Strengthening cross-regional DIH collaboration in aquaculture innovation support services (AquaHubs)

D6. WP3 activity outcome report, including the dissemination plan and policy recommendations to policymakers regarding aquaculture tech innovation support

Executive Summary

This Deliverable aims to present the outcomes of WP3 and, more specifically, Task 3.2 " Dissemination strategy and campaign" and Task 3.3 "Policy recommendations for policymakers and stakeholders". This document outlines the Dissemination strategy and campaign and recognises the main stakeholders and, communication channels, and tools. Policy recommendations for policymakers in three partner countries – Finland (XAMK), Croatia (AFC) and Lithuania (AFL) are presented in the second part of this document.

The results of these Tasks will serve as the foundation for further development of aquaculture IEs support services beyond the project end.

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Dissemination Plan

1 Introduction

This document constitutes the outcome of D6. "WP3 activity outcome report, including the dissemination plan and policy recommendations to policymakers regarding aquaculture tech innovation support" is part of WP3:" Project outcome dissemination and replication". This document aims to complete Task 3.2. "Dissemination strategy and campaign" and to reach M5. "Common tools and resources for aquaculture tech IE and end-user support, and replication by DIHs and CCs, prepared and disseminated" and M6. "Policy recommendations for national and regional policymakers and stakeholders prepared and disseminated". This document will present the project's dissemination objectives. This strategy will be followed to meet the objectives mentioned above and the means, channels and tools that will be utilised during this process to optimise the effect of the Aquahubs.

Therefore, the document consists of 2 main chapters, where the scheme above is being elaborated:

- **Aquahubs Dissemination Strategy** – A general approach to the dissemination and communication strategy of the project and its objectives, as well as the primary targeted audiences and our engagement strategy with them;

- **Channels, Tools and Activities** – A detailed description of the means that will be utilised and the processes that will be followed during the dissemination of the project activities to achieve its maximum impact:

2 Aquahubs in a Nutshell

AquaHubs is a cross-border project to strengthen collaboration between Digital Innovation Hubs engaged in supporting aquaculture and fishery-focused digital innovation development, demonstration and implementation.
We strive to support aquaculture IEs in their development, network establishment and market reach. Within the Aquahubs project, we established a broad network that includes a spectrum of relevant stakeholders, such as technology providers, developers, policymakers, aquaculture and fishery companies and farmers, in order to promote DIHs services and support aquaculture IEs.

Ensuring the replicability and dissemination of the AquaHubs project results among various European stakeholders involved in aquaculture technology and innovation, we outlined the Aquahubs Dissemination Strategy.

3 Approach

The dissemination strategy and activities of the project follow principles and best practices successfully tested by the partners and are in line with the EC Guidelines for successful dissemination. The focal point of the Aquahubs' overall Dissemination strategy is to create a multi-dimensional information flow, which will allow the stakeholders, DIHs, CCs, end-users and policymakers to reach project results and project-created know-how to support their IEs in the aquaculture and are executed in the project continue afterwards.

4 Objectives

The core objective of the dissemination strategy is to create the information flow within the aquaculture network and deploy the most efficient tools and means to achieve successful commercial exploitation of the project's results. To achieve the objectives mentioned above, the dissemination strategy identified these major pillars:
- transfer and dissemination of scientific knowledge
- support collaborative development within the aquaculture ecosystem
- promotion of the use of digital technologies
- networking and communication, including stakeholders

- informing stakeholders about domestic and international events and innovations in aquaculture
- facilitate communication between participants in the innovation program
- disseminate and promote research and development results

5 Target Audience and Engagement Strategy

Target audiences are identified as follows:

Table 1. Target audiences

Target Audience	Description
European aquaculture IEs developers and stakeholders	University departments and research institutes
Policymakers	National and European legislative and regulatory institutions
DIHs and CCs	Aquaculture technology developers, supporters and providers
End- users	Any possible client that would be interested in the implementation of IE solutions

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The dissemination plan is to reach all stakeholder groups through our dissemination activities. Activities include On-site and online discussions during future events, articles on social media, scientific publications, social media (text and video formats), targeted panel discussions, seminars, direct meetings and targeted e-mails.

