



Fish Welfare Initiative



REQUEST FOR PROPOSAL:

Research Submission on Implementing Pre-Slaughter Stunning for Farmed Fishes in India

Overview

Purpose

Fish Welfare Initiative ([FWI](#)), with the support of the [NALSAR](#) Animal Law Center, seeks to commission research exploring the feasibility of implementing pre-slaughter stunning for farmed fishes in India. This research is the first phase in a larger project aimed at improving fish welfare by reducing suffering during slaughter. The findings will inform future phases, including potential technological development and scaling.

We believe this work has the potential to shape welfare practices across India's aquaculture sector, ultimately improving the lives of millions of farmed fishes annually.

Research Focus

The research will address three core questions:

1. **Target Population:** Which stakeholder groups within India's aquaculture sector are most likely to adopt pre-slaughter stunning technology?
2. **Incentives and Barriers:** What economic, logistical, cultural, or market-driven factors could incentivize or hinder the adoption of stunning technology?
3. **Pathway to Scalability:** What strategies or adjustments will be required to scale stunning technology across the aquaculture industry?

Deliverable

The final submission of this project will be a comprehensive report addressing the research questions and providing recommendations for specific next steps.

Proposal Submission and Timeline

Interested researchers should submit a research plan, a timeline, a budget, and relevant experience by **December 1**. After that, if their proposal is selected, we expect the project to take about 3 months to complete. We look forward to reviewing your proposal!

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Introduction and Context

Fish Welfare Initiative works to reduce the suffering of farmed fishes in India, a country that farms several billion fishes annually. Up until now, FWI has primarily focused on improving the welfare of these animals by addressing issues like water quality and stocking density. More information on our prior work can be found on [our website](#).

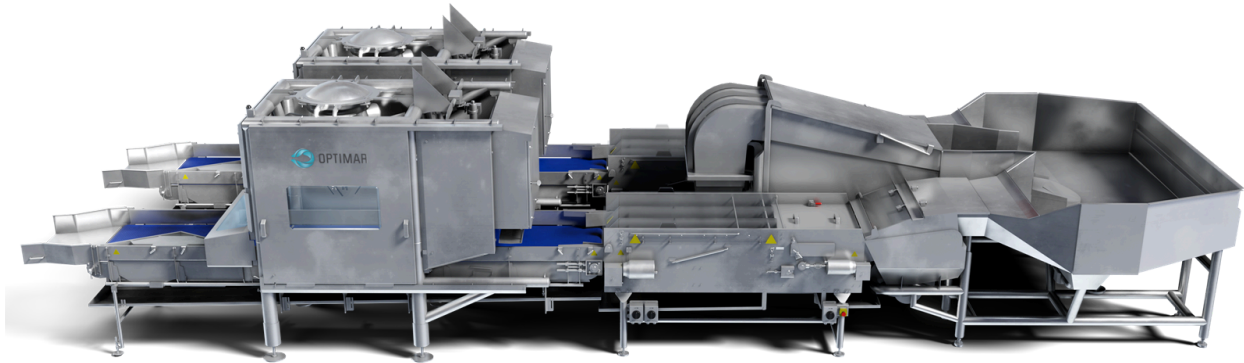
FWI is now turning its attention to another welfare issue faced by these animals: the lack of pre-slaughter stunning. Currently, the vast majority of India's farmed fishes, as well as those in many other countries, are killed via asphyxiation. This practice leaves fishes to slowly suffocate out of the water, taking up to several hours¹ to die and experiencing immense suffering.



Indian major carps asphyxiating to death. Many individuals were still alive when this photo was taken.

¹ The time it takes these animals to die is based on the estimates of our team, who frequently visit these farms and speak with the farmers. We are not aware of any research published to date on how long it takes these animals to die in this way.

Fortunately, this suffering is in part avoidable. Pre-slaughter stunning, which renders animals insensible to pain before slaughter, is standard practice in parts of the world, particularly in parts of Europe ([e.g.](#)). Stunning processes, such as those used for salmon in Norway, typically involve electrical or percussive stunners that quickly render the fishes unconscious before they are killed. This method not only minimizes suffering² but also improves product quality by reducing stress in the animal prior to death.³



[Optimar's Stun and Bleed System](#), which integrates both electrical stunning with the killing of fishes. Stunning of farmed fishes is becoming increasingly commonplace in Europe—we are seeking to contextualize it for India.

Electrical and percussive stunners are not the only avenue of stunning fishes: Chemical agents—such as [Aqui-S](#)—may also be used to stun fishes prior to slaughter. Chemical stunning, though much less tested, may show additional promise in the Indian context, where access to technology and capital can be limited. However, this method may need to be followed by a killing system, as it may not itself kill the fishes.

