicted to rise by at least 32% by 2030.³
- It is estimated that 17% of animal products and 7% of all protein currently consumed globally is from aquatic animals.³
- The harvest from wild fisheries is expected to remain stable, with many fisheries fully exploited, and others overfished.³
- Any growth in aquatic animal production will therefore need to come from aquaculture.³
- Aquatic animal production needs to double by 2050 if it is to meet projected food requirements.⁴

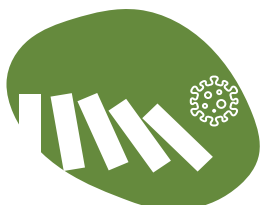


PRODUCTION IS SUPPORTING SUSTAINABLE DEVELOPMENT

- Aquatic animal production plays an important role in supporting livelihoods, especially in low- and middle-income countries.³
- Growth of aquatic animal production is essential to achieving many of the United Nations Sustainable Development Goals, i.e. those related to ending poverty, ending hunger, ensuring good health and well-being, ensuring responsible consumption and production, and conserving and sustainably using marine resources.³
- Growth in aquatic animal production must be sustainable to have lasting benefits.

Shared threat of disease

Disease is a major threat to aquatic animal production. It has caused extensive impacts on production, livelihoods, and the environment. The risk of future disease outbreaks will increase as production grows, new species are domesticated and trade increases. New diseases will also continue to emerge, some with significant consequences.



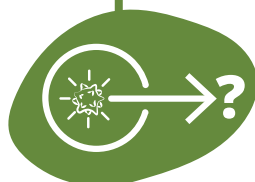
DISEASE IMPACTS ARE SEVERE

- Disease is the most significant threat to the sustainable growth of the world's aquatic animal production.
- It has impacted food security,⁵ profitability,^{6,7} livelihoods,⁸ and biodiversity.⁹
- The spread of transboundary diseases is a significant threat to global aquatic animal production. Cooperation between countries is essential to prevent and manage future disease outbreaks.



RISK FACTORS ARE INCREASING

- Many of the characteristics of aquaculture that present opportunities are also risk factors for disease emergence and spread.¹⁰
- Aquaculture is growing rapidly and has grown 527% from 1990 to 2018 (compared to a 14% increase in capture fisheries) due to intensification, expansion into new areas, new technology, and rising incomes worldwide.³
- Aquatic animal production is diverse. More than 500 aquatic animal species are produced in aquaculture establishments and many more from fisheries.¹¹ There are also numerous production methods, and enterprises range from multinational organisations to subsistence farms.
- More than a third of aquatic animal products are traded internationally.³
- The climate is changing and likely to increase the risk of disease emergence and spread.



NEW DISEASES ARE EMERGING

- The risk factors described here have driven the emergence of new disease threats and the spread of known diseases.
- Diseases new to science emerge regularly, some with rapid and extreme impacts. Each new disease requires substantial investment in scientific research to create knowledge to mitigate the threat.
- Since 2000, an average of two new diseases have been listed in the OIE *Aquatic Code* every three years.
- This pattern of disease emergence and spread is expected to continue. Known diseases will also continue to impact aquatic animal health, negatively affecting productivity and profitability.



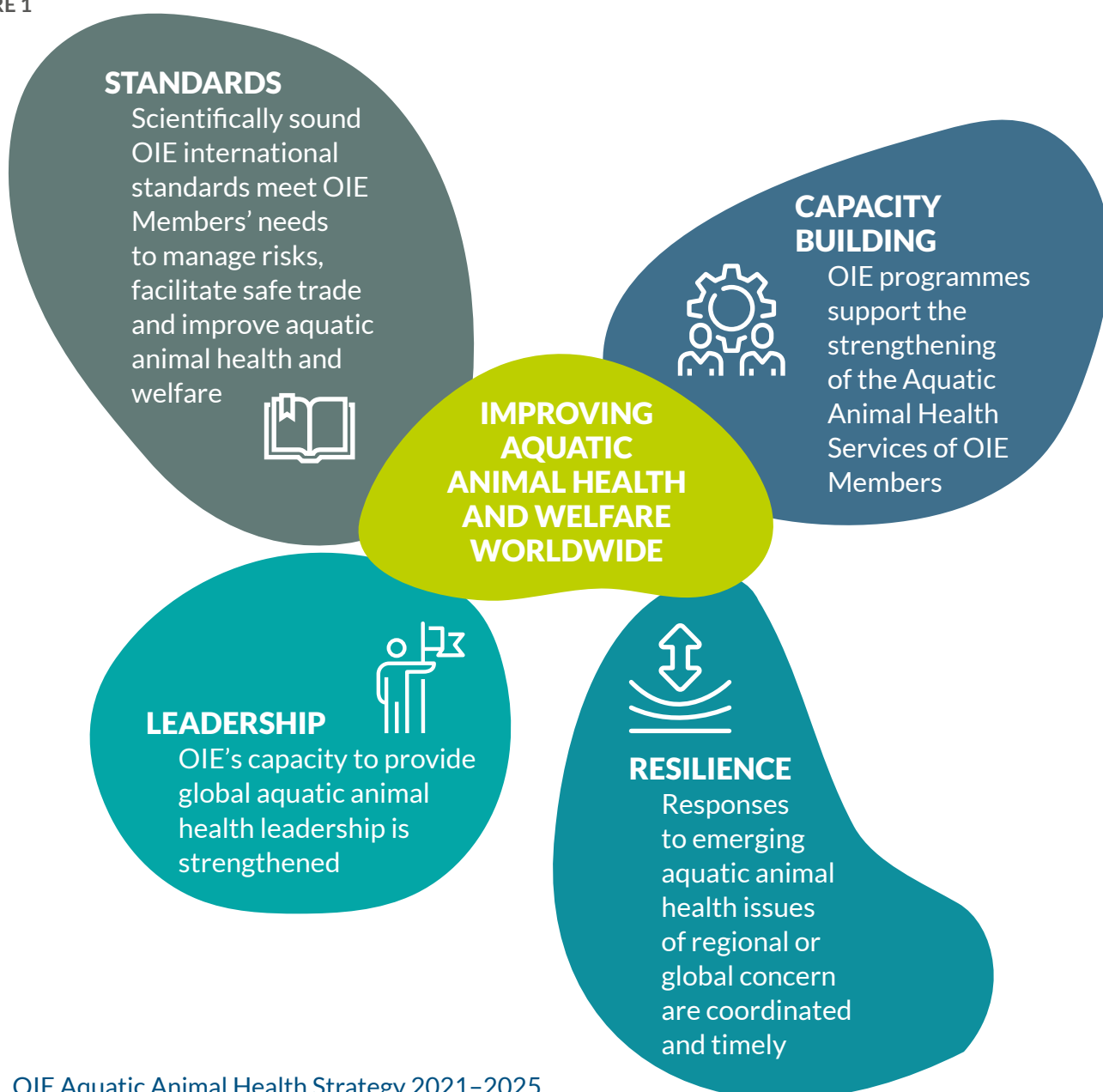
Shared responsibility to improve aquatic animal health and welfare worldwide