5.1 Messaging approach

Ensuring a dynamic interaction with the Aquahubs targeted audiences is of utmost importance to ensure a long-term impact on the project outcomes. The Aquahubs consortium composition allows access to all the categories of audiences. Direct and indirect access through the partners' networks ensures that the dissemination activities will be practical and successfully achieve reach and impact.

The messaging strategy is outlined in a table below:

Table 2. Messaging strategy

European aquaculture IEs developers and stakeholders	
Target profile	Technology owners interested in the faster development and implementation of aquaculture technology.
Interests and pain points	Their research is used only in a very narrow academic circle and is not considered when decisions are made. Also, their study does not reach the public.
Value proposition	Academia research and ideas will be made more visible and included in developing both aquaculture strategies and innovative aquaculture solutions.
Key message	Science plays a vital role in new technology development and is an integral part of businesses success.
Key channels and tools	Direct meetings, e-mail, newsletter, seminars, conferences.
Policymakers	
Target profile	A decision-maker involved in the creation of regulations and laws related to aquaculture.
Interests and pain points	To create the ecosystem which would bring the highest return to the country; to be re-elected. To find the balance between the image of innovative and conservative. Expectations that cannot be fulfilled.
Value proposition	A tribune where their position could be represented and the relationship with both the aquaculture community and the public could be developed.
Key message	Aquaculture technology implementation needs more legislation support. Better regulations and easier administrative processes.
Key channels and tools	Direct meetings, e-mails, mass media.
End- users	
Target profile	Any possible client that would be interested in the implementation of IE solutions
Interests and pain points	To have efficient, sustainable, and profitable aquaculture technology solutions.

	Lack of information about the possibilities of technology, lack of skills for using using and implementing it, not affordable prices.
Value proposition	An attractive and user-friendly information channel where they could get reliable and understandable information and get direct answers to their questions.
Key message	We will support he adoption of aquaculture technologies, support the community and knowledge exchange.
Key channels and tools	Social media, mass media, direct meetings, e-mail, newsletter.
DIHs and CCs	
Target profile	Any entities that can support Aquaculture technology developers
Interests and pain points	To find more innovative, sustainable, efficient, and profitable aquaculture solutions. Also, to get more support for the development of aquaculture IEs from policymakers and the public
Value proposition	Effective communication environment where EU aquaculture community stakeholders could respond to all of the concerns related to aquaculture
Key message	We want to help you and support IEs adoption and market reach.
Key channels and tools	Direct meetings, e-mails and messages.

6 Channels, Tools and Activities

6.1 Website

For more effective dissemination activities, the website was created (https://aquahubs.eu/). Website structure is presented in a picture below:
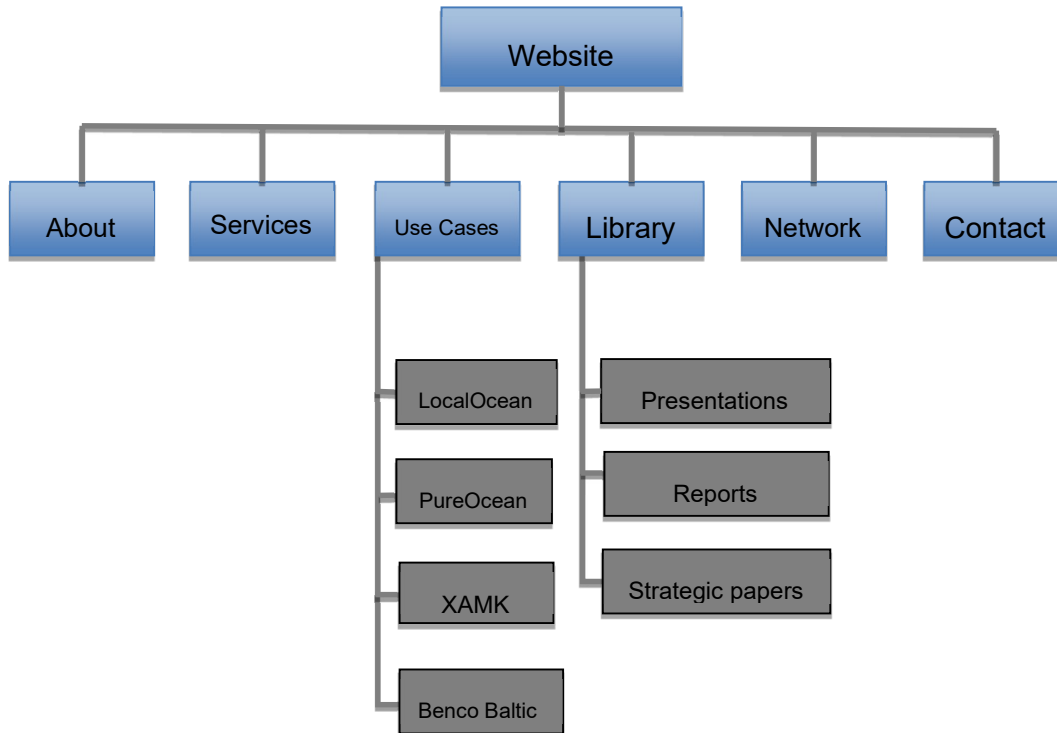
Figure 1. Website structure

