**PART 2: Experimental Treatment Messages**

**Segue between PART 1 and PART 2**

Before we finish, we would like to ask a few more questions about a new vaccine for fish diseases that is in development. After that, we will ask some final wrap-up questions. As before, there are no right or wrong answers, and we are only interested in your personal views.

**Experimental Messages**

*Each participant will be randomly allocated to one of the following messages.*

***Control Message***

*Control paragraph (will be repeated in all treatment messages)*

*Version 1: (This version provides little baseline information about the vaccine. Pro: Ensures that each treatment message introduces genuinely new information. Con: The control group might appear artificially uninformed, possibly lowering baseline demand for the vaccine.*

**EITHER:** Scientists have developed a new vaccine against bacterial infections in farmed Pangasius catfish. The vaccine protects against two common bacterial diseases: BNP and MAS. You may know BNP as White Spot and MAS as Red Spot. The vaccine is still being tested and might be available to you in the future.

*Version 2: (This version provides more baseline information. Pro: Gives a more realistic (higher) baseline demand for the vaccine. Con: May reduce the effect of the cost-effectiveness treatment message, as the novelty factor of that information is diluted.)*

**OR:** Scientists have developed a new vaccine against bacterial infections in farmed Pangasius catfish. The vaccine protects against two common bacterial diseases: BNP and MAS. You may know BNP as White Spot and MAS as Red Spot. Tests show it prevents more than 70% of these diseases. The vaccine is still being tested and might be available to you in the future.

*Filler paragraph (To make the control message roughly equally long as treatment messages)*

This research is part of a study looking at different ways to keep fish healthy across Vietnam's fish farms. Your answers will help shape better farming policies. Our team works with farmers like you to find solutions that are practical and effective for your farm. We have been collecting information from many fish farms in different provinces to better understand regional challenges.

***Treatment Message 1 (Cost Effectiveness – Compared to Antibiotics)***

Scientists have developed a new vaccine against bacterial infections in farmed Pangasius catfish. The vaccine protects against two common bacterial diseases: BNP and MAS. You may know BNP as White Spot and MAS as Red Spot. Tests show it prevents more than 70% of these diseases. The vaccine is still being tested and might be available to you in the future.

Many farmers in your area use antibiotics for these diseases. Each treatment seems cheap, but you often need to treat your fish many times, so the costs add up. More importantly, antibiotics don’t work very well. Less than 10% of fish treated with antibiotics typically survive a severe disease outbreak. This means most fish die even after many treatments. By contrast, vaccines cost more at first, but they protect your fish much better. With this new vaccine, more than 70% of vaccinated fish survive disease outbreaks. This means fewer dead fish and more money for you over time.

***Treatment Message 2 (Side Effects – Compared to Antibiotics)***

Scientists have developed a new vaccine against bacterial infections in farmed Pangasius catfish. The vaccine protects against two common bacterial diseases: BNP and MAS. You may know BNP as White Spot and MAS as Red Spot. Tests show it prevents more than 70% of these diseases. The vaccine is still being tested and might be available to you in the future.

Many farmers in your area use antibiotics for these diseases. But antibiotics can leave residues in fish, even after harvest. Buyers may test for these residues. If levels are too high, they may reject your fish or pay you less for them. By contrast, this vaccine does not leave harmful residues in your fish. This helps avoid problems when selling your fish and get the full value of your harvest.

***Treatment Message 3 (Mode of Delivery – Compared to Injection Vaccines)***

Scientists have developed a new vaccine against bacterial infections in farmed Pangasius catfish. The vaccine protects against two common bacterial diseases: BNP and MAS. You may know BNP as White Spot and MAS as Red Spot. Tests show it prevents more than 70% of these diseases. The vaccine is still being tested and might be available to you in the future.

Vaccines typically require injecting fish one by one, which takes a lot of time and work. By contrast, this new vaccine uses an immersion method, where fish are placed in a diluted solution for a short period. Many fish can be treated at the same time, which reduces stress to the fish and saves time. This method only needs basic farm equipment and minimal training. This makes the vaccine easy to use on farms of all sizes.

***Treatment Message 4 (Herding/Social Norms)***

Scientists have developed a new vaccine against bacterial infections in farmed Pangasius catfish. The vaccine protects against two common bacterial diseases: BNP and MAS. You may know BNP as White Spot and MAS as Red Spot. Tests show it prevents more than 70% of these diseases. The vaccine is still being tested and might be available to you in the future.