Efforts to manage aquatic animal health and welfare worldwide have not kept pace with the rapid growth of aquatic animal production and the increased risk of disease. There is a compelling need for coordinated and collaborative action among the OIE Community to achieve a strong global aquatic animal health system. Any efforts to improve aquatic animal health will extend beyond the OIE Community, thus increasing the potential to improve livelihoods, feed a growing world population, provide opportunities for job and food security and contribute to a sustainable global future.

This Aquatic Strategy is a call to action to address some of the OIE Community's greatest challenges in managing aquatic animal health and welfare. It will identify and coordinate actions that address the highest-priority common needs and focus resources on activities that will provide enduring impacts.

The Strategy has been designed to guide actions to strengthen four areas of the aquatic animal health system: **STANDARDS**, **CAPACITY BUILDING**, **RESILIENCE** and **LEADERSHIP**.

FIGURE 1



The OIE Aquatic Animal Health Strategy



Strategy development

The development of the Aquatic Strategy was led by the OIE with the support of the OIE Aquatic Animals Commission. It recognises the growing importance of aquatic animal health and the need for a strategic approach to its management worldwide. The Strategy supports the OIE's 7th Strategic Plan (2021–2025)¹² and is aligned with the mandate of the OIE.

The need for a Strategy originally emerged through discussions at a range of fora, including the OIE General Session, Regional Commission Conferences and Global Conferences. Out of these discussions, clear themes had been identified, and the OIE subsequently used these same fora to seek the views of Members and OIE experts on specific objectives.

With the objectives identified, the next step in the development of the Strategy was to seek feedback from the OIE Community on priority activities. The OIE conducted a survey of the entire OIE Community.

The Survey asked four key questions:

- Which OIE activities are already working well?
- What are the greatest opportunities for growth in aquatic animal production over the next 5–10 years?
- What are the threats that could hinder growth in the sector?
- Which of the activities proposed within the Strategy should be prioritised?

The responses provided valuable input into the development of this Strategy.¹³ Through their responses, Members were able to state their needs and express their views on which activities should be considered a priority in the Strategy. Additional details on Member's views in the survey can be found in 'Views of the OIE Community' (p. 29).

This Strategy is, therefore, the culmination of many years of consideration by the OIE Community on how to strengthen aquatic animal health and welfare worldwide, and how to support the sustainable growth of aquatic animal production into the future.



Roles and responsibilities for implementation of the Aquatic Strategy

Strategy implementation

The OIE will oversee the implementation of the Aquatic Strategy, monitor progress and communicate achievements to the OIE Community. An implementation plan will be developed to ensure the effective implementation of the Strategy. This plan will identify priorities and resource requirements, define timelines and assess possible obstacles to the plan's successful implementation. This will ensure that the Strategy remains relevant and that its identified priorities are being realised.

In support of the overarching implementation plan, each activity will have an individual project plan to precisely define the needs that are being addressed and the methods that will be used to achieve the objectives. In addition, project plans will describe expected outcomes and outputs, key milestones, and resource requirements (including any new investments). These project plans will define the business case for investors (see 'Funding implementation' below).

A collaborative approach to implementation

The OIE will lead the implementation of activities and will work in partnership with Members, OIE Regional Commissions, the OIE Aquatic Animals Commission, OIE Reference Laboratories and Collaborating Centres, partner organisations, and the private sector.

The role that the different parties will play will vary, as each activity will require different resources and expertise and will be aimed at different beneficiaries. For example, where activities are regionally focused, the OIE Regional Representations will play the lead role in implementation; whereas, for activities with a technical focus, the OIE Reference Laboratories, Collaborating Centres and Aquatic Animals Commission will play the lead role.

Other intergovernmental organisations, in particular FAO, the World Bank and NACA, will be invited to collaborate in the implementation of many of the activities identified in this Strategy, as will non-governmental organisations, as they too play a crucial role in supporting Members at the national and regional levels.

The private sector also plays a critical role in managing and improving aquatic animal health worldwide. The development of partnerships between the public and private sectors would strengthen implementation of the Strategy and will be explored.

Funding implementation

The Strategy is based on a framework of agreed priorities designed to improve aquatic animal health and welfare worldwide, and it represents the common needs of the OIE Community. Some activities will be implemented utilising existing OIE resources, but it is also expected that the Strategy will attract additional direct funding and in-kind contributions. The Strategy offers a guide on how each activity could be resourced (refer to Tables 1 to 4), and further details will be developed through individual project plans.

Communication of progress

A communication plan will be developed to ensure that the OIE Community is regularly updated on the implementation of the Strategy. This will include regular communication through OIE channels, relevant meetings and other international fora. The OIE Aquatic Animal Portal¹³ will be used as the central point of information on the Strategy's implementation.

Building on existing strengths

The OIE's involvement in aquatic animal health began in 1960 with the creation of the Fish Diseases Commission, which was established in response to the growing importance of international trade in fish. In 1968, fish diseases were included in the OIE's first published standard – the *International Zoo-Sanitary Code*, which was a compilation of 40 years of scientific and technical work on how to address animal diseases. Although it is well known that this *Zoo-Sanitary Code* addressed diseases of terrestrial diseases, it is often less well known that it also addressed diseases of fish.