The website consist of five main pages:

"About" – General information about Aquahubs project and its aims described.

"Services" – Aquaculture IEs support services presented. Services are proposed to support IEs in their market reach to DIHs, SMEs, CCs or other stakeholders that are beyond the project.

"Use Cases" – Use cases that were implemented within Aquahubs project are presented here.

"Library" – All resources produced within the Aquahubs project are presented here. Workshop presentations, strategic papers (exploitation strategy, policy recommendations, compendium of available resources) and reports.

"Network" – stakeholders involved in the Auahubs project with the links to their websites presented here.

"Contact" – an easy contact form to reach out for any service or collaboration.

The website follows easy to navigate "one scroll" design.

The aim of the website is to make dissemination and stakeholder reach easier and more effective as well as to make all resources available to all the stakeholders that were identified. Website also collects all developed replicable software tools for use by IEs, end-users, DIHs and CCs after the project end and is a part of D7 Deliverable.

6.2 Social Media

XAMK social media profile:

• Facebook page 'Enemmän kotimaista kalaa ruokapöytään"
Facebook page would have an ideal tool for disseminating the physicla demonstration day. In remote meetings the idea of posting what actually is happening fades away. Facebook has potential for disseminating project actions and results. Sharing post with East Finland Flag increases visibility.
• LinkedIn – personal LinkedIn profiles
Xamk does not have a company profile on LinkedIn, post are based on personal profiles. LinkedIn offers a platform to reach professionals in aquaculture, nationally and internationally. We aim to built a network of sector-specific followers and connected through relevant hashtags when publishing publications.

AFC social media profile:

• Facebook - Agrifood Croatia
Facebook was the ideal platform for disseminating the demonstration day and workshop.
• LinkedIn - DIH AgriFood Croatia
Given its more formal approach, LinkedIn has allowed us to have a deeper understanding of certain information. Posts on LinkedIn can be longer and involve the use of more accurate and refined language. With this social network, we have shown the value of the SmartAgriHubs project that can bring to the European agri-food industry both in terms of innovation and in expanding the network.
We built a network of sector-specific followers and connected through relevant

hashtags when publishing publications.

AFL

Facebook – AgriFood Lithuania
The Facebook page was the most successful for posting about events and engaging readers in active discussion.
LinkedIn – AgriFood Lithuania
The most successful dissemination channel. Good platform to promote, disseminate, and include readers in discussion. The strategy is to continue to encourage Aquahubs, it's web-page and services on LinkedIn

6.3 Newsletter

Aquahubs project, results and experiences will be shared through number of newsletters that will be disseminated through partners websites and other medias (SAH newsletter). Communication materials, such as reports linked on Aquahubs webpage will be shared and spread via social media channels and through newsletter.

6.4 Networks and Cooperation

As part of our consortium's effort to optimise our dissemination strategy and to maximise its effects amongst the European aquaculture community and the general public as well, we aim to establish a communication and collaboration system amongst our existing networks and ecosystem (existing partnerships/projects, participations in clusters and relevant associations, etc.), as well as amongst relevant platforms that can contribute towards our aim.

Deliverable D2. "WP1 activity outcome report, including the compendium of available services, tools and resources for aquaculture tech support, the framework of IE service needs assessment, and programme of cross-border knowledge exchange and capacity building" has outlined possible Networks and Cooperation resources within the section "Compendium of available services". We aim to use this Compendium to reach relevant stakeholders and expand cooperation and information flow.

