Food and Agriculture Organization of the United Nations

World Health Organization

INFOSAN SECRETARIAT STRATEGIC PLAN
2020-2025

INTERNATIONAL FOOD SAFETY AUTHORITIES NETWORK

Global INFOSAN strategic plan 2020-2025

Acknowledgements

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Contents

Acronyms

Artificial Intelligence (AI)

Bovine Spongiform Encephalopathy (BSE)

Codex Alimentarius Commission (CAC)

European Commission (EC)

European Union (EU)

European Union Agency for Law Enforcement Cooperation (EUROPOL)

Food and Agriculture Organization of the United Nations (FAO)

Global Outbreak Alert and Response Network (GOARN)

International Criminal Police Organization (INTERPOL)

International Food Safety Authorities Network (INFOSAN)

Information Technology (IT)

Next Generation Sequencing (NGS)

Rapid Alert System for Food and Feed (RASFF)

Strengths Weaknesses Opportunities Threats (SWOT)

Sustainable Development Goals (SDGs)

Thirteenth General Programme of Work (GPW 13)

variant Creutzfeldt–Jakob disease (vCJD)

Whole Genome Sequencing (WGS)

World Health Organization Health Emergencies Programme (WHE)

World Health Organization (WHO)

1. Executive Summary

The International Food Safety Authorities Network (INFOSAN) operates in a constantly changing environment which requires the capacity to react to food safety challenges, new technologies, and evolving environmental and political realities of member countries. As such, INFOSAN operations and management are designed with the flexibility required to adapt to changing circumstances as well as new challenges. The increasing use of INFOSAN by members demonstrates the confidence in the services provided within the mandate of the Food and Agriculture Organization of the United Nations (FAO) and the World Health Organization (WHO).

However, beyond outlining the day-to-day operations, there is a need to provide a strategic vision that describes the future role of the network. This strategic document describes the process undertaken by the INFOSAN Secretariat with the aim to inform the decision-making process within FAO and WHO together with the INFOSAN Advisory Group.

This strategy starts with a description of the objectives and methodology of the strategic thinking process, continues by providing an overview of the history, current status and contextual factors influencing INFOSAN operations, and concludes with a description of six strategic objectives by outlining the key challenges as well as actions to be taken by the INFOSAN Secretariat to achieve these objectives.

We hope that this document will serve as a source of inspiration for future discussions that will further inform the strategic thinking process and shape the future direction of INFOSAN. This document should be referred to during the development of specific project proposals that will aim to address specific actions to achieve the identified objectives.

INFOSAN members should note that this document has been drafted by the INFOSAN Secretariat in consultation with the INFOSAN Advisory Group and complements other documentation that has been published with the support of the broader INFOSAN membership. The table below outlines the purpose, authors and primary users of the different reference documents:

Documents	Purpose	Authors	Primary users
INFOSAN Secretariat Strategic Plan	To guide overall management of INFOSAN by the Secretariat	INFOSAN Secretariat together with the INFOSAN Advisory Group	FAO/WHO INFOSAN Secretariat
Regional strategies to strengthen INFOSAN	To outline regional-specific actions for members to strengthen INFOSAN	INFOSAN Secretariat, together with Regional Food Safety Officers/Advisers and regional INFOSAN Members	INFOSAN Members in respective regions
INFOSAN Members' Guide	To ensure all INFOSAN members understand their roles and responsibilities	INFOSAN Secretariat together with the INFOSAN Advisory Group and all INFOSAN members	All INFOSAN Members

2. Objectives and methodology of the strategic planning process

2.1 Objectives

This strategic plan was developed to provide the INFOSAN Secretariat with a clear path to guide the future development of the network in terms of membership, activities and expansion. This will include the continued provision of an efficient and enabling environment for the exchange of information and experiences to better manage food safety incidents, prevent outbreaks, strengthen food safety systems globally, and connect INFOSAN members to encourage greater intersectoral collaboration related to food safety.

The objectives of the strategic planning process are to:

- Describe the current INFOSAN mission and vision

- Set direction and priorities for INFOSAN for the next six years

- Provide guidance on simplified decision-making for the INFOSAN Secretariat with respect to future activities

- Drive alignment among global, regional and national stakeholders

- Communicate the future impact of INFOSAN for Member States

2.2 Methodology

The INFOSAN Secretariat engaged the INFOSAN Advisory Group members in 2016 in an analysis of the strengths, weaknesses, opportunities, and threats (SWOT) related to INFOSAN. The input received was used in a participatory manner to document a strategic plan for the network that was developed by the INFOSAN Secretariat with additional input from the INFOSAN Advisory Group members and other FAO and WHO staff.

This visionary mapping and planning exercise is not considered a one-off activity, but the basis of a continuing process that will accompany the INFOSAN Secretariat's work in the coming years.
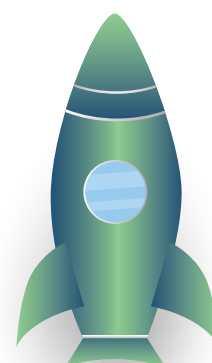
3. INFOSAN profile

3.1 History of INFOSAN

In 2000, the World Health Assembly (WHA) of the WHO adopted resolution 53.15, calling for improved communication among WHO and its Member States on matters of food safety. This was done in recognition of the fact that food safety responsibilities are often situated in different ministries and agencies in each country and because managing food safety emergencies often requires the rapid exchange of information across borders. Two years later, in 2002, the WHA expressed serious concerns about health emergencies caused by natural, accidental or intentional contamination of food and requested WHO to provide tools and support to Member States to increase their capacity to respond to such emergencies. The importance of international coordination on food safety issues was also reiterated. In 2004, members of the Codex Alimentarius Commission (CAC) revised the "*Principles and Guidelines for the Exchange of Information in Food Safety Emergency Situations*" in which Member States were recommended to designate official points of contact to exchange information during international food safety emergencies. This document also formally requested WHO to maintain a list of food safety emergency contact points as a mechanism to ensure rapid exchange of information during such incidents.