The first official reporting of aquatic animal diseases began in the same year that the *Zoo-Sanitary Code* was published. At that time, the list of notifiable aquatic animal diseases included just four fish diseases, and now it totals 29 diseases of fish, molluscs, crustaceans and amphibians.

In 1988, the work of the Fish Diseases Commission evolved as aquaculture changed, and the scope of the Commission was extended to include diseases of molluscs and crustaceans. In 2003, the Commission was renamed the Aquatic Animal Health Standards Commission to reflect these changes, and, in 2007, diseases of amphibians were also added to its remit.

In recent years, the OIE's work on aquatic animal diseases has continued to expand. It now has Reference Centres dedicated to aquatic animal diseases and associated topics, carries out capacity-building activities, holds global conferences on aquatic animal health, and runs numerous other programmes and activities that focus on aquatic animal health.

The recent consultation to develop this Strategy showed that all of the OIE's programmes are highly rated by the OIE Community [see 'Views of the OIE Community' (p. 29) for more details]. The three most highly rated of these programmes are the development and maintenance of the *Aquatic Code*, the *Aquatic Manual* and OIE-WAHIS. These and other existing OIE programmes and networks are described below:

- ***Aquatic Code*** – standards for improving aquatic animal health and welfare worldwide, including standards for the prevention, early detection, reporting and control of pathogenic agents and standards for preventing their spread via international trade.
- ***Aquatic Manual*** – standards for diagnosing diseases listed in the *Aquatic Code*.
- **Standard-setting process** – Member consultation is critical for the development of standards. The Aquatic Animals Commission coordinates their development, and they are adopted by the World Assembly of Delegates.

- **World Animal Health Information System (OIE-WAHIS)** – a real-time, internet-based system that processes disease data provided by Members as part of their reporting obligations. OIE-WAHIS serves as an early warning system to inform the international community of important epidemiological events. OIE-WAHIS also includes information on production, surveillance and control measures.
- **Reference Laboratory network** – a core component of the OIE network of scientific expertise; a global network of laboratories that provides Members with expert advice and high-quality disease diagnostic services for OIE-listed diseases.
- **Collaborating Centre network** – a core component of OIE scientific expertise; internationally recognised centres of research that support Members through the provision of expertise in specific disciplines.
- **OIE publications** – the OIE produces a range of publications relevant to aquatic animal health. These range from guidance documents, such as the *Guide for Aquatic Animal Health Surveillance* and the *Handbook on Import Risk Analysis*, to special issues of the OIE’s flagship peer-reviewed journal, the *Scientific and Technical Review*. The latest issue on this topic was published in 2019 and was entitled ‘The role of aquatic animal health in food security’ (Vol. 38 [2], 2019).
- **Regional activities** – regionally important activities coordinated by OIE Regional Representations. These include Regional Commission Conferences, workshops for OIE Focal Points and regional collaboration on aquatic animal disease control.
- **OIE PVS Tool – Aquatic** – a tool to evaluate the performance of Aquatic Animal Health Services with the aim of supporting Members to implement OIE standards and to improve national Aquatic Animal Health Services.
- **OIE Global Conferences** – Conferences that bring together OIE Members, partners and experts to share knowledge and build capacity on specific topics, including aquatic animal health.
- **OIE strategies** – the OIE sets and communicates its strategic direction through its five-year Strategic Plans. This Strategy is intended to align with the OIE’s 7th Strategic Plan and to complement other OIE strategies, such as the Animal Welfare Strategy and the Strategy on Antimicrobial Resistance.
- **Partnerships** – the OIE’s partnerships with Members and with both intergovernmental and non-governmental organisations are critical to achieving its vision.

For more information on these OIE programmes and networks go to www.oie.int



This Strategy addresses **FOUR OBJECTIVES: STANDARDS, CAPACITY BUILDING, RESILIENCE** and **LEADERSHIP**. Specific activities that are designed to help achieve each objective and improve aquatic animal health are identified. Each objective includes the related activities, their rationale and approach.



Objective 1 – STANDARDS

Scientifically sound OIE international standards for aquatic animal health meet Members' needs to manage risks, facilitate safe trade, and improve aquatic animal health and welfare.

Scientifically sound and internationally agreed aquatic animal health standards are key to improving aquatic animal health and welfare worldwide. They are also crucial to facilitating the safe global trade in aquatic animals and aquatic animal products, which is estimated to be worth US\$ 164 billion per annum.¹⁴ OIE standards are also recognised as the international standards for animal health and zoonoses in the World Trade Organization Agreement on the Application of Sanitary and Phytosanitary Measures.¹⁵

The development of standards that address Members' needs is a core activity of the OIE Aquatic Animals Commission. OIE Members play a key role in developing standards by contributing expertise and country experience through their comments on draft standards. The implementation of standards is a fundamental responsibility of all OIE Members, with ultimate responsibility lying with their Competent Authority. It is through the implementation of these evidence-based standards that improved aquatic animal health can be achieved.