Whatever the form of technology,⁴ in India the stunning of farmed fishes has remained largely unpracticed due to a lack of incentives, accessibility, and awareness. Several factors contribute to this, including low consumer demand for fish welfare improvements, the high cost of imported stunning equipment, and the absence of domestically produced alternatives. The

² Also note that there is still uncertainty about the effectiveness of stunning devices, including those used in Europe. For more information, see draft research [here](#).

³ Poli, B. M. (2009). [Farmed Fish Welfare—Suffering Assessment and Impact on Product Quality](#). *Italian Journal of Animal Science*, 8(sup1), 139-160.

⁴ Strictly speaking, this RFP is technology-agnostic. We are open to any avenues—including those that may not have been invented yet—of stunning fishes.

informal nature of the fish supply chain in India will further complicate efforts to introduce stunning.

FWI is exploring whether pre-slaughter stunning can be implemented on a meaningful scale in India. This research is part of a phased approach, with each phase determining whether to proceed to the next. The first phase—covered in this document—aims to answer foundational questions about target populations, barriers, incentives, and scalability of stunning technology. If the research identifies insurmountable obstacles or limited potential, we will not proceed further. However, if it points to a viable target population and a scalable path forward, we will move to the next phase.

FWI seeks an individual or organization to conduct this research and provide actionable insights on the feasibility of stunning in India. The findings from this research will inform future phases, including the potential development of stunning technology and pilot testing with early adopters.

We invite interested parties to submit proposals, by the deadline of **December 1**, as per the [instructions below](#).

Note also that we are fortunate to have the support of the [NALSAR](#) Animal Law Center for this project.

Key Research Questions

This RFP focuses on addressing key foundational questions that will guide the feasibility of pre-slaughter stunning for farmed fishes in India. The answers to these questions will help determine whether FWI will proceed with further phases of the project.

The research questions are as follows:

1. Who is the ideal target population?
2. What are the most significant incentives and barriers?
3. What is the pathway to scalability?

1. Who is the ideal target population?

Which stakeholders within India's aquaculture sector are most likely to adopt pre-slaughter stunning technology? This question should explore a range of possibilities, considering factors such as:

- The type of stakeholder to target, whether that may be farmers, traders, exporters, or another entity along the supply chain.
- Market orientation (e.g., domestic vs. export-focused producers).
- Geographic considerations and regional differences in farming practices.
- Species considerations, including which fish species might be more suited to stunning based on factors such as physiology, market demand, or production scale.
 - Do note that different species may or may not have prior technology and standards developed for their stunning. All else equal, a species for which we need to develop new standards will be a more challenging project.⁵
- Technological readiness and financial capacity to invest in new technologies.

Our previous work has focused primarily on Indian major carp species, particularly on earthen pond farms of various sizes in Andhra Pradesh, where we have established strong relationships. However, we are open to all ideas and encourage a thorough examination of which segments of the industry are most suitable for early adoption, along with an exploration of any unexpected opportunities for scaling pre-slaughter stunning.

2. What are the most significant incentives and barriers?

What factors—whether economic, logistical, cultural, or market-driven—could incentivize or hinder the adoption of pre-slaughter stunning technology within India’s aquaculture sector? This question should explore a wide range of potential incentives and barriers, considering aspects such as:

- Financial implications for stakeholders, including the cost of equipment and potential returns on investment.
- Infrastructure requirements, such as electricity and maintenance, especially in rural or remote farming regions.
- Market demand, both domestically and in export markets, and whether welfare improvements could create new opportunities or challenges.
- Cultural or traditional practices in fish farming and processing that may influence the willingness to adopt stunning technology. For instance, many Bengali fish consumers prefer their fishes live or killed in front of them.
- Regulatory or policy frameworks, or government innovation schemes, that could either support or obstruct the implementation of stunning.

⁵ See [here](#) for prior draft research on the currently available stunning machines.

- Species-specific research base limitations: Specifically, all else equal, it's better to target stakeholders that work with fishes that already have validated stunning parameters than those who do not.⁶
- Subsidization: It's possible that initially, philanthropic bodies or government schemes could subsidize the technology in the initial stages, making it more affordable and accessible to producers. This could be modeled after [Shrimp Welfare Project's approach](#).

We encourage the exploration of all relevant factors that could impact the adoption of stunning technology, with an emphasis on identifying both challenges and opportunities for overcoming them.

3. What is the pathway to scalability?

FWI's long-term ambition is to see pre-slaughter stunning implemented at a scale that improves the lives of **at least tens of millions of farmed fishes** annually across India. While early adoption is crucial, it is equally important that these initial efforts pave the way for broader industry-wide adoption.