In response to these requests at the international level, WHO developed and launched INFOSAN in 2004, in cooperation with FAO.

Since its launch, the growing importance of INFOSAN has been underlined in several recent international fora and documents. For example, the International Health Regulations (2005) (IHR (2005)) adopted by WHO Member States in 2007, recognizes INFOSAN as the tool to use for international communication during food safety emergencies. INFOSAN is also used to assist countries to develop their core capacities required for food safety emergency preparedness and response as required under the IHR (2005). In addition, the European Rapid Alert System for Food and Feed (RASFF) recognises INFOSAN as the system for communication with non-European Union (EU) countries when unsafe food on the market poses risks to public health (Commission Decision (EU) 2019/300 Article 21). Furthermore, at the second International Conference on Nutrition (ICN2) in 2014, it was recommended that Member States actively participate in the network. Finally, in 2016, the CAC revised the "*Principles and Guidelines for the Exchange of Information in Food Safety Emergency Situations*" mentioned above, to include appropriate references to INFOSAN, underlining its increasingly important role.

3.2 Vision of INFOSAN

A global community of practice working together for safer food around the world.

3.3 Mission of INFOSAN

Halt the international spread of contaminated food, prevent foodborne disease outbreaks, and strengthen food safety systems globally to reduce the burden of foodborne diseases.

3.4 Values of the INFOSAN Secretariat

The core values of the INFOSAN Secretariat are:

- **Reliability** – Only verified and true information is communicated through INFOSAN

- **Efficiency** – Information is exchanged directly with INFOSAN members to allow timely risk management measures to be adopted in Member States

- **Confidentiality** – The INFOSAN Secretariat provides a safe and secure portal for INFOSAN members to share sensitive food safety information and INFOSAN Members can engage with the INFOSAN Secretariat on sensitive issues for technical advice

- **Flexibility** – Every Member State is different and INFOSAN activities must be adapted to each national context to support collaboration and coordination

- **Community** – The INFOSAN Secretariat encourages INFOSAN members to work together, share information and action it appropriately, provide best practices and learn from each other to improve food safety globally

- **Transparency** – The INFOSAN Secretariat is open, accountable and communicative about risk management decisions and actions and encourages INFOSAN members to be the same

3.5 Current approach to INFOSAN operations by the Secretariat

The INFOSAN Secretariat has organized its activities around four objectives:

1) Promote the rapid exchange of information during food safety incidents

The network's main activity is the detection and assessment of international food safety incidents (i.e. those that affect more than one country and pose a serious public health concern) and the subsequent facilitation of rapid information exchange across national borders. When such incidents are determined to meet these criteria, the INFOSAN Secretariat facilitates the exchange of information between the affected countries to minimise the public health impact. The type of information exchanged during an international food safety incident varies, however, it can include product, export and distribution details, epidemiologic information, bacterial strain characteristics (including whole genome sequencing data), and any other relevant information. While the information exchanged is usually limited to the countries directly affected by a particular incident, some larger and more complex incidents, or those that gain widespread media attention, may warrant broader communication and are shared with the entire network. Summary details about all incidents communicated through INFOSAN are provided on the secure, password-protected, INFOSAN Community Website.

Since 2004, the network has been involved in the management of an average of 42 incidents annually, but this has increased dramatically in 2018 to nearly double that number, with several largescale, multi-national emergencies occurring in quick succession.

Each incident is different and varies in nature, geographic distribution and duration. Accordingly, the INFOSAN Secretariat's involvement also varies from one incident to the next and could range from relatively simple verification of information to complex incident coordination, obtaining and disseminating information from multiple stakeholders and providing technical assistance. During each incident, the INFOSAN Secretariat determines the most effective and appropriate way to disseminate the necessary information utilising the INFOSAN Community Website.

2) Share information and resources on important food safety related issues of global interest

In working towards a strengthened global community of practice of food safety professionals, the INFOSAN Secretariat also encourages and facilitates the exchange of information during non-emergency situations. Some INFOSAN members may have little or no regular exposure to technological innovations related to food safety, information about emerging foodborne diseases, or new or unusual combinations of food and pathogens or contaminants. INFOSAN provides an accessible platform through

which to share and receive important food safety related information that can contribute to the strengthening of food safety systems and members' technical capacities. Recently published guidance documents related to food safety that could serve as useful resources for INFOSAN members are also shared through the network in addition to members' experiences and lessons learned from past response efforts.

3) Promote partnerships and collaboration between national agencies, between countries, and between networks

During food safety incidents, the provision of information by the INFOSAN Secretariat to all members from different national agencies contributes to breaking down silos and encourages collaboration and interaction across sectors. During the management of such incidents, having an established line of communication with all relevant agencies and ministries in a country and providing them with incident-related information, facilitates the national interactions necessary for efficient management of the incident. Through direct access to members in different national agencies and ministries, the INFOSAN Secretariat can obtain complete information and facilitate the exchange of this information through the network to other countries and members who may be involved or interested, thereby building links between countries that have otherwise limited interaction.