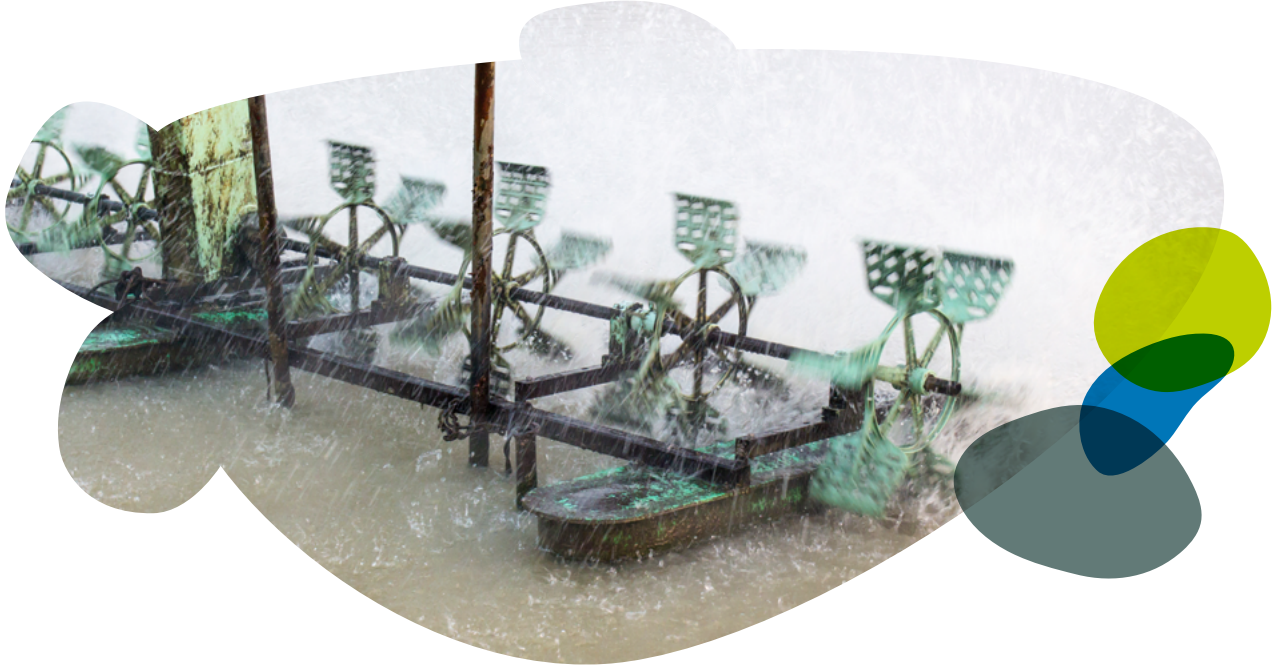
This objective addresses the development of new standards and the revision of existing standards, and their implementation. The activities undertaken to meet this objective aim to ensure OIE aquatic standards are scientifically sound and fit for purpose, and that Members are supported to engage in the standard-setting process and implement standards.

Activity 1.1

Develop new OIE standards

This Activity will develop new standards to support risk management, such as standards to facilitate safe trade and for disease prevention and control. OIE Members have prioritised the development of new standards to facilitate safe trade of ornamental aquatic animals and of aquatic animal genetic material, such as gametes, larvae, fry, seed and post-larvae. Standards will

also be developed to assist Members, producers and private enterprises to implement aquaculture biosecurity and to improve emergency disease contingency planning and responses to aquatic animal disease outbreaks. This Activity will add new standards to the *Aquatic Code*, providing guidance to Members on aspects of safe trade and improved risk management at the national level. New standards will also be developed for the *Aquatic Manual* where required.



Activity 1.2

Revise existing *Aquatic Code* standards

This Activity will revise existing *Aquatic Code* standards to provide updated recommendations that are scientifically sound and meet the needs of Members. Priorities include revision of the lists of susceptible aquatic animal species for each listed disease, and the revision of approaches to declaration of disease freedom. Members' confidence in the strength of self-declarations of disease freedom will increase if the relevant standards are practical and fit for purpose. Chapter 1.4. on surveillance will be revised to complement and support the new approaches to self-declaration of disease freedom. Other priorities include revision of chapters in Section 4 'Disease prevention and control'. This Activity will contribute to the continuous improvement of the *Aquatic Code*, ensuring it is fit for purpose and contemporary.

Activity 1.3

Review the scientific basis of existing aquatic animal welfare standards

This Activity will review the science of aquatic animal welfare to evaluate whether standards continue to provide recommendations that are scientifically sound and meet the needs of Members. Priorities include assessing the developing science on sentience in aquatic animals and evaluating contemporary industry practices to promote welfare. This Activity will complement the OIE Animal Welfare Strategy and contribute to increased understanding of aquatic animal welfare and its promotion through relevant standards.

Activity 1.4

Revise existing *Aquatic Manual* standards

This Activity will revise *Aquatic Manual* disease-specific chapters, using a new template to improve clarity and ease of use. The content of each chapter will be reviewed to ensure inclusion of new scientific and technical information. New diagnostic methods will be incorporated where appropriate, and guidance will be provided on their fitness for purpose. This Activity will substantially strengthen and modernise the OIE's diagnostic standards for aquatic animal diseases.

Activity 1.5

Identify barriers to the implementation of standards

This Activity will aim to identify and understand the barriers that Members face in the implementation of standards. It will also consider what aspects of current processes are working well, why they are working well and what aspects of the process should be maintained, further promoted or enhanced. This Activity will be developed within the framework of the OIE Observatory, a monitoring framework that is being designed to identify and analyse Members' practices in implementing OIE standards. Better implementation of standards will support the strengthening of the Aquatic Animal Health Services of Members.

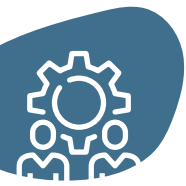
Activity 1.6

Increase the accessibility of standards

This Activity will determine the need to make OIE standards more accessible to their users. For example, the need to make the *Aquatic Code* and *Aquatic Manual* available in languages other than the three OIE official languages will be

investigated. The need to provide additional guidance to assist users to understand and use standards will be explored. Improved accessibility of standards will promote understanding and may enable Members to engage in the standard-setting process and improve implementation.

| Activity | Description | Resources required |
|---|---|--|
| 1.1 Develop new OIE standards | Develop new OIE standards in the <i>Aquatic Code</i> and <i>Aquatic Manual</i> , to support risk management | Existing OIE resources |
| 1.2 Revise existing <i>Aquatic Code</i> standards | Revise standards to include new or updated information on contemporary approaches to risk management and safe trade of aquatic animals | Existing OIE resources |
| 1.3 Review the scientific basis of existing aquatic animal welfare standards | Monitor science on sentience in aquatic animals, and monitor industry practices to ensure standards reflect new scientific and technical information | Existing OIE resources |
| 1.4 Revise existing <i>Aquatic Manual</i> standards | Revise all <i>Aquatic Manual</i> disease-specific chapters using a new template, update diagnostic methods and case definitions, and include recommendations for surveillance | Existing OIE resources |
| 1.5 Identify barriers to the implementation of standards | Investigate barriers to involvement in the standard-setting and implementation processes and, in doing so, consider approaches to more effectively engage the OIE Community | Build on existing OIE initiatives / further investment may be required |
| 1.6 Increase the accessibility of standards | Consider the need to make OIE standards available in languages other than the three OIE official languages, and identify the resources that would be required to do this | Build on existing OIE initiatives / further investment may be required |



Objective 2 – CAPACITY BUILDING

OIE programmes support the strengthening of the Aquatic Animal Health Services of OIE Members.