6.5 Conferences and Events

Aquahubs partners will participate in local (national), EU and international level conferences and events to raise awareness around the project's activities, and results, promote relevant services and build the network.

Some relevant future events are in the table below:

Table 3. Networking Events

Event name	Approx. event date	Link
AgriFood Forum	October 2022	www.digitalfarm.lt/forum/
Hack AgriFood	October 2022	https://www.hackagrifood.lt/
Digital Sea	June 2023	www.digitalsea.lt
HACK DigitalSea	June 2023	**www.hackdigitalsea.lt**
EWA empowering women in Agrifood events	Ending October 2022	**https://www.eitfood.eu/projects/ewa-empowering-women-in-agrifood-2022**

Policy recommendations

7 Introduction

This document constitutes the outcome of Task 3.3. Policy recommendations for policymakers and stakeholders are part of WP3: Project outcome dissemination and replication. This document completes the milestone [M12]: Policy recommendations for national and regional policymakers and stakeholders prepared and disseminated

Based on the insights and experience gained about the needs, capacities and opportunities of aquaculture technology and innovation stakeholders, a set of policy guidelines were prepared and disseminated among national and regional policymakers and innovation ecosystems in the three countries of project partners. In this document, we first briefly explore the context of current aquaculture-related policy recommendations in each participating country of the AquaHubs project. Then, the new policy recommendations are prepared based on the experiences gained in the AquaHubs project.

8 Context of the current policy recommendations for aquaculture

The European Commission wants to help develop the EU aquaculture sector by:

- ensures the supply of nutritious, healthy and tasty food with a low environmental and climate footprint,
- creates economic opportunities and jobs, and
- becomes a global reference for sustainability and quality.

Its policy aims specifically to (European Commission 2021):

- building resilience and competitiveness
- ensuring the participation of the sector in the green transition
- ensuring social acceptance and consumer information on EU aquaculture activities and products
- increasing knowledge and innovation in the EU aquaculture sector

Nevertheless, the aquaculture sector is still far from reaching its full potential in terms of growth and meeting the increasing demand for more sustainable seafood. Out of these policy above objectives, following EC's pursuits resembled most closely the work conducted in the AquaHubs project:

- For <u>ensuring social acceptance and information to the consumer</u>, EC considered data and monitoring as essential topics:

    "Collecting accurate data is necessary to ensure the appropriate planning

of aquaculture activities. Accurate data are also necessary to assess and monitor the EU's aquaculture sector's social, economic and environmental performance. Transparency and data reporting are also important for maintaining the trust of the consumer and other stakeholders in the sector. There are many reporting obligations on the sector under different EU and national legislation. However, the data collected are mostly socioeconomic data on marine aquaculture or animal health, and limited data are reported on environmental indicators specific to aquaculture. Therefore, it will be necessary to coordinate better reporting obligations and streamline reporting procedures between different services. It will also be necessary to provide more structured guidance to the EU Member States on how to obtain and report data. Data reporting should also apply to environmental indicators and cover aquaculture production beyond marine aquaculture." (European Commission 2021)

- For increasing knowledge and innovation, European Commission (2021) stated the following:

    Decisive action for aquaculture is required to ensure that research and innovation: (i) respond faster to the current and future challenges and opportunities of the sector; (ii) avoid duplication of efforts; and (iii) create synergies. In particular, further efforts are needed in the following areas:
    - *Creating a framework for cooperation that brings together public authorities, industry, researchers, and educators at national and regional/local levels. This framework should include the development of innovation clusters for sustainable aquaculture.*

    - *Fostering the development and matching of research and innovation strengths across the Member States and regions. This should include smart-specialisation strategies to build full value chains across the EU.*

    - *Fostering effective dissemination of research and innovation results to industry end-users and the general public, as well as their exploitation, including by means of the close monitoring of the establishment and implementation of solid dissemination and exploitation plans of EU-funded projects.*

    - *Promoting complementarity and synergies between research projects.*

    - *Facilitating access to EU funds for research and innovation in the aquaculture sector, by providing a clear overview of the available EU*

funding.

In the remainder of this section, we will briefly explore how current aquaculture policy objectives have been planned to be achieved in the participating countries of the AquaHubs-project.