Collaboration with several important regional and global initiatives and networks also supports the development of INFOSAN. At the regional level, the INFOSAN Secretariat collaborates closely with colleagues from the European Commission (EC), for example, to ensure complementarity between the EC Rapid Alert System for Food and Feed (RASFF) and INFOSAN. Membership of RASFF and INFOSAN is aligned, preventing parallel and redundant communication channels during emergency communications

Strengthening partnerships with other networks and initiatives has been a priority for the INFOSAN Secretariat to ensure complementarity in membership and information, allow for easier access and dissemination of information, and optimize efforts to achieve common goals with respect to mitigating the global burden of foodborne disease.

4) Help countries strengthen their capacity to manage food safety emergencies

Through the development of various guidance documents, the INFOSAN Secretariat provides tools for Member States to strengthen their capacity to manage food safety emergencies. For example, technical guidance developed by FAO and WHO has been shared to help countries develop food safety emergency response plans, improve their food traceability and recall systems, and apply risk analysis principles during food safety emergencies. In addition to the dissemination of technical guidance, the INFOSAN Secretariat also facilitates training exercises covering a range of capacities needed to effectively identify and respond to food safety emergencies. Most of these training exercises are facilitated online using webinars, emails and the INFOSAN Community Website, however, some have taken the form of national or regional workshops in-country, supported by the INFOSAN Secretariat.
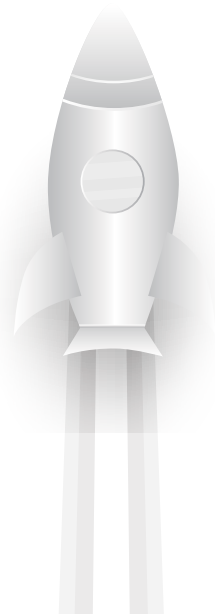
4. The context INFOSAN operates in

4.1 Global Food Safety Situation

Unsafe food is recognised at the national and international levels as an important public health and trade issue. However, until recently there was a paucity of data with which to better document the magnitude of the problem and enable the development of effective strategies to mitigate the burden of foodborne illness. In 2015, the WHO issued the first estimates of the global burden of foodborne diseases, stating that 31 foodborne hazards (out of the more than 200 known) are estimated to cause 600 million cases of foodborne illnesses and 420,000 deaths annually worldwide. In 2018, a World Bank study found that the total productivity loss associated with foodborne disease in low- and middle-income countries is estimated to cost US$ 95.2 billion per year, and the annual cost of treating foodborne illnesses is estimated at US$ 15 billion. Other costs, though harder to quantify, include losses of farm and company sales, foregone trade income, the health repercussions of consumer avoidance of perishable yet nutrient-rich foods, and the environmental burden of food waste. A large proportion of these costs could be avoided by adopting preventative measures that improve how food is handled from farm to fork.

The frequency and publicity of largescale food safety crises around the world have also contributed to the importance of food safety on the global public health agenda. For example, in 1993, 732 people were infected with *E. coli O157:H7* in the USA following the consumption of contaminated beef patties at a fast-food chain, resulting in the death of four children and leading dozens of others to suffer from long-term sequelae, including kidney and brain damage. Also, in the 1990s, the world was sensitized to variant Creutzfeldt–Jakob disease (vCJD) and the link to consumption of bovine spongiform encephalopathy (BSE)-infected beef. From 2007 – 2011, the widespread contamination of infant formula with melamine in China resulted in the deaths of 6 infants and the hospitalization of 300,000 more. National authorities around the world needed to take swift action to ensure consumers did not consume melamine-contaminated products. More recently in 2017/2018, the large and prolonged listeriosis outbreak in South Africa served as a reminder that food safety risks are ever present and disproportionately affect the most vulnerable (numerous pregnant women and neonates were infected as well as persons living with HIV). These incidents have all attracted international attention and impacted multiple countries due to international trade of contaminated products, illustrating the globalised and intricate maze that characterizes food distribution in our modern world.

In the past 15 years, INFOSAN has substantially expanded its membership and activity level. During the same period, communication, traceability and information sharing technologies as well as epidemiological tools have also evolved, reshaping the way foodborne disease outbreaks and sporadic cases of foodborne illness are detected, linked and managed across borders. INFOSAN has responded by adapting and seizing new opportunities and must continue to anticipate future developments and challenges so to optimally serve its membership.

4.2 Environment

In 2018, the World Health Assembly approved the General Programme of Work (GPW 13) which is strongly informed by the UN's 2030 Agenda for Sustainable Development, and in particular, Sustainable Development Goal (SDG) 2 on zero hunger and SDG 3 on good health and well-being. To accelerate progress towards SDG targets, GPW 13 focuses on three interconnected areas: achieving universal health coverage; addressing health emergencies; and, promoting healthier populations.

By 2023, WHO aims to ensure that one billion more people have better protection from health emergencies, including those caused by unsafe food, and that one billion more people enjoy better health and well-being, free from foodborne diseases. INFOSAN members, supported by the Secretariat, will play an integral role in achieving these goals.

FAO is highly committed to working with all countries and partners to promote sustainable food systems, and to ensure that traded food is safe, healthy and nutritious. FAO's Strategy for Improving Food Safety Globally was endorsed during the twenty-fourth session of the Committee on Agriculture[1]. Specific to INFOSAN is the focus on providing mechanisms which support networking, dialogue and access to information and facilitate effective communication internationally on key food safety issues, with the stated outcome of efficient collaboration internationally on food safety issues.

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1. http://www.fao.org/bodies/coag/coag24/en/

As a 'Global Public Health Good', INFOSAN provides a unique environment for the exchange of information on food safety incidents and knowledge on food safety challenges for its diverse membership which spans the globe.