Aquatic animal production systems are epidemiologically linked through the movement of people, trade in aquatic animals and aquatic animal products, and through the environment. These linkages create shared risks and the necessity to address those risks collectively. If aquatic animal production is to continue to grow sustainably, national, regional and international aquatic animal health management will need to keep pace with the growth and changing nature of aquatic animal production.

The activities undertaken to achieve this objective will support Members to strengthen their Aquatic Animal Health Services, regardless of the level of development of those services. The activities will address areas such as improving utilisation of the OIE PVS Pathway, increasing transparency in disease reporting, supporting professionals, and enhancing disease management in small-scale aquaculture.

Activity 2.1

Support the implementation of standards

This Activity will design and promote activities to overcome the barriers identified through Activity 1.5. The initiatives developed under this Activity will build on the currently available OIE resources and tools to assist Members to understand and implement standards. This Activity will enable Members to better implement standards that address their needs and provide the greatest benefit.

Activity 2.2

Increase the use of the OIE PVS Pathway

This Activity will identify and examine the barriers to utilisation of the OIE PVS Pathway in the aquatic animal health sector in order to improve uptake by Members. The OIE PVS Pathway supports Members to implement OIE standards and continually improve their Aquatic Animal Health Services. Although utilisation of the OIE PVS Pathway has been limited for the aquatic sector, results from the consultation to develop this Strategy have shown that Members highly value the programme. This Activity will better enable Members to evaluate and prioritise actions to strengthen the critical competencies of their Aquatic Animal Health Services.

Activity 2.3

Develop public–private partnerships

This Activity will build on existing OIE initiatives, such as the *OIE PPP Handbook*,¹⁶ to identify activities to support the further development of public–private partnerships (PPPs) that strengthen Aquatic Animal Health Services and, specifically, promote the common goals of the public and private sectors. This Activity will provide targeted guidance on how to effectively develop PPPs for the aquatic sector.

Activity 2.4

Identify barriers to transparency in disease reporting

This Activity will build on the monitoring framework developed through Activity 1.5 and will focus on identifying and understanding both the barriers to timely and accurate disease reporting, and the circumstances in which timely reporting does occur. Timely and accurate information on disease status is fundamentally important to enabling Members to implement standards and prevent the transboundary spread of diseases. Prompt and accurate reporting builds trust and underpins the effectiveness of international arrangements for safe trade. Reporting of aquatic animal diseases has improved, but more must be done to build a culture of conscientious reporting. This Activity will inform the development of approaches to address the identified barriers to reporting.





Activity 2.5
Develop a Disease Identification Guide for mobile devices

This Activity will develop the OIE Disease Identification Guide for mobile devices, which will be publicly available for use by the OIE Community. A fundamental component of disease reporting is recognition of a disease event by, for example, a farmer or an aquatic animal health professional. The Disease Identification Guide will be designed to assist in the recognition of clinical signs of OIE-listed diseases and to facilitate timely reporting. This Activity will enable appropriate action, including further investigation and a rapid response, which will increase the chances of eradication success.

Activity 2.6
Support OIE Delegates and OIE Focal Points

This Activity will help Delegates and Focal Points to better understand their roles and responsibilities with respect to the OIE and aquatic animal health and welfare. It will also support them to participate in the OIE standard-setting process and the implementation of standards at the national level. Challenges that arise will be identified and solutions proposed. It will also form part of the broader OIE initiative to develop an OIE Platform for the Training of Veterinary Services, which will include specific modules for different roles and functions. This Activity will empower Delegates and Focal Points to fulfil their responsibilities, and to build aquatic animal health capability at the national level.

Activity 2.7 Establish an OIE Global Aquatic Animal Health Scholarship scheme

This Activity will establish an OIE Global Aquatic Animal Health Scholarship scheme. The field of aquatic animal health is evolving rapidly, and ongoing investment is required to develop the knowledge and skills of aquatic animal health professionals. This scheme will enable aquatic animal health professionals to access short-term training opportunities. Scholarship recipients will be chosen through a competitive selection process, targeting skills that benefit aquatic animal health management in their countries. This Activity will enhance the capabilities of aquatic animal health professionals and strengthen the Aquatic Animal Health Services in which they work.

Activity 2.8 Support small-scale aquaculture

This Activity will focus on identifying the challenges in managing aquatic animal health in small-scale aquaculture and determine tangible and cost-effective interventions. Small-scale aquaculture is a vital contributor to local economies, culture, livelihoods, poverty alleviation and human nutrition. However, managing aquatic animal health in small-scale aquaculture is challenging, and may require substantial resources to deliver meaningful outcomes. As a result, opportunities to reduce disease transmission and respond to emerging disease threats may be limited. This Activity will make available tangible tools that communities who rely on small-scale aquaculture can use to reduce their vulnerability to the impacts of aquatic animal diseases.

| TABLE 2 – ACTIVITIES TO SUPPORT THE ACHIEVEMENT OF OBJECTIVE 2: CAPACITY BUILDING | | | |
|---|---|--|--|
| Activity | | Description | Resources required |
| 2.1 | Support the implementation of standards | Promote currently available and new resources and tools to assist understanding and implementation of standards (e-learning, videos) based on insights from Activity 1.4 | Build on existing OIE initiatives / further investment may be required |
| 2.2 | Increase the use of the OIE PVS Pathway | Consider opportunities to enhance use by Members of the OIE PVS Pathway | Investment required |
| 2.3 | Develop public-private partnerships | Identify resourcing needs for developing public-private partnerships to strengthen Aquatic Animal Health Services | Build on existing OIE initiatives / further investment may be required |
| 2.4 | Identify barriers to transparency in disease reporting | Identify and review barriers to timely reporting of aquatic animal diseases and identify measures for improvement | Investment required |
| 2.5 | Develop a Disease Identification Guide for mobile devices | Develop an OIE aquatic animal disease identification guide for mobile devices | Investment required |
| 2.6 | Support OIE Delegates and OIE Focal Points | Develop training modules for OIE Delegates and OIE Focal Points to help them perform their roles and to support the implementation of OIE standards | Investment required |
| 2.7 | Establish an OIE Global Aquatic Animal Health Scholarship scheme | Develop an OIE Global aquatic animal health scholarship scheme to support short course training of public-sector aquatic animal health professionals | Investment required |
| 2.8 | Support small-scale aquaculture | Identify challenges to managing aquatic animal health in small-scale aquaculture and specific resources needed to address them | Build on existing OIE initiatives / further investment may be required |



Objective 3 – RESILIENCE

Responses to emerging aquatic animal health issues of regional or global concern are coordinated and timely.