Proposals should consider how scaling might be achieved across diverse segments of the aquaculture industry. This includes identifying any potential technological, infrastructural, regulatory, or market adaptations that would facilitate wider implementation. We are particularly interested in:

- Exploring partnerships or collaborations with key stakeholders that could help drive broader adoption, including government bodies, regulatory agencies, and private sector companies.
- Identifying the role that market forces, such as consumer demand and export opportunities, might play in incentivizing scaling efforts.
- Avoiding situations where an early adopter is too unique for their success to be replicated elsewhere in the industry.

We encourage open exploration of the steps necessary to ensure that, once piloted, stunning technology can be scaled in a sustainable way across the broader aquaculture sector.

⁶ For some research on which species have validated stunning parameters, see the [Fair-Fish Database](#).

Scope of Work

The selected researcher(s) will be responsible for designing and conducting research that answers each of the three foundational research questions outlined in this RFP. FWI encourages the use of a variety of research methodologies, and researchers are free to choose the most appropriate methods for addressing the questions, including but not limited to:

- Internet research
- Literature reviews
- Key informant interviews
- Focus group discussions
- Surveys

The scope of work should include a thorough exploration of the three foundational research areas, as discussed above.

In addition to addressing the core research questions, FWI encourages the researcher(s) to propose innovative approaches or methodologies that may improve our understanding of pre-slaughter stunning adoption and scalability. We welcome insights that go beyond the immediate scope if they offer valuable context or recommendations for future phases of the project.

Deliverable

The final research report (the “deliverable”) will answer each of the three foundational research questions, providing as specific and actionable insights as possible. The deliverable should specifically include:

1. **Research methodology:** A detailed description of the research conducted.
2. **Research findings:** The findings from the research for each of the three foundational questions.
3. **Recommendation on next steps:** A recommendation, based on the researcher’s own opinion, on whether—and if so, specifically how—FWI should proceed with stunning in India.

The deliverable report will be assessed by FWI, and requests for changes may be communicated upon review before it is considered final.

Timeline

FWI anticipates that the researcher(s) will take approximately **three months** to complete and submit the finished report. However, we are open to other timelines based on the specific project needs or researcher(s)' availability.

Proposal Submission Requirements

Researchers or firms interested in responding to this RFP should submit a proposal that includes the following:

1. Research Plan

- A detailed outline of the proposed approach to answering the three research questions.
- The methodologies that will be used for data collection and analysis.
- A timeline for the entire process, including designing and conducting the research, and writing the report. The timeline should include key milestones.

2. Experience and Qualifications

- A brief overview of the researcher(s)' relevant experience, particularly in aquaculture, animal welfare, or similar research fields.
- Examples of past research projects or relevant work.
- The qualifications of key team members, if applicable.

3. Budget

- A detailed and itemized budget, including all costs related to the project, including:
 - Researcher compensation (in the case of a group of people, a breakdown of compensation for all personnel)
 - Costs associated with conducting research (e.g. cost of any surveys, interviews, etc.)
 - Cost associated with field work for research personnel (e.g., travel, accommodation, etc.)
 - Any other costs required for completion of the scope of work

- Note that, during the course of the research project, any expenses surpassing the originally proposed budget may not be reimbursed unless they are explicitly approved by FWI in advance.

4. Sample Work (Optional)

- A sample of previous research work that demonstrates the researcher(s)' capability to handle similar projects (optional but encouraged).

Note on multiple projects: FWI may contract more than one researcher or research teams to independently conduct this research. If there are potential areas of overlap (e.g., two separate researchers intend to interview the same cluster of potential fish exporters), we will discuss with the relevant researchers in advance to coordinate efforts.

Note on budget: As we are most interested in the quality of your proposal, applicants are encouraged to propose a budget that corresponds to the proposal they believe is most likely to yield successful research results. There is no specific budgetary cap currently. If we like your project but find the budget impractical, we will discuss this with you.

Proposals must be submitted in English by **December 1, 2024** to haven@fwi.fish. Any questions about the proposal request can also be addressed to Haven.

We look forward to reviewing your proposal!

Possibility of Future Work

This RFP and the subsequent research project constitute the first phase of FWI's efforts to explore and implement pre-slaughter stunning in India. The next phase, if this one proves successful, will focus on developing a theory of change (TOC) and target product profile (TPP) to outline how stunning technology can be scaled and adapted to the Indian context.

If the researcher or firm selected for this project proves to be a good fit, FWI may engage them for future work on these subsequent phases.