It is important to acknowledge that food safety systems differ from country to country, with responsibilities for managing food safety and food safety incidents often spread across several ministries and agencies, reflecting the differing regulatory setup of each country. INFOSAN recognises such diversity and encourages members from all national agencies involved in the management of food safety to nominate INFOSAN Focal Points and register on the INFOSAN Community Website.

Furthermore, INFOSAN exists in an environment that is rapidly changing, characterised by development of new technologies related to food production, potentially introducing new risks to public health from foodborne diseases and the ever-increasing trade of food. Numerous recent largescale international food safety incidents have demonstrated the complexity of the global food supply chain and modern food production and distribution channels. To remain relevant and continuously able to provide utility to INFOSAN members, it is necessary that the INFOSAN Secretariat anticipate trends and changes in the food safety landscape and adapt to these changes.

Lastly, localised food safety incidents occur everywhere. Such incidents can initially have no international implications but may eventually evolve in nature and scope. It is only through engagement with a network like INFOSAN that the true international scope and impact of such incidents can be realised.

4.3 Resources

INFOSAN is jointly managed by WHO and FAO with most operational functions led by a small Secretariat located at WHO HQ in Geneva, Switzerland. The WHO Secretariat is comprised of three full-time technical staff and is supported occasionally by consultants, interns and secondees. The FAO Secretariat currently includes three technical staff, based in FAO HQ in Rome, Italy, who contribute to INFOSAN activities in addition to their other responsibilities. While the large majority of incident response is undertaken by the Secretariat at WHO, there is regular support provided by other units at WHO including the WHO Health Emergencies Programme (WHE) for media monitoring and the identification of potential food safety incidents, as well as for coordination of field deployments through WHO's Global Outbreak Alert and Response Network (GOARN).

While financial resources are limited, the INFOSAN Secretariat has access to the large membership of the network who provide valuable support through their engagement and advocacy for INFOSAN. In addition, INFOSAN can be increasingly understood as a '*network of networks*', with INFOSAN members belonging to different regional networks with similar goals. Functional links with such networks allow the INFOSAN Secretariat to obtain and disseminate important food safety information at minimal financial cost.

The network currently runs on a very limited operating budget. All activities of the network (organization of regional meetings, provision of in-country support, delivery of webinars and simulation exercises, publication of reports and technical guidance and response activities) are funded through voluntary contributions from Member States. The salary costs for the Secretariat staff are partially covered by core funding and partially from donor contributions.

Available resources provide the assurance that the network can continue to operate at its current level, however, without additional investment, the further development of INFOSAN will be limited. This means that the establishment of new initiatives to render the network more efficient and able to more comprehensively detect and respond to international food safety incidents will be precluded.

4.4 Stakeholders

The membership of INFOSAN now consists of over 600 members from national agencies involved in the management of food safety in 190 Member States. Other stakeholders that are members of the network include: staff from WHO and FAO HQ, Regional and Country Offices; members of the INFOSAN Advisory Group; and focal points from other regional and sub-regional networks.

5. Strategic Objectives and Actions

The overall objective is to strengthen INFOSAN, thereby ensuring that more people have better protection from health emergencies caused by unsafe food.

By 2025, the INFOSAN Secretariat aims to achieve the following strategic objectives to strengthen INFOSAN.

5.1 Strategic Objective #1

Strengthen INFOSAN as the global network to detect and respond to international food safety emergencies to reduce their negative public health and trade impact.

The detection, assessment and management of food safety incidents and emergencies is and will remain, the core activity of the network. The management of incidents consists of identifying international food safety incidents or potential food safety incidents, verifying the available information through the network and other technical partners, and subsequently sharing information to facilitate the response to minimize the negative public health and impact.

INFOSAN members are relied upon to identify incidents and communicate this information to the Secretariat. Stakeholders within and outside the WHO and FAO such as Regional and Country Offices, and regional food safety networks, are also relied upon to identify and report incidents that warrant further assessment by the Secretariat, verification and possible response.

Increased interaction with INFOSAN members and stakeholders within and outside WHO and FAO will lead to a greater number of incidents being identified in countries with limited capabilities to manage incidents. Thus, it can be expected that the demand for support from the Secretariat in the actual management of incidents will increase.

Some Member States are noting an increasing number of incidents relating to undeclared allergens in food, often reporting a greater number of incidents associated with this hazard when compared with other hazards. Interest in managing food allergens globally is noted, with several work areas underway in Codex.

Food sold via e-commerce have become common place and represent challenges in managing associated food safety incidents. E-commerce facilitates rapid global trade in food, and in some instances with limited regulatory oversight.

Looking to the future, advanced technology and automated systems using Artificial Intelligence (AI), machine learning and mining of social media will play a significant role in the detection of and response to incidents. Use of robots and self-learning machines in the food industry could radically reduce the incidence of foodborne disease, through the reduction of the unwitting transfer of diseases through manual food handling by humans. On the other side, these developments in technology could potentially contribute to unsafe food if food safety concepts are not built into their operating systems and algorithms.

Beyond the use of robots to replace human workers at critical points in the supply chain most prone to contamination, food companies and regulatory agencies may soon take advantage of other technologies that could vastly reduce foodborne illness outbreaks. One is the use of 'electric noses'. Such electronic chemical sensors can recognise odours using the same principle as the physiology of smell. By identifying aromas in raw materials that match a coded sensory fingerprint in a pathogen database, electronic noses have great potential to improve quality control during food processing and packaging.