There are many emerging aquatic animal health threats that require collaboration and a strategic focus on common goals, if resilience is to be built and optimal outcomes achieved. Disease emergencies are the principal focus of this objective, as they are considered the greatest threat to sustainable aquatic animal production, and their management requires improved resilience and international solidarity.

Early detection and rapid response to disease outbreaks of regional or global concern, and prevention of transboundary spread of disease, is a key objective in improving aquatic animal health worldwide. Responding to disease outbreaks within a country is the responsibility of the Competent Authority; however, responding to the rapid spread of diseases across borders demands international cooperation. Acting in the common interest is what enables coordinated and timely responses from the OIE Community as they work to eradicate or contain disease. A key aim of this objective is to strengthen resilience by improving coordination and cooperation among the OIE Community during disease emergencies.

Antimicrobial resistance (AMR) and insufficient access to appropriate and effective veterinary medicinal products is another important issue that requires international solidarity. It is also addressed under this objective, complementing the existing OIE AMR Strategy.

Activity 3.1 Formalise procedures for a coordinated OIE approach to disease emergencies

This Activity will support Members by formalising and documenting a coordinated OIE approach to disease emergencies. When an aquatic animal disease emergency of regional or global concern occurs, the OIE initiates a range of actions to assist Members. These actions include information gathering, applying the OIE's scientific expertise, communicating information, bringing together experts and developing guidance. This Activity will also consider the need for new activities to support emergency responses. By formalising these procedures, this Activity will improve clarity among Members on the actions the OIE can initiate to contribute to a rapid emergency response effort.

Activity 3.2 Provide support for early response at the national level

This Activity will develop a mechanism to help Members overcome barriers to instigating an emergency response, such as a lack of specialist expertise or diagnostic capability. The mechanism is intended to provide assistance that is tailored to the needs of affected Members and addresses specific outcome-focused activities – for example, the development of a response plan or surveillance programme, or identification of the causative agent. This mechanism will identify the support that is available and how it can be accessed at the international and regional level through, for example, OIE Regional Representations. This initiative will complement other existing mechanisms, such as the FAO's Emergency Management Centre for Animal Health. This Activity will enhance capacity to provide an early and rapid response to disease emergencies, thereby increasing the chance of a successful outcome.





Activity 3.3 Develop guidelines for collaborative emergency response

This Activity will develop best practice guidelines for Members to enable them to respond collaboratively to disease emergencies of shared concern, including emerging diseases. Collaboration, coordination and actions focused on the common interest of disease control are important in times of crisis, as are the immediate needs of directly affected Members. These guidelines will link to other Activities, such as Activity 4.3, which considers how to more fully engage OIE scientific networks. This will assist in the rapid establishment of collaborations during disease emergencies; for example, information-sharing among affected Members throughout the response, or the sharing of diagnostic and epidemiological expertise. This Activity will lead to improved emergency response outcomes, not only for the affected Member, but for neighbouring Members and trading partners, which may be affected if the disease is not controlled.

Activity 3.4 Provide practical AMR guidance

This Activity will identify how the OIE can support Members to better address the prudent and responsible use of antimicrobial agents, while improving access to appropriate and effective veterinary medicinal products to better control antimicrobial resistance in aquaculture. This Activity, which will complement the OIE AMR Strategy, will enable the OIE to develop tools that support Members to manage the threats of AMR in the aquatic sector.



| Activity | Description | Resources required |
|---|--|--|
| 3.1 Formalise procedures for a coordinated OIE approach to disease emergencies | Develop a procedure to coordinate the approach for responding to aquatic animal health emergencies of regional or global concern | Existing OIE resources / further investment may be required |
| 3.2 Provide support for early response at the national level | Develop a proposal for an OIE mechanism to initiate early action to respond to emerging issues and support Members in their response efforts | Investment required |
| 3.3 Develop guidelines for collaborative emergency response | Develop best practice guidelines for Members to enable them to respond collaboratively to disease emergencies, including emerging diseases | Investment required |
| 3.4 Provide practical AMR guidance | Develop tools and practical guidance for evaluating and addressing the risks of AMR arising through the use of antimicrobials in aquatic animals | Build on existing OIE initiatives / further investment may be required |





Objective 4 – LEADERSHIP

The OIE's capacity to provide global aquatic animal health leadership is strengthened.

The OIE has an important leadership role in bringing together the relevant stakeholders to improve aquatic animal health and welfare worldwide. As already identified in this Aquatic Strategy, aquatic animal production is becoming increasingly important, and will face new challenges that need to be addressed globally. Through this objective, the OIE will continue to build its capacity to lead efforts to meet these challenges into the future. Under this objective, five areas will be targeted to strengthen the OIE's capability to provide this leadership.

Activity 4.1

Further develop international partnerships

This Activity will identify new partnerships and also strengthen existing OIE partnerships that are important to its mission of improving aquatic animal health and welfare worldwide, by formalising shared commitments to collaborate on matters of common interest. Priority partnerships in the area of aquatic animal health and welfare will be identified, specific areas of collaboration will be agreed, and these developed into work plans to deliver specific outcomes. This Activity will strengthen the OIE's partnerships and provide a mechanism for the OIE and its partner organisations to deliver outcomes of benefit to Members.

Activity 4.2

Develop the OIE's aquatic animal health and welfare capabilities

This Activity will develop a plan to build aquatic animal health capabilities throughout the OIE's functional areas. The plan will identify where existing capabilities can be enhanced, or where new capabilities may be required to match future growth in aquatic animal production. The plan will also consider the internal OIE resourcing needs for implementation of the Strategy. This Activity will enable the OIE to match internal capability and expertise to growing resource demands.