8.1 Lithuania

As a response to the EC's strategic guidelines, Lithuania (2021) summarizes its planned actions as follows:

Simplify administrative procedures:

- *An analysis of administrative burden on Lithuanian aquaculture revealed that administrative procedures are not a factor that is limiting sector development and competitiveness, and therefore they do not require additional simplification or action.*

Enhance competitiveness:

- *An increased competitiveness is planned by fostering the integration of fish processing facilities into aquaculture units, using newly developed processing technologies, and enabling the supply of new products to the market.*
- *Development of product marketing will be improved by supporting the promotion of both traditional and novel aquaculture products at international and local exhibitions, as well as using other advertising mechanisms.*
- *The plan proposes to focus on the production of species with high international demand, such as trout, sturgeon, catfish, tilapia and crustaceans alongside traditional pond aquaculture production.*
- *The environmental conditions and existing infrastructure for recirculating aquaculture system (RAS) development are favourable in almost all of Lithuania. It is foreseen to use best practices and to develop large-scale (1,000-1,500 tonne) RAS units.*

Coordinated spatial planning:

- *The current capacity of pond aquaculture is underexploited, a significant part of the pond area is not used and thus the further development of spatial planning for aquaculture is not a priority.*

Level playing field:

- *The creation of an aquaculture information service, enhancing the*

knowledge and practical skills of practitioners, and the sharing of best practices amongst the aquaculture sector.

- *Improved accessibility and dissemination of scientific, technological and market information and promoting the cooperation between managing authorities, scientific institutions, producer organization and other stakeholders.*

The Plan identifies a number of examples of best practise covering different species, production systems and scales, including:

- *Sustainability: 52% of total pond area and 33% of total production is certified as organic.*
- *Organization and management: More than 95% of total production is produced by enterprises belonging to national producer organizations.*

8.2 Finland

As a response to the EC's strategic guidelines, Finland (2021) seeks to:

Simplify administrative procedures:

- *Review the permit processes in cooperation with the administration and stakeholders. The objective is to lighten the administrative burden caused by the environmental permit system and related procedures. The permit system will be developed to be straightforward yet not compromise the level of environmental protection provided.*

Coordinated spatial planning:

- *Finland has adopted an aquaculture spatial plan that identifies the most suitable and productive areas for aquaculture production in marine areas. This plan will be integrated into the national marine spatial plan, and will be supported by the permitting system.*
- *Environmental monitoring obligations: For the water quality monitoring, the aim is to find the most appropriate methods for investigating and assessing the environmental impacts of fish farming.*

Enhance competitiveness:

- *A multiannual innovation and development programme is being promoted to support the growth of sustainable aquaculture, which will be put into practice following the principles of learning and network-based development.*

- *Construction of a network of technical expertise and innovation in aquaculture, within which the sector can develop to a high international standard, facilitated by multi-stakeholder cooperation.*
- *Aim to develop strong Public Private Partnership (PPP) –models and platforms to research and industry.*

Level playing field:

- *The plan recognises a need for better communication to the public about the sector's responsibilities to ensure environmental sustainability and its important contribution to achieving nutrient reduction targets set for the Baltic Sea.*
- *Voluntary certification of responsible production methods.*

Best practices:

- *Continuous dialog; between industry, environmental NGO's, research and administration in order to reconcile environmental and industrial policies.*

8.3 Croatia

As a response to the EC's strategic guidelines, Croatia (2021) summarizes its planned actions as follows:

Simplify administrative procedures

- *The analysis showed a high rate of successful resolution of requests for the issuance of benefits as a result of efforts to vertically and horizontally connect and harmonize administrative bodies and procedures that precede the procedure within the Ministry of Agriculture-Fisheries Administration. It is estimated that the average duration of the procedure for obtaining the concession for marine farming in Croatia does not represent a significant administrative burden, and is within acceptable timeframes.*

Securing sustainable development and growth of aquaculture through coordinated spatial planning

- *Croatia will continue to apply the proven good practice in the field of marine farming planning with the aim of applying the same practice in all local self-government units. In order to achieve equal results in the field of freshwater breeding planning, the Republic of Croatia will*

determine the criteria for locating this activity in space. It is not possible to predict the number and quantity of new aquaculture areas, nor the number of spatial plans. However, potential areas for freshwater aquaculture are expected to be included in the spatial planning documentation, which will greatly facilitate the process of opening new farms.