Another example is the application of whole genome sequencing (WGS) in the field of foodborne disease investigation. WGS is already playing an increasingly critical role in the evolution of laboratory processes and has already replaced traditional DNA methods of food safety testing in some places. By automating workflows, critical processes such as data capture and preparation of lab samples will become faster and more accurate. Next Generation Sequencing (NGS) tools will ultimately allow regulatory authorities to better identify trends and threats to prevent foodborne illness outbreaks from occurring. The INFOSAN Secretariat will continue to monitor such technological developments and facilitate their uptake.

Main challenges

- Underutilisation of new technologies, gaps in membership, and parallel or disparate systems can create delays in information sharing through INFOSAN

- Delays in information sharing can impede timely implementation of risk management measures

- Different approaches are applied internationally in the management of allergens

Strategic actions:

1.1) Expand membership to include INFOSAN Emergency Contact Points and Focal Points in all 194 Member States

1.2) Focus on improving quality of membership engagement to improve response rates according to past performance (including through the organization of regional meetings, provision of in-country support, delivery of webinars and simulation exercises, publication of reports and technical guidance and response activities, etc.)

1.3) Formalize links with other regional networks and initiatives to streamline identification and reporting of food safety incidents

1.4) Advocate for the utilization of WGS as an important tool to facilitate food safety emergency response and foodborne outbreak investigations and for international sharing of WGS data

1.5) Support the development and dissemination of information among INFOSAN members on emerging technologies like Artificial Intelligence and machine learning for their application to incident detection through data mining

1.6) Explore and promote best practices associated with the management of food incidents associated with food allergens

1.7) Explore and promote best practices associated with the management of food incidents associated with food sold internationally via e-commerce

5.2 Strategic Objective #2

Develop INFOSAN as a 'network of networks', connecting food safety professionals from across the world

To strengthen the collaboration and exchange of information among INFOSAN members it is necessary to develop and strengthen links with other related regional and national food safety networks. The successful collaboration between INFOSAN and RASFF is an example of the benefit that can come from increased and stronger collaboration to protect public health.

In addition to collaborating with external networks, the INFOSAN Secretariat also partners internally in WHO with GOARN where INFOSAN member-expertise in outbreak investigation, risk communication, recalls and food safety management is leveraged by the wider WHE programme. This partnership should be expanded and strengthened to allow rapid and efficient access to relevant expertise throughout the world to support response to incidents.

Most information shared through INFOSAN is documented on the INFOSAN Community Website. Consequently, those without access are not aware of the activities of the network. It is recognised that there is both a need and a benefit to share publicly, more information about incidents managed by the INFOSAN Secretariat to educate the public about ongoing food safety incidents and risks, and to raise awareness of the network. To address this issue, the INFOSAN Secretariat will continue to publish regular quarterly summaries of the incidents managed and any ongoing activities of interest, while a biennial report is also published to provide more in-depth information, analysis of incidents and reviews of activities conducted.

INFOSAN membership is restricted to food safety professionals working in national agencies involved in the management of food safety incidents. However, it is recognised that the management of food safety incidents goes beyond the involvement of national agencies and often requires interaction with the private sector as it is their products that are involved in an incident and

which need to be identified, traced and recalled. It may also require interaction with academia or research institutions to access specific expertise.

Food safety incidents sometimes include fraudulent elements, and these require the involvement of law enforcement agencies or food crime agencies or units. These incidents require different approaches to traditional outbreak investigations or food contamination incidents. The work of the network will benefit from stronger collaboration with agencies like the European Union Agency for Law Enforcement Cooperation (EUROPOL) and the International Criminal Police Organization (INTERPOL), and the Secretariat will explore ways for working together in the future.

Main challenges:

- Sub-optimal in-country communication and networking (e.g. between INFOSAN members and National IHR Focal Points during incidents, or between INFOSAN members themselves)

- Limited number of very active INFOSAN members acting as champions to initiate activities and drive network activities

Strategic actions:

2.1) Formalise links with other regional networks and initiatives for the dissemination of information and guidance, and to reach a broader pool of international expertise

2.2) Develop additional materials and information to be shared on the public INFOSAN website for non-members to better understand the work of the network

2.3) Support FAO and WHO regional and country offices with the design and facilitation of national INFOSAN workshops to strengthen in-country networks and intersectoral collaboration for the management of food safety incidents

5.3 Strategic Objective #3

Use INFOSAN to bring together knowledge and experiences to increase food safety response capacity, globally

INFOSAN membership provides direct access to some of the most advanced and innovative food safety systems in the world. At the same time, some INFOSAN members belong to national agencies that have not yet implemented robust food safety systems capable of detecting and responding to all foodborne risks.

INFOSAN is used as a common platform from which to facilitate training and disseminate information to members through the dissemination of advice, guidance and publications and the use of online webinars, simulation exercises and national and regional workshops. These capacity building activities help members better understand how to strengthen national food safety systems, understand and adopt new technologies, and manage emerging food safety issues. While these activities are often undertaken by the INFOSAN Secretariat, there have been several webinar series presented by INFOSAN members themselves with the aim to inform fellow members of the food safety systems and processes in place in their countries.

The INFOSAN Secretariat is in a unique position to provide capacity building opportunities to members through its connections to external experts, partners in other networks and the large number of current INFOSAN members. The ability for INFOSAN members to interact directly with and learn from each other is a key benefit and flexibility of the network as a knowledge exchange platform.

