

Supplementary Material 1

Net Present Value aggregated for each stakeholder

Provincial People's Committee (PPC): With 90% confidence interval (CI), the overall investment NPVs range from 0.89 to 4.48 million USD for Weather station-SMS-Gender, from 0.46 to 3.57 million USD for SMS-Gender, from 0.98 to 4.94 million USD for SMS-Loudspeaker and from 0.22 to 2.71 million USD for Paper-Loudspeaker. This is the nominal benefit attributed to the PPC.

For other stakeholders, each actor will mostly expect a different benefit from each intervention. Here we report the results reflecting the whole possible ranges in all investment scenarios. We will specify if we report the NPV for some specific interventions.

Rice farmers can expect the overall NPVs between 0.69 million USD and 5.23 million USD (90%CI). On average, one rice farmer can expect the NPVs between 34.50 USD and 255.32 USD per 5-year implementation of the intervention.

Fish farmers can expect the overall NPVs (90%CI) between 701.52 USD and 6.53 thousand USD (kUSD). We did not calculate the average benefit for each fish farmer since we relied on the area to calculate the overall benefits.

Hydro-Meteorological Station can anticipate receiving contracts to improve and provide weather forecasts between 8.26 kUSD and 51.48 kUSD (90% CI).

Provincial Agriculture and Rural Development (DARD) may expect to receive funding to build capacity for sub-ordinate agencies between 4.03 kUSD and 4.92 kUSD (90% CI). The anticipated funding for PDARD remains the same in all interventions.

ASC may also expect to receive funding between 212.29 kUSD and 247.03 kUSD (90% CI) to translate weather forecasts into agricultural advice, as well as to roll out the program at community levels. The expected funding for ASC remains the same in all interventions.

SMS service providers might expect to have contracts to provide SMS services if interventions Weather station-SMS-Gender or SMS-Gender are being implemented. The contract's values remain the same in the two interventions, amounting between 297.18k USD and 490.48 kUSD (90%CI). The SMS service providers might expect a service contract with a less value (4.99 kUSD-7.92 kUSD, 90% CI) if intervention SMS-Loudspeaker is being implemented.

Women's Union/LNGO might expect to receive funding if interventions Weather station-SMS-Gender or SMS-Gender are being implemented. The grants remain the same in the two interventions, amounting between 185.22 kUSD and 198.61 kUSD (90% CI)

Village leaders can expect to receive the allowance for broadcasting ACS between 57.57 kUSD – 92.47 kUSD (90% CI) if SMS-Loudspeaker is being implemented. They can expect a higher

allowance between 236.32 kUSD and 300.57 kUSD (90% CI) for both broadcasting and transportation to collect ACS bulletins from their respective commune if Paper-Loudspeaker is being chosen.

Animal husbandry farmers can expect the NPVs in between -133.55 kUSD and 441.60 kUSD (90%CI) as a result of their changed practice of protecting animals during extreme cold weather events. This result translates into the average NPVs for each farmer between -18.38 USD and 61.44 USD (90% CI).

The public can expect the NPV to be between 0.41 USD and 2,198.62 USD (90% CI) as a result of improved access to better water quality.

Seed suppliers: With a 90% confidence interval (CI), the NPVs for seed suppliers range between -1.06 million USD and -0.09 million USD.

Fertilizer suppliers can expect the NPV (90% CI) in between -1.65 million USD and 0.04 million USD

Plant protection suppliers can expect a loss (90% CI of the NPV) between -1.25 million USD and -0.08 million USD