Many farmers in your area are looking at new ways to manage these diseases. Some of the most successful catfish farms have already started using similar vaccines. These farms are often the first to try new methods that make more money and keep fish healthier. During our research, farmers told us they had good results when using vaccines. We have also learned that other farmers have noticed these good results and are becoming more interested in trying vaccines on their own farms.

**Dependent Variables**

**[P2DEPVAR1]** Once this new vaccine becomes available, how likely would you be to use it on your farm?

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| NOT AT ALLLIKELY | UNLIKELY | NOT SURE | LIKELY | VERYLIKELY |
| 1 | 2 | 3 | 4 | 5 |

**[P2DEPVAR2]** This vaccine would be available in two ways. You could immerse your fish in a vaccine solution on your farm. This doesn't need any injections. Or you could buy fingerlings that have already been vaccinated. With these fingerlings, you would not need to do any vaccination on your farm. These fingerlings would cost more but save you time and work. If you had to choose between these two options, which would you pick?

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | I would buy the immersion vaccine to use on my farm | I would buy pre-vaccinated fingerlings  | I would not choose either option  | Not sure  |

**Behavioural Parameters (for Moderation Analysis)**

Next, we have some questions about how you tend to make decisions. As before, there are no right or wrong answers.

**Either:** *Version 1: Generic Self-Assessment Questions:*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | To what extent do you agree with this statement: | STRONGLY DISAGREE | DISAGREE | NOT SURE | AGREE | STRONGLY AGREE |
| **P2BEHAV1** | I am willing to sacrifice something today to gain more benefits in the future. | 1 | 2 | 3 | 4 | 5 |
| **P2BEHAV2** | I am willing to take risks. | 1 | 2 | 3 | 4 | 5 |
| **P2BEHAV3** | Most people can be trusted. | 1 | 2 | 3 | 4 | 5 |
| **P2BEHAV4** | I am willing to help others without expecting anything in return. | 1 | 2 | 3 | 4 | 5 |

**OR:** *Version 2: Hypothetical Scenarios*

**[P2BEHAV1A]** Sometimes farmers have to choose between smaller benefits now or larger benefits later. Imagine this situation: If you had to choose between the following two options, which would you prefer?

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Receive 500,000 VND today | Receive 750,000 VND in 1 month | Not sure  |

**[P2BEHAV1B]** Sometimes farmers need to choose between benefits that come at different times in the future. Imagine this situation: If you had to choose between the following, which would you prefer?

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Receive 500,000 VND in 12 months | Receive 750,000 VND in 13 months | Not sure  |

**[P2BEHAV2]** Sometimes farmers need to choose between safe options or taking a risk for bigger rewards. Imagine this situation: If you had to choose between the following, which would you prefer?

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Receive 500,000 VND for sure | Flip a coin: If heads, get 1,000000 VND; of tails, get nothing | Not sure |

**[P2BEHAV3]** Sometimes farmers need to decide whether to trust people they don't know well. Imagine this situation: A new supplier offers you a discount if you pay in advance. Would you pay this person in advance?

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Definitely not | Probably not | Not sure | Probably yes | Definitely yes |

**[P2BEHAV4]** Imagineyou unexpectedly received 500,000 VND today. How much, if any, would you give to help people in need in your community?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_VND\_\_\_

We would now like to ask you some last questions about your views on fish vaccination. There are no right or wrong answers. Just tell us what you think.

**Manipulation Check Variables (for Mediation Analysis)**

We would now like to ask you some last questions about your views on fish vaccination. There are no right or wrong answers. Just tell us what you think.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **MY BELIEFS ABOUT VACCINATION FOR FISH** | STRONGLY DISAGREE | DISAGREE | NOT SURE | AGREE | STRONGLY AGREE |
| P2MC1 | I believe that vaccines cost too much compared to the benefits they provide. | 1 | 2 | 3 | 4 | 5 |
| P2MC2 | I worry that vaccination might leave residues in the fish. | 1 | 2 | 3 | 4 | 5 |
| P2MC3 | I believe that vaccination would be too complicated to implement on my farm. | 1 | 2 | 3 | 4 | 5 |
| P2MC4 | I worry about being left behind as more successful farms start using vaccines. | 1 | 2 | 3 | 4 | 5 |

Thank you very much for completing our survey.

We would like to find out more about what farmers think about vaccines. We would like to ask some people to take part in a brief interview in a few months’ time. This would involve asking some more general questions about vaccination, rather than choosing from a list of options.

Would you be happy to take part in this short interview?
[INTERVIEW] Yes No Not sure