Among the many emerging or re-emerging issues posing challenges to national food safety agencies, some that will be of critical interest to INFOSAN members are:

1 | **Food fraud** is committed when food is deliberately placed on the market, with the intention of deceiving the customer, for financial gain. It is a complex emerging issue for the network with numerous motivations ranging from monetary to criminal, and various agencies involved in the detection and response to threats posed by food fraud. The network will leverage connections with related partners to address this challenge, explore ways to incorporate food fraud experts in the network, and update INFOSAN members on developments in food fraud and methods of detecting and responding to it. A WHO survey of all INFOSAN members related to food fraud in 2017 (and published in 2019), clarified

members' concerns about food fraud and the unmet need for help to educate, manage, and prevent fraud related food safety incidents. It is clear that the resources and support system for addressing food fraud prevention is complex and will be different from many of the current food safety activities. The interdisciplinary activities expand from traditional food science and food safety to include international supply chain management, social science, criminology, forensic accounting, intelligence analysis, and other trade or customs tactics. The *effect* is often a public health food safety incident but the *cause* can be a fundamentally different modus operandi. Several large-scale food fraud incidents have required active and sustained coordination by the INFOSAN Secretariat, so there is already a precedent and a need to exchange information on food fraud issues that present a food safety risk. There is also an opportunity to share information in advance of an explicit food safety issue to shift towards a proactive rather than a reactive system of response.

2 | **Traceability** of food products in international trade is a growing challenge that INFOSAN has faced since its inception, while the rapid growth of international online sales (i.e. e-commerce) of food products and ever more advanced supply and distribution chains has rendered this challenge more complex. To address this challenge, the INFOSAN Secretariat has leveraged new technologies such as WGS to aid in the traceability and source attribution of food products linked to outbreaks, or contaminated food products. Experiences in the use of NGS and blockchain technology for traceability and social media for more effective risk communication and identification of incidents are also examples of how the INFOSAN Secretariat is managing this challenge. However, the adoption of new technologies in the future will be vital to ensure that any traceability challenges are comprehensively addressed.

3 | **New technologies** used across food safety systems are constantly being developed, with some having the potential to become tomorrow's mainstream tools. INFOSAN members can leverage the network to access a wide range of stakeholders to identify the technologies that will significantly facilitate and strengthen the detection, assessment and management of food safety incidents in the future, and assist with the understanding, adoption and implementation of such technologies.

Main challenges:

- Unmet need to provide additional training for members on when and how to report information during food safety incidents using INFOSAN

- Lack of consistency among members in terms of role fulfilment (related to reporting incidents, or sharing non-emergency information)

- INFOSAN currently under-utilised as a mechanism to communicate to members about ongoing WHO and FAO work (including resources, guidelines, publications, etc.)

Strategic Actions:

3.1) Encourage responsiveness of INFOSAN Emergency Contact Points to requests for information during international food safety incidents

3.2) Promote the proactive reporting of food safety incidents by INFOSAN members to the INFOSAN Secretariat

3.3) Strengthen the community of practice of INFOSAN members by encouraging international partnerships and collaboration

3.4) Provide training opportunities to educate members on new developments related to food safety including food fraud, WGS, traceability, and e-commerce

3.5) Leverage FAO and WHO capacity building platforms to provide training on capacities related to food safety emergency response

3.6) Regularly disseminate FAO and WHO resources, guidelines and publications to members

5.4 Strategic Objective #4

Facilitate increased information sharing by improving the user experience of members on the INFOSAN Community Website

The INFOSAN Community Website was developed and launched in 2012. Since then, it has been slightly enhanced with various modifications but it is now in need of a complete redesign with the development of new features, functions and options to serve the growing and changing needs of its members and to take advantage of the recent developments in information technology (IT). This upgrade will be conducted in 2019/2020 and should take approximately one year to complete. The upgraded INFOSAN Community Website should facilitate knowledge management through three core activities:

1 | Knowledge access – by providing a single integrated point of access to a variety of relevant food safety emergency information for INFOSAN members around the world;

2 | Knowledge creation – by creating and maintaining knowledge directories about member-generated content including details about food safety incidents and emergencies; and

3 | Knowledge transfer and exchange – by facilitating information sharing and distribution and providing collaborative features that help to foster the community of practice among INFOSAN members.

Main challenge:

- The INFOSAN Community Website, launched in 2012, requires major updating to transform into a state-of-the art knowledge sharing portal to facilitate information exchange among network members

Strategic action:

4.1) Relaunch the INFOSAN Community Website as a state-of-the-art knowledge exchange portal that encourages increased engagement of INFOSAN members and a higher volume of active participants contributing to the INFOSAN Community Website on a regular basis

4.2) Ensure that intentions to improve member engagement using the new website are met with dedicated human resources at the INFOSAN Secretariat to support the community and ensure regular and timely information is provided on the website

5.5 Strategic Objective #5

Boost the visibility of INFOSAN through proactive communications and identify new funding opportunities to not only sustain, but expand INFOSAN activities

The core activities of the INFOSAN Secretariat include the identification, assessment and response to international food safety incidents, the facilitation of information exchange with INFOSAN members, dissemination of technical guidance and other capacity building activities.

While further administrative activities (including the development and maintenance of the INFOSAN Community Website and continual updates of INFOSAN membership) are critical functions that require staff resources and sustainable external funding, it is acknowledged that the set of activities and services the network could provide to its members to fulfil the potential of the network, require additional resources and funding.

The Secretariat will consolidate current support and continue to identify new donors through advocacy among members and networks, existing donors and throughout FAO and WHO for additional resources.