Enhancing the competitiveness of EU aquaculture

- *There is a possibility of financing development and innovation projects through the instruments of the new Common Fisheries Policy*
- *The opportunity is provided by the establishment of continuous and organized information and education of businessmen and regional and local self-government through better organization of competent institutions for the establishment of the CFP*
- *Networks of educational institutions within the Republic of Croatia will be established as with institutions within the EU with the aim of establishing robust and complete educational programs*
- *It is necessary to apply breeding technologies that will ensure the sustainability of aquaculture that provides environmental and nature protection services NATURA 2000 within the area, as well as technologies that reduce water consumption and / or have less organic load on watercourses, and implement measures to reduce the possibility of escape in breeding*
- *In terms of technologies and forms of cultivation that contribute to the protection of nature and the environment, further opportunities for the development of freshwater aquaculture are possible through the establishment of a recirculation breeding system (RAS) and the development of organic and organic farming. The main reasons for the development of such systems are: energy conservation, reduced water consumption, reduced land use, and the possibility of creating various optimal characteristics in the breeding area, which shortens the breeding cycle and emphasises the possibility of using non-specific sites.*

Promoting a level playing field for EU operators by exploiting their competitive advantages

- *The problem is the fact that there are no registered organisations of producers in mariculture nor well-established ways of communicating with consumers to inform the public about the benefits of mariculture products and improve the perception and acceptance of these products by consumers.*

- *The results of research, studies and scientific works mainly boil down to the fact that public perception of aquaculture depends on the level of public awareness of this activity and that to improve the public image of aquaculture, it is necessary to ensure active action of the same industry in synergy with national, regional and local administration that supports and monitors its development.*
- *An essential tool in this process is undoubtedly the development of product labelling and certification systems as well as the production of information materials on products and the aquaculture activity itself.*
- *Considering the research results, it is clear that it is necessary to carry out information and marketing activities on the domestic market to increase the consumption of products originating from breeding.*

Best practices

- *1) Determining the location for offshore farming based on ICZM*
- *2) Procedures for assessing the impact of offshore farming interventions on the environment and nature*
- *3) The entire procedure for issuing a concession for breeding at sea, including all actions that precede the issuance of the concession itself*

9 Policy recommendations were prepared in the AquaHubs -project

9.1 Promote availability and transparency of aquaculture data

Although European Commission already recognises collecting accurate data as necessary to ensure the appropriate planning of aquaculture activities, there are still significant shortcomings in gathering, analysing and sharing aquaculture-related data. As one example of such shortcomings, the Finnish IE revealed that:

- there is room for improvement in using digital technologies in gathering data
- data is currently scattered across many systems with an insufficient level of interoperability and data sharing

Hence, we propose actions to be taken toward sharing aquaculture-related data and making it publicly available. The more data is available, the more opportunities emerge for improving aquaculture-related services. As many stakeholders provide and utilise such data, ecosystem-related services need to be strengthened to support data sharing in the aquaculture community.

9.2 Support Innovation Experiments

Positive experiences from the AquaHubs project suggest that Innovation Experiments are a natural way to accelerate the use of digital technologies in the aquaculture sector and to increase collaboration on a regional, national and international level. These activities need to be strengthened even further by creating more funding opportunities.

9.3 Increase communication within the aquaculture network

Aquaculture stakeholder networks are complex and fragmented. This challenge could be alleviated by focusing on systematic communication to disseminate information more effectively and commit all stakeholders to common goals.

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WP3 activity outcome report, including the dissemination plan and policy recommendations to policymakers regarding aquaculture tech innovation support

Conclusions

This Deliverable aims to present the outcomes of Task 3.2, " Dissemination strategy and campaign", and Task 3.3 ", Policy recommendations for policymakers and stakeholders".

 The respective outcomes – dissemination strategy, the stakeholder and network clarification, messaging approach, dissemination campaign and channels, and policy recommendation for three partner countries.

The document provides the necessary tools that will be deployed by the

A consortium of AquaHubs as a whole for a successful further implementation of the project

and an effective and long-lasting impact.