Activity 4.3

Engage OIE scientific networks

This Activity will explore opportunities to strengthen, support and more fully utilise OIE scientific networks. These networks of experts are core resources that ensure a strong scientific basis for disease diagnosis and control and makes expert knowledge available to all Members. Issues that will be considered include: more fully utilising Reference Laboratory networks in disease emergencies, ensuring availability of diagnostic reference material, establishing Reference Laboratories for all OIE-listed aquatic diseases, and improving utilisation of the OIE Laboratory Twinning programme and the OIE PVS Pathway's Sustainable Laboratory Support missions. Opportunities to expand the role of Collaborating Centres and maximising the availability of their expertise to Members will be investigated, including encouraging additional Collaborating Centres to address gaps in expertise. This Activity will strengthen and further embed scientific expertise throughout the OIE Community and make it available to Members when they most need it.

Activity 4.4

Establish forums for the OIE Community

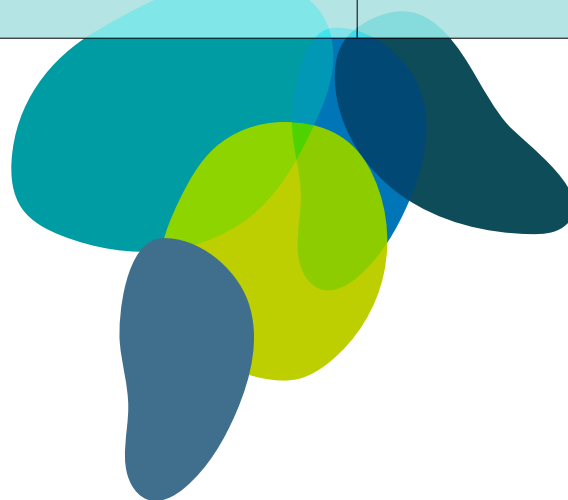
This Activity will explore opportunities to bring the OIE Community together with the objective of further strengthening collaboration to achieve a stronger global aquatic animal health system. Global forums, for example, provide an excellent opportunity to work cooperatively to strengthen global aquatic animal health capabilities. The 2019 OIE Global Conference on Aquatic Animal Health was pivotal in shaping this Strategy. It is anticipated that, during the life of this Strategy, global and regional forums will be held to share the successes of the Strategy and to set new strategic directions.

Activity 4.5

Identify the highest-priority research areas

This Activity will provide strategic prioritisation of research areas that are of importance to the OIE Community, specifically, the development and implementation of standards. Research is particularly important for aquatic animal diseases, because intensive aquaculture is relatively new; there is still much to learn about aquatic animal diseases, and the nature of aquatic animal production is rapidly evolving. Contemporary knowledge about disease is essential to all activities in this Strategy. This Activity will assist the research community and funders by identifying the highest-priority areas for research, i.e. those that will provide lasting benefit for global management of aquatic animal diseases. Collaboration with existing initiatives (e.g. STAR-IDAZ International Research Consortium on Animal Health) will also be ensured, where relevant.

| Activity | Description | Resources required |
|--|--|---|
| 4.1 Further develop international partnerships | Develop work plans for collaborative, outcome-focused activities that can be implemented with international partner organisations on shared priorities | Existing OIE resources |
| 4.2 Develop the OIE's aquatic animal health and welfare capabilities | Develop a plan to build aquatic animal health capabilities throughout the OIE's functional areas (Headquarters and Regional offices) | Existing OIE resources / further investment may be required |
| 4.3 Engage OIE scientific networks | Consider approaches to more fully engage and utilise OIE scientific networks of diagnostic and scientific support at regional and global levels | Existing OIE resources / further investment may be required |
| 4.4 Establish forums for the OIE Community | Explore opportunities to bring the OIE Community together to share ideas for strengthening global management of aquatic animal health | Investment required |
| 4.5 Identify the highest-priority research areas | Provide strategic prioritisation of research areas of importance to the OIE and the implementation of OIE standards | Investment required |