Main challenges:

- Limited Secretariat resources, both human and financial to support the network and its growing volume of activities

- External visibility of INFOSAN activities has been limited in the past

Strategic actions:

5.1) Publish quarterly summaries of INFOSAN activities in addition to the bi-annual activity reports and scientific manuscripts in peer-reviewed journals to raise the external profile of INFOSAN

5.2) Engage with existing and new donors to increase funding and secure a regular and dependable funding source for INFOSAN activities

5.3) Promote short-term work assignments (e.g. 3 months) where INFOSAN members spend time working as part of the INFOSAN Secretariat

5.4) Co-author food safety incident reports with INFOSAN members

5.5) Utilize high-profile events such as World Food Safety Day, Codex Alimentarius Commission meetings, etc. to exhibit INFOSAN

5.6 Strategic Objective #6

Gain a comprehensive understanding of barriers and facilitators to active participation in INFOSAN to prioritize interventions to increase member engagement

The INFOSAN Secretariat would benefit from further exploration into the experiences of members with respect to their participation in network activities to enhance active participation and improve global food safety and prevent foodborne illness. Specifically, this could be achieved by first examining the INFOSAN Community Website to characterize membership and understand members' patterns of access, usage and contribution. In addition, efforts should be made to gain a broad and deep understanding of the barriers and enablers to active participation in INFOSAN to prioritize involvement by the Secretariat to improve engagement. Furthermore, members' perceptions should be elicited in a rigorous way with respect to the utility of INFOSAN as a global communication tool for knowledge transfer and exchange and the prevention of foodborne illness in each respective country. In this way, the Secretariat shall be able to determine how participation in INFOSAN might create value for members and explore the mechanisms through which this may occur.

Main challenge:

- Robust understanding of experiences of INFOSAN members is limited, including perceived value and impact on preventing foodborne illness

Strategic actions:

6.1) Assess the functioning of INFOSAN as a community of practice by obtaining systematic insights into the characteristics, performance and opinions of members

6.2) Gain a broad and deep understanding of members' perceptions of the utility of INFOSAN as a global communication tool for knowledge transfer and exchange and the prevention of foodborne illness in their respective country

6.3) Determine if participation in INFOSAN creates value for members and explore the mechanisms through which this may occur

5.7 Target groups

The above mentioned strategic actions will be carried out with consideration for engagement with various target groups, as described below.

INFOSAN members in specific regions:

1 | INFOSAN members in Africa and the Eastern Mediterranean

Members from Africa and the Eastern Mediterranean are historically the least responsive during food safety incidents, answering INFOSAN requests only 32% and 40% respectively (compared to the global average of 70%).

2 | INFOSAN members from the Americas and Asia

Members from the Americas and Asia are historically the most responsive during food safety incidents, answering INFOSAN requests 78% and 71% respectively (compared to the global average of 70%).

3 | INFOSAN Members from Europe

The Emergency Contact Points from members of the European Union are also designated as their country's RASFF Contact Point; other European countries outside of the EU are historically among the least active members of INFOSAN.

4 | INFOSAN Members from Pacific Island Countries

INFOSAN members in the Pacific Island Countries are historically among the least active members of INFOSAN.

INFOSAN Members from Member States most frequently involved during international food safety incidents[2]

The 10 Member States most frequently involved in food safety incidents communicated through INFOSAN in descending order include: 1) United States of America; 2) China (including Hong Kong SAR and Macao SAR); 3) Canada; 4) Australia; 5) United Kingdom; 6) France; 7) Germany; 8) Netherlands; 9) New Zealand; 10) Singapore

INFOSAN Advisory Group Members

INFOSAN Advisory Group members bring unique knowledge, skills and experiences to complement the knowledge and skills of the Secretariat in order to more effectively govern the network by offering innovative advice and dynamic perspectives. The purpose of the INFOSAN Advisory Group is to support INFOSAN activities by advising on ways to strengthen the network, including: contributing to strategic planning; guiding quality improvement; advocating for the network; supporting the Secretariat for technical consultation; and resource mobilization.

Coordinators of other regional food safety networks

Regional food safety networks such as RASFF and PulseNet International, are invaluable partners of INFOSAN. Through the establishment and maintenance of strong partnerships, INFOSAN is able to leverage expertise and resource to share the burden of detecting and responding to food safety emergencies. Continuing to expand these partnerships through 2020 – 2025 is vital to the effective functioning of INFOSAN.

2.	The FAO/WHO International Food Safety Authorities Network in Review, 2004–2018: Learning from the Past and Looking to the Future https://www.liebertpub.com/doi/full/10.1089/fpd.2018.2582

FAO/WHO Regional Food Safety Officers/Advisors

The FAO and WHO have Regional Offices in six geographic regions of the world, within which is a specialised food safety expert who provides advice to HQ on regional initiatives and pertinent information on food safety issues in the region. Leveraging their expertise and knowledge is vital to the success of INFOSAN as operations need to be adapted to specific regional contexts.

WHE Programmes

The new WHO Health Emergencies Programme (WHE) has added operational capabilities to traditional technical and normative roles at WHO. The programme works with countries and partners to prepare for, prevent, respond to and recover from all hazards that create health emergencies, including disasters, disease outbreaks and conflicts and is an important partner for the INFOSAN Secretariat. In particular, WHE maintains a comprehensive and broad capability to detect, triage and initially assess signals and events and is a key partner for the detection of incidents. GOARN is another partner of growing importance that mobilizes a large number of institutions across the globe for operational response to provide support to countries for all health emergencies, including food safety emergencies. It therefore provides the INFOSAN Secretariat with access to global and comprehensive expertise when a food safety emergency requires technical support in a response.

Food Crime Units and Food Fraud Networks

Food fraud is becoming increasingly challenging for national authorities to manage. These incidents are of a criminal nature and sometimes may have food safety implications. Their management therefore requires the involvement of both law enforcement agencies and food control/safety agencies. The EC Food Fraud Network, and other initiatives of EUROPOL and INTERPOL, are working to link together and strengthen the collaboration between law enforcement agencies and units involved in the management of food fraud. The INFOSAN Secretariat will explore partnership with such initiatives in the coming years.

5.8 Key indicators and targets

The INFOSAN Secretariat will work towards developing a comprehensive list of indicators and annual targets for each of the strategic actions as the strategic plan is implemented, building on the following list of key indicators:

Indicators	Targets	Baseline	Strategic Action
Number of Member States with designated and registered INFOSAN Emergency Contact Points	100%	2018 coverage 160/194 = 82%	1.1
Number of Member States with designated and registered INFOSAN Focal Points	100%	2018 coverage 123/194 = 63%	1.1
Responsiveness of INFOSAN Emergency Contact Points to requests for information during international food safety incidents (e.g. time to acknowledgement, time to provision of information, etc.)	24 hours for acknowledgement 3 days to provision of information	Historical average is 48 hours Historical average is 7 days	1.2 & 3.1
Proportion of INFOSAN incidents identified because of a notification from an INFOSAN member (rather than a media article or other secondary source)	50%	Historical average is 26%	3.2
New INFOSAN Community Website launched and functional	New website to be launched in 2020	Current website in use since 2012	4.1
Member access to and utilization of the INFOSAN Community Website	75% of ECPs and FPs accessing the website each month	31% of Emergency Contact Points and 35% of Focal Points have not accessed the INFOSAN Community Website in more than 1 year	4.1
Number of resources shared with INFOSAN Members	12/year	0 (Resource Spotlight series launched in May 2019)	3.6

6. Appendices

6.1 Results from INFOSAN Advisory Group SWOT Analysis (December 2016)

Strengths:

- Rapid/Efficient
- Significant Pool of Knowledge/Access to Expertise
- Reliable/Trusted
- Global
- Neutral
- Provides Safe/Secure Environment for information sharing (3)
- Unique
- Flexibility

Weaknesses:

- Lack of Funding
- Low engagement of members
- Lack of human resources at Secretariat
- Not utilizing full potential
- Lack of clarity on roles and responsibilities
- Lack of awareness
- Limited focus on non-emergency information sharing
- Voluntary
- IT challenges in countries impede participation
- Membership gaps exist in developing countries
- Delays in information sharing
- Volume of communication to global network is limited

Opportunities:

- Expansion of non-emergency information sharing
- Exploitation of Global Status to showcase importance
- Capacity Building to improve awareness/participation
- Utilization of IT tools for information sharing
- One Health
- Linking with regional networks/initiatives
- Linking with IHR
- Community Building
- Fostering Bi-lateral collaboration
- Globalization Necessitates INFOSAN
- Leadership opportunity
- Utilization of the new Advisory Group

Threats:

- Emergence of other networks with overlapping mandate
- Perceived value of INFOSAN
- Fear of impact to export markets
- Waning support
- Unprepared to face changing landscape (re: future food safety emergency response)
- Operational differences in Countries
- Insufficient information sharing (non-emergency)
- Lack of funding
- Limited capacity of members

6.2 Important Reference Documents

INFOSAN Progress Report: 2004-2010
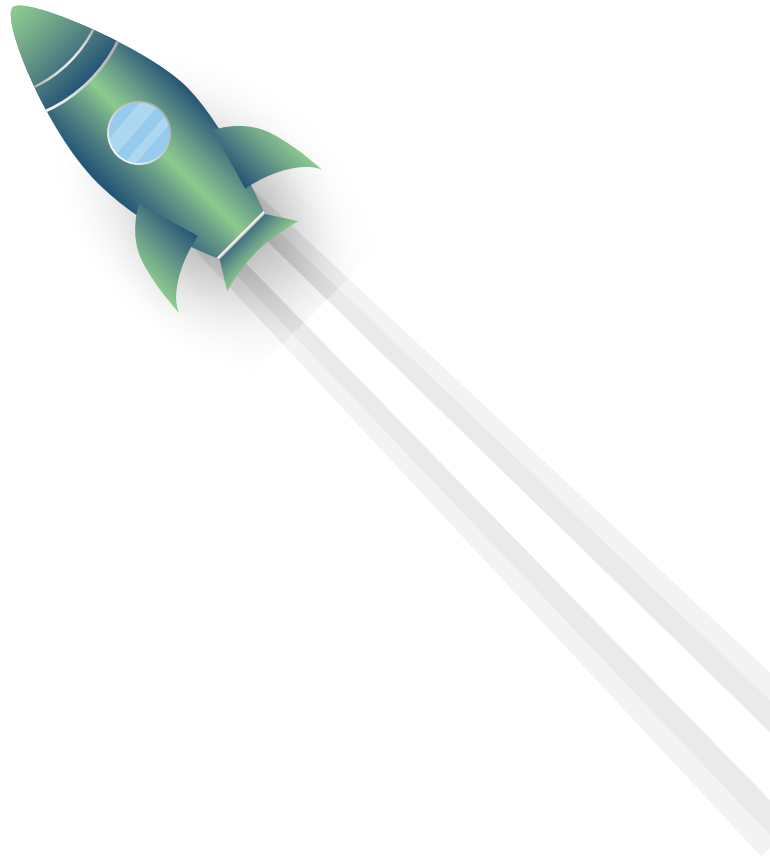
INFOSAN activity report 2011-2012

INFOSAN Activity Report 2013

INFOSAN Activity Report 2014/2015

INFOSAN Activity Report 2016/2017

Enhancing INFOSAN in Asia and implementation of regional food safety strategies

Regional Strategy to Strengthen INFOSAN in the Americas

The FAO/WHO International Food Safety Authorities Network in Review, 2004–2018: Learning from the Past and Looking to the Future