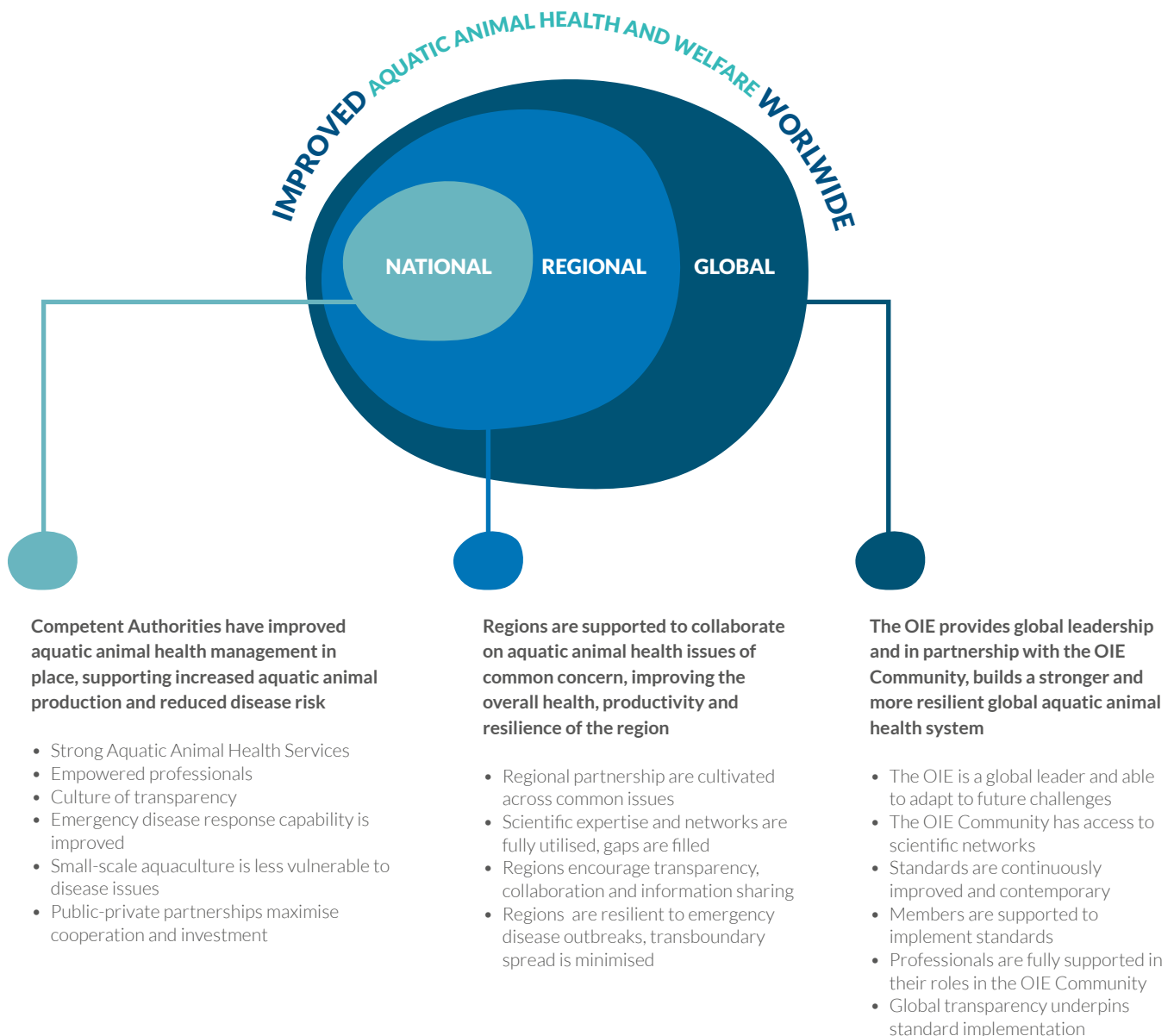
Conclusion

This Aquatic Strategy has looked ahead to consider what systems need to be strengthened or put in place to underpin a continued global increase in aquatic animal production, and mitigate the aquatic animal health and welfare risks that come with such rapid growth. It sets out four clear objectives – Standards, Capacity building, Resilience and Leadership within a framework of priority actions.

The activities in this Strategy will support national, regional and international efforts to improve aquatic animal health, and increase production to meet the world’s growing need for aquatic animal products.

The system is interconnected. Actions at the national level contribute to the health and productivity of aquatic animal production at regional and international levels. Likewise, initiatives at the international level will have positive impacts at regional and national levels. Improving one aspect of the system improves others. Given this interconnectedness, this Strategy prioritises holistic actions to improve aquatic animal health at all levels and to ensure that we maintain a strong global system well into the future.

This Strategy provides a path for the OIE Community to take action, together.



Views of the OIE Community





This page provides a brief summary of the results from the survey of the OIE Community conducted in January 2020 asking for views on opportunities and priorities for improving aquatic animal health and welfare worldwide. Seventy one (71) responses were received. The responses provided valuable input into the development of this Strategy.



The existing OIE initiatives that **you value the most** are:

- *Aquatic Code*
- *Aquatic Manual*
- OIE-WAHIS



The **biggest opportunities** in the next 5-10 years are:

- strengthening Aquatic Animal Health Services
- improving biosecurity
- keeping pace with changes in production methods and technologies



The **biggest threats** in the next 5-10 years are:

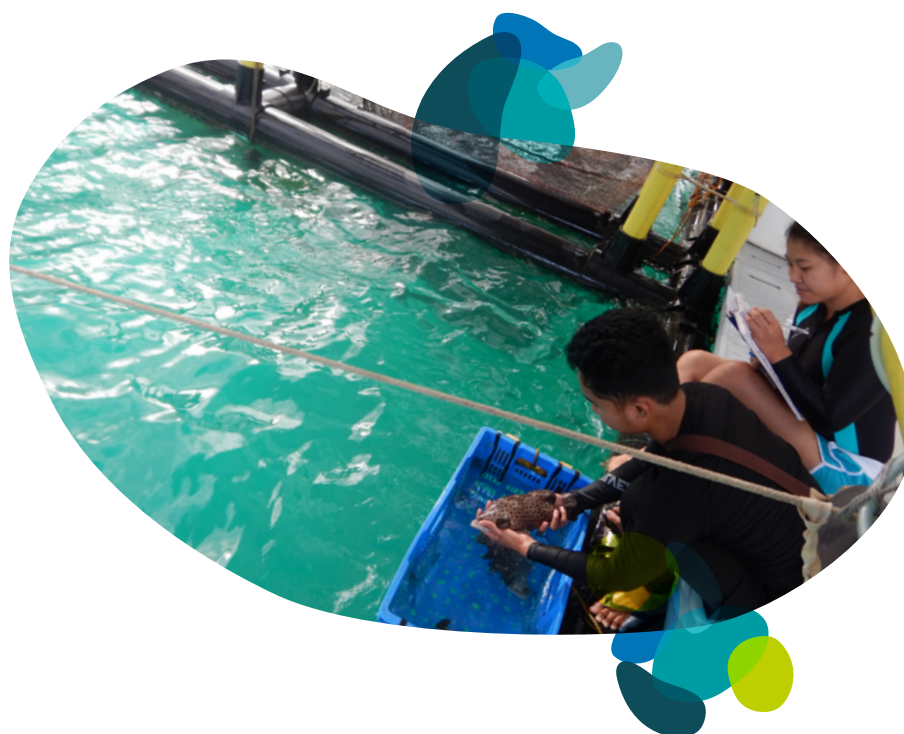
- poor biosecurity
- changing climate and environments
- poor responses to disease emergencies

We listened, when the OIE Community told us their highest priorities, and we addressed these in the Strategy in the following activities:

| | |
|---|--|
| Objective 1 STANDARDS | |
| 1.5 | Identify barriers to the implementation of standards |
| 2.1 | Support the implementation of standards |
| Objective 2 CAPACITY BUILDING | |
| 2.6 | Support OIE Delegates and OIE Focal points |
| 2.7 | Establish an OIE Global Aquatic Animal Health Scholarship scheme |
| Objective 3 RESILIENCE | |
| 3.1 | Formalise procedures for a coordinated OIE approach to disease emergencies |
| 3.3 | Develop guidelines for collaborative emergency response |
| Objective 4 LEADERSHIP | |
| 4.2 | Develop the OIE's aquatic animal health and welfare capabilities |
| 4.3 | Engage OIE scientific